



## Appendix VI-A: Plan Standards Review

This appendix includes the CVRWMG's self-assessment of the 2014 Coachella Valley IRWM Plan, based on the Plan Standards Review Tool provided by DWR as Appendix H to the 2012 IRWM Program Guidelines.

### 1 Plan Review Process

The Final Appendix H: Plan Review Process addendum to the 2012 IRWM Guidelines released by DWR in January 2014 provides IRWM Regions with guidelines on the IRWM Plan assessment process that will be implemented by DWR prior to the third round of Proposition 84 Implementation Grant funding. This guidance document explains when to submit IRWM Plans, what should be submitted, how regions can submit their IRWM Plans to DWR, and DWR's IRWM Plan review efforts.

#### 1.1 When to Submit

IRWM Plans should be submitted to DWR for review and confirmation that plans are consistent with the standards put forth by DWR in the 2012 IRWM Guidelines. IRWM Plans must be submitted and pass review to establish eligibility for future Proposition 84 Implementation Grant funding, or if a Region has received past Proposition 84 Implementation grant funding that included an IRWM Plan update as a condition of the grant. IRWM Plans may be submitted for other reasons, and other, future opportunities may require confirmation of an IRWM Plan consistent with DWR Guidelines. RWMGs needing IRWM Plan review prior to a future Implementation Grant solicitation are encouraged to submit plans for review as early as possible, to allow time for review and resolution of any deficiencies in the plan. DWR has established a deadline for Plan submittal for review of 60 calendar days prior to the funding application due date. Note that the review process does not extend the deadline for Plan submittal as part of an existing grant agreement.

#### 1.2 What to Submit

IRWM Plans should be submitted in their entirety (including appendices) along with a transmittal letter from the RWMG or Grantee. DWR encourages inclusion of an optional "road map" that provides references to specific pages and plan sections for required plan elements. Details on what must be included in the transmittal letter are provided in Appendix H.

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### 1.3 How to Submit

Only electronic copies of the IRWM Plan and transmittal letter will be accepted (CD/DVD preferred, email accepted). Details on how to submit the Plan are provided in Appendix H of the 2012 Guidelines.

### 1.4 Plan Review

The Plan Review Process will use the Plan Standards Review Tool provided as Exhibit H-1 in Appendix H: Plan Review Process. Plans will be reviewed on a Pass/Fail basis, and each standard must be passed by meeting 1 (of 1), 2 (of 2 or 3), 3 (of 4 or 5), or 70% (of more than 5) requirements within each standard. Following DWR review of the Plan, a draft review will be provided to the RWMG, who will have an opportunity to comment. Draft Plan Reviews will be open for a 30-day public comment period, and posted on the 1st and 15th of each month.. RWMGs will be allowed to follow-up the comment period with revisions if the Final Review finds the IRWM Plan inconsistent with Plan Standards. Adequate revisions will be accepted without immediate re-adoption of the IRWM Plan, if insufficient, further revisions may be made by the RWMG in subsequent follow-ups to DWR.

### 1.5 Plan Standards Review Tool

The Plan Standards Review Tool provided by DWR in Appendix H has been adapted by the CVRWMPG for use as Appendix VI-A in the 2014 IRWM Plan Update. This tool, seen in the table on the following pages, provides the standards included in the 2012 IRWM Guidelines, as well as the requirements that make up each standard. The table includes information on requirements (Requirements From IRWM Guidelines), where this requirement is described in the Guidelines (Plan Standard Source/2012 IRWM Grant Program Guidelines Source Page(s)), where this information is contained in the 2014 IRWM Plan (Evidence of Sufficiency/Location of Standard in Grantee IRWMP), and a description of how this requirement was met (Evidence of Sufficiency/Brief Qualitative Evaluation Narrative).

## 2014 Coachella Valley IRWM Plan Plan Standards Review

Requirement		Included		Plan Standard Source		Evidence of Sufficiency		Sufficient		
From IRWM Guidelines		y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)		Regulatory and/or Other Citations		Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
<b>IRWM Plan Standard: Governance</b>									<b>Overall Standard Sufficient</b>	<b>Y</b>
The name of the RWMG responsible for implementation of the IRWMP		y/n	y	18/35	CWC §10539	1.2 Regional Water Management Group	The CVRWMG has been identified as Coachella Water Authority (CWA), Coachella Valley Water District (CVWD), Desert Water Agency (DWA), Indio Water Authority (IWA), and Mission Springs Water District (MSWD)		y	
A description of the IRWM governance structure		y/n	y	19/36		7.2 Structure and Organization	The Governance Structure is described in <i>Chapter 7, Stakeholder Involvement, Section 7.2 Structure and Organization</i> as a collaborative, consensus-seeking process made up of the CVRWMG, Planning Partners, Issues Groups, and stakeholders		y	
A description of how the chosen form of governance addresses and ensures:	Public outreach and involvement process	y/n/q	y/q	19/36-37	CWC §10540, §10541	7.2.1 Group Membership and Participation	As described in <i>Chapter 7, Stakeholder Involvement, Section 7.2.1</i> , the CVRWMG has conducted outreach to increase public involvement. All stakeholders are invited to participate in Issues Groups, Planning Partners meetings, and public workshops.		y	
	Effective decision making	y/n/q	y/q	19/37		7.2 Structure and Organization; 7.3 Effective Decision-Making	<i>Chapter 7, Stakeholder Involvement, Section 7.2</i> describes the governance structure and how each group within this structure provides feedback and input to the CVRWMG, who ultimately make all final decisions. The decision making process is further described in <i>Section 7.3</i> .		y	
	Balanced access and opportunity for participation in the IRWM process	y/n/q	y/q	19/37		7.4 Balanced Access and Opportunity for Participation; 7.2.1 Group Membership and Participation; 7.5 Disadvantaged Communities Outreach; 7.6 Tribal Outreach and Coordination	The governance structure as described in <i>Chapter 7, Stakeholder Involvement</i> invites all stakeholders to participate on an equal level to provide input to the CVRWMG. Outreach activities have been undertaken by the CVRWMG to ensure participation of typically underrepresented groups such as DACs and tribes. <i>Section 7.4</i> describes how this structure allows for balanced access and opportunities for participation, while <i>Sections 7.2.1, 7.5, and 7.6</i> detail how these efforts have been implemented, with an emphasis on traditionally underrepresented groups.		y	

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From IRWM Guidelines		y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)		Regulatory and/or Other Citations		Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
How governance addresses and ensures, cont.:	Effective communication – both internal and external to the IRWM region	y/n/q	y/q	19/37-38	CWC §10540, §10541	7.4.2 Effective Communication – Both Internal and External to Region	Chapter 7, Stakeholder Involvement, Section 7.4.2 describes communication efforts within the Region. Such communication occurs through meetings, email, website announcements, and workshops, and notifications of opportunities to communicate with the CVRWWMG are provided to all stakeholders, neighboring RWMGs, and relevant government agencies.	y		
	Long term implementation of the IRWM Plan	y/n/q	y/q	19/38		7.8 Long-Term Implementation of IRWM Plan	Chapter 7, Stakeholder Involvement, Section 7.8 describes the foundation for long-term implementation of the Plan. The MOU between CVRWWMG agencies acknowledges and allows for continued and ongoing coordination efforts (see <b>Appendix VI-C</b> ). IRWM Program efforts that contribute to long-term implementation include IRWM grant funding for projects and planning, DAC Outreach Program, and other planning efforts and programs.	y		
	Coordination with neighboring IRWM efforts and State and federal agencies	y/n/q	y/q	19/38		7.4.2 Effective Communication – Both Internal and External to Region; 10.1.2 Neighboring and/or Overlapping IRWM Efforts; 10.1.3 Coordination with Tribal, Federal, State, and Local Agencies	Section 7.4.2 in Chapter 7, Stakeholder Involvement describes how communication with neighboring RWMGs and Government Agencies provide opportunities to consider common issues and to coordinate on activities. Chapter 10, Agency Coordination, Section 10.1.2 and Section 10.1.3 describe coordination efforts with organizations and agencies outside the Region. Neighboring RWMGs are distinct from the CVRWWMG and the Region, so communication remains open but there is no active coordination (Section 7.4.1; 10.1.2). State, federal, and local agencies are invited to participate in the Region, and outreach has and will be conducted to key agencies (Section 10.1.3).	y		
	The collaborative process(es) used to establish plan objectives	y/n/q	y/q	19/38		6.1.1 Determining Objectives	The Plan objectives process is described in Chapter 6, Objectives, Section 6.1.1. Issues groups (as described in Chapter 7, Stakeholder Involvement, Section 7.2.1) developed the list of issues that led to the identified objectives. Public workshops and meetings were held for broader stakeholder input, and Planning Partners verified the final list of Objectives.	y		

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From IRWM Guidelines		y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)	Regulatory and/or Other Citations	Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
How governance addresses and ensures, cont.:	How interim change and formal changes to the IRWM Plan will be performed	y/n/q	y/q	19/38	CWC §10540, §10541	7.8.1 Updating or Amending the IRWM Plan	Changes to the Plan can be made following the guidance in <i>Chapter 7, Stakeholder Involvement, Section 7.8.1</i> . Changes may require Planning Partners, Issues Groups, or stakeholder consensus (depending on type of change) and final approval by the CVRWWMG.	y
	Updating or amending the IRWM Plan	y/n/q	y/q	19/38		7.8.1 Updating or Amending the IRWM Plan	Changes to the plan can be made following the guidance in <i>Chapter 7, Stakeholder Involvement, Section 7.8.1</i> . Changes may require Planning Partners, Issues Groups, or stakeholder consensus (depending on type of change) and final approval by the CVRWWMG.	y
	Publish NOI to prepare/update the plan; adopt the plan in a public meeting	y/n/q	y/q	35	CWC §10543	7.7 IRWM Plan Adoption	<i>Chapter 7, Stakeholder Involvement, Section 7.7</i> describes the formal adoption process for the 2014 IRWM Plan. This process involves a notice of intent (NOI) published in a local newspaper, a 50-day public comment period, and adoption by each CVRWWMG agency at their respective public meetings.	y
<b>IRWM Plan Standard: Region Description</b>							<b>Overall Standard Sufficient</b>	<b>Y</b>
If applicable, describe and explain how the plan will help reduce dependence on the Delta supply regionally		y/n	y	20	-	6.1.1 Determining Objectives: <ul style="list-style-type: none"> <li>Objective A</li> <li>Objective C</li> <li>Objective D</li> <li>Objective I</li> </ul>	Objectives A, C, D, and I, described in <i>Chapter 6, Objectives, Section 6.1.1</i> will each contribute to potentially reducing future additional demand for imported water from the SWP through local solutions to increase reliability, securing reliable non-SWP imported supplies or water transfers that potentially reduce future additional dependence on Delta supplies, increasing local supply opportunities, and improving efficiency through conjunctive use.	y
Describe watersheds and water systems		y/n	y	19/39	PRC §75026.(b)(1); CWP Update 2009	2.2 Watershed and Water Systems	Watersheds and water systems are described in detail in <i>Chapter 2, Region Description, Section 2.2</i> . The Whitewater River watershed is described in <i>Section 2.2.1</i> and Water Systems are described in <i>Sections 2.2.2 through 2.2.8</i> .	y
Describe internal boundaries		y/n	y	19/39	-	2.3 Internal Boundaries	Internal boundaries are described in <i>Chapter 2, Region Description, Section 2.3</i> , as well as shown in <b>Figures 1-2, 2-1, 2-4, 2-5, 2-7, and 2-9</b> .	y

Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
From IRWM Guidelines	y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)	Regulatory and/or Other Citations	Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
Describe water supplies and demands for minimum 20 year planning horizon	y/n	y	19/39	-	2.4 Water Supplies and Demand	Agency water supplies and demands are based on projections from CVRWWMG agencies' 2010 UWMPs and project 20 years from those plans (until 2030). Regional water supplies and demands are based on projections from the Coachella Valley Water Management Plan and the Mission Creek-Garnet Hill Water Management Plan. Projected supplies and demands are presented in <i>Chapter 2, Region Description, Section 2.4</i> and summarized in <b>Tables 2-8, 2-9, 2-10, 2-11, 2-12, and 2-13.</b>	y
Describe water quality conditions	y/n	y	19/40	-	2.5 Water Quality; 3.1.5 Water Quality	Water Quality is described in <i>Chapter 2, Region Description, Section 2.5</i> , and discussed in terms of Groundwater ( <i>Section 2.5.1</i> ), Imported Water ( <i>Section 2.5.2</i> ), Surface Water ( <i>Section 2.5.3</i> ), Recycled Water ( <i>Section 2.5.4</i> ), Stormwater ( <i>Section 2.5.5</i> ), and Drinking Water ( <i>Section 2.5.6</i> ). Key water quality issues are also discussed in <i>Chapter 3, Issues and Needs, Section 3.1.5.</i>	y
Describe social and cultural makeup, including specific information on DACs and tribal communities in the region and their water challenges	y/n/q	y/q	19/40	-	2.6 Social and Cultural Make-up; Chapter 4, Disadvantaged Communities; Chapter 5, Tribal Water Resources; Volume II	<i>Chapter 2, Region Description, Section 2.6</i> describes the social and cultural make-up of the Region. Population and demographics data, as well as economic information are provided. Detailed information related to tribal communities and DACs is presented in <i>Chapters 5 and 4</i> , respectively. More information on DACs is provided in the 2014 Coachella Valley IRWM Plan <b>Volume II.</b>	y
<b>Describe major water related objectives and conflicts</b>	y/n/q	y/q	19/40	CWC §10541.(e)(3)	2.7 Major Water-Related Objectives and Conflicts; 6.1.1 Determining Objectives; 11.1.3 Benefits and Impacts of Plan Implementation	An overview of major water-related conflicts is presented in <i>Chapter 2, Region Description, Section 2.7</i> , while objectives are located in <i>Chapter 6, Objectives</i> . Challenges to Plan implementation are described in <i>Chapter 11, Section 11.1.3</i> . Challenges to implementation include funding, participation, the grant process, and regulatory uncertainty.	y

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From IRWM Guidelines		y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)		Regulatory and/or Other Citations		Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
Explain how IRWM regional boundary was determined and why region is an appropriate area for IRWM planning		y/n/q	y/q	19/40	-	2.1 Selection of Regional Boundary 10.1.2 Neighboring and/or Overlapping IRWM Efforts	The Coachella Valley IRWM Region's boundaries are described in <i>Chapter 2, Region Description, Section 2.1</i> . This section also presents an overview of the logic of the selected boundary. <i>Chapter 10, Agency Coordination, Section 1.2</i> provides more detail on the justification used to set the Region's boundary.	y		
Describe neighboring and/or overlapping IRWM efforts		y/n	y	19/40	-	10.1.2 Neighboring and/or Overlapping IRWM Efforts	<i>Chapter 10, Agency Coordination, Section 1.2</i> describes neighboring IRWM efforts: Anza-Borrego Desert, Imperial Valley, and Mojave IRWM Regions, the Santa Ana Funding Area IRWM efforts, and the Salton Sea Authority Conceptual Plan.	y		
Explain how opportunities are maximized (e.g., people at the table, natural features, infrastructure) for integration of water management activities		y/n	y	38	-	9.2.2 Project Review and Prioritization Process; 8.1 IRWM Integration Approach	<i>Chapter 9, Project Evaluation and Prioritization, Section 9.2.2</i> notes that the CVRWGM will assess opportunities for integration during the project review process. <i>Chapter 8, Resource Management Strategies, Section 8.1</i> describes integration between stakeholders/institutions, resources, projects, and strategies.	y		
<b>IRWM Plan Standard: Objectives</b>								<b>Overall Standard Sufficient</b>	<b>Y</b>	
Through the objectives or other areas of the Plan, the 7 items on pg. 41 of the Guidelines are addressed	Protection and improvement of water supply reliability	y/n	y	20/40-41	CWC §10540.(c); CWC §10541.(e)(2)	Objective A Objective B Objective C Objective D Objective E Objective I	Objectives are described in detail in <i>Chapter 6, Objectives, Section 6.1.1</i> . The objectives listed here under the "Location of Standard in Grantee IRWMP" column clearly address, either directly or indirectly, the listed requirements.	y		
	Identification and consideration of drinking water quality	y/n	y			Objective B Objective E Objective K Objective L				
	Protection and improvement of water quality consistent with basin plan	y/n	y			All objectives				
	Protection, restoration, improvement of aquatic, riparian, and watershed resources	y/n	y			Objective E Objective F Objective G				

Requirement		Included		Plan Standard Source		Evidence of Sufficiency		Sufficient		
From IRWM Guidelines		y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)		Regulatory and/or Other Citations		Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
7 items addressed, cont.	Identification of threats to groundwater from overdraft	y/n	y	20/40-41	CWC §10540.(c); CWC §10541.(e)(2)	Objective B		Objectives are described in detail in <i>Chapter 6, Objectives, Section 6.1.1</i> . The objectives listed here under the "Location of Standard in Grantee IRWMP" column clearly address, either directly or indirectly, the listed requirements.	y	
	Protection of groundwater resources from contamination	y/n	y			Objective B Objective E Objective K Objective L				
	Identification and consideration of water-related needs of DACs	y/n	y			Objective L Objective M				
Describe the collaborative process and tools used to establish objectives: <ul style="list-style-type: none"> <li>How the objectives were developed</li> <li>What information was considered (i.e., water management or local land use plans, etc.)</li> <li>What groups were involved in the process</li> <li>How the final decision was made and accepted by IRWM effort</li> </ul>		y/n	y	20/41	-	6.1.2 Describing the Process		<i>Chapter 6, Objectives, Section 6.1.2</i> describes how the objectives were identified and developed, what was used in the process, how stakeholders were involved in development of the objective, and how the final list of objectives was chosen consistent with the IRWM Program's governance structure and decision-making process.	y	
<b>Identify quantitative or qualitative metrics and measurable objectives: Objectives must be measurable – there must be some metric the IRWM region can use to determine if the objective is being met as the IRWM Plan is implemented. Neither quantitative nor qualitative metrics are considered inherently better</b>		y/n/q	y/q	20/41-42	§10541.(e)	6.1.3 Goals, Objectives, and the Planning Hierarchy		<b>Table 6-1</b> in <i>Chapter 6, Objectives, Section 6.1.3</i> provides both qualitative and quantitative targets and measurements for each objective and their associated goals. These targets and measurements can be used to assess progress towards achieving the Plan goals and objectives.	y	



Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
From IRWM Guidelines	y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)	Regulatory and/or Other Citations	Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
Explain how objectives are prioritized or reason why the objectives are not prioritized	y/n/q	y/q	20/42-43	-	6.2 Prioritizing Objectives	The 2014 Coachella Valley IRWM Plan objectives have been prioritized by the CVRWMPG and stakeholders. <i>Chapter 6, Objectives, Section 6.2</i> describes the prioritization of the objectives, while <i>Section 6.2.1</i> explains how the objectives were prioritized with stakeholder involvement and through the governance structures described in <i>Chapter 7, Stakeholder Involvement</i> .	y
Reference specific overall goals for the region: RWMPGs may choose to use goals as an additional layer for organizing and prioritizing objectives, or they may choose to not use the term at all	y/n	y	43	-	6.1 Goals and Objectives	<i>Chapter 6, Objectives, Section 6.1</i> presents the five goals of the 2014 Coachella Valley IRWM Plan: 1. Optimize water supply reliability 2. Protect or improve water quality 3. Provide stewardship of water-related natural resources 4. Coordinate and integrate water resource management 5. Ensure cultural, social, and economic sustainability of water in the Coachella Valley	y
<b>IRWM Plan Standard: Resource Management Strategies (RMS)</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
Identify RMS incorporated in the IRWM Plan: Consider all RMS criteria (29) listed in Table 3 from the CWP Update 2009	y/n	y	20/43	CWP Updated 2009 Volume II; CWC §10541(e)(1)	8.2 Resource Management Strategies; 8.2 Overview of Resource Management Strategies	<i>Chapter 8, Resource Management Strategies, Section 8.2</i> describes the RMS considered when developing the 2014 Plan. <b>Table 8-1</b> presents all 29 RMS from the 2009 CWP Update, and indicates which ones were ultimately included and considered relevant. <i>Section 8.4</i> describes each RMS in detail.	y
Consideration of climate change effects on the IRWM region must be factored into RMS	y/n	y	20/43		8.4 Overview of Resource Management Strategies; 8.5 Adapting Resource Management Strategies to Climate Change	<i>Chapter 8, Resource Management Strategies, Section 8.5</i> details which RMS will contribute to climate change adaptation and how, summarized in <b>Table 8-3</b> . Individual RMS descriptions ( <i>Section 8.4 Overview of Resource Management Strategies</i> ) indicate the relationship between the RMS and the potential impacts of climate change in the Region.	y
Address which RMS will be implemented in achieving IRWM Plan Objectives	y/n	y	44		8.2.2 Objectives Assessment	<i>Chapter 8, Resource Management Strategies, Section 8.2.2</i> describes how each RMS will contribute to each Plan objective ( <b>Table 8-2: Resource Management Strategies that Achieve IRWM Plan Objectives</b> ).	y

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From IRWM Guidelines		y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)		Regulatory and/or Other Citations		Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
<b>IRWM Plan Standard: Integration</b>									<b>Overall Standard Sufficient</b>	<b>Y</b>
<p>Contains structure and processes for developing and fostering integration*:</p> <ul style="list-style-type: none"> <li>Stakeholder/institutional</li> <li>Resource</li> <li>Project implementation</li> </ul> <p>* If not included as an individual section use Governance, Project Review Process, and Data Management Standards per November 2012 Guidelines, p. 44</p>		y/n/q	y/q	20/44-45	CWC §10540.(g); CWC §10540.(h)(2)	9.2.2 Project Review and Prioritization Process; 8.1 IRWM Integration Approach	As described in <i>Chapter 9, Project Evaluation and Prioritization, Section 9.2.2</i> , during the project review process, the CVRWMP identifies opportunities for integration and informs project proponents of such opportunities to maximize resources. <i>Chapter 8, Resource Management Strategies, Section 8.1</i> describes integration between stakeholders/institutions, resources, projects, and strategies.	y		
<b>IRWM Plan Standard: Project Review Process</b>									<b>Overall Standard Sufficient</b>	<b>Y</b>
Process for projects included in the IRWM plan must address 3 components:	Procedures for submitting projects	y/n	y	20/45	PRC §75028.(a)	9.2.1 Project Submittal Process	<i>Chapter 9, Project Evaluation and Prioritization, Section 9.2.1</i> describes how project proponents can submit projects via the online project database to be considered for inclusion in the IRWM Plan and/or IRWM grant opportunities	y		
	Procedures for reviewing projects	y/n	y			9.2.2 Project Review and Prioritization Process	<i>Chapter 9, Project Evaluation and Prioritization, Section 9.2.2</i> describes how projects that have been submitted to the online project database are evaluated and prioritized for inclusion in the IRWM Plan and/or for funding opportunities. <b>Table 9-3</b> is the project scoring guide used when evaluating projects.	y		
	Procedures for communicating lists of selected projects	y/n	y			9.3 List of Selected Projects	<i>Chapter 9, Project Evaluation and Prioritization, Section 9.3</i> states that the current project list is available through the online project database, and that stakeholders will be notified of projects selected for inclusion in IRWM grant applications via email and at a Planning Partners meeting.	y		

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Process for project inclusion must meet at least 3, cont.:	How the project contributes to plan objectives	y/n	y	20	PRC §75028.(a)	9.2.3 Project Selection Factors: Contribution to IRWM Plan Objectives	Chapter 9, Project Evaluation and Prioritization, Section 9.2 describes the Project Selection Process, while Section 9.2.3 details the Project Selection Factors. Each of these project review standards are included either directly or indirectly in <b>Table 9-2</b> (Project Prioritization Criteria and Relationship to IRWM Goals and Objectives) and <b>Table 9-3</b> (Project Scoring Guide)	y		
	How the project is related to RMS identified in the Plan	y/n	y	20		9.2.3 Project Selection Factors: Relationship to RMS		y		
	The technical feasibility of the project	y/n	y	20		9.2.3 Project Selection Factors: Technical Feasibility		y		
	A project's specific benefits to a DAC water issue	y/n	y	20		9.2.3 Project Selection Factors: Critical Issues in DACs		y		
	Environmental Justice considerations	y/n	y	20		9.2.3 Project Selection Factors: Environmental Justice Considerations		y		
	Project costs and financing	y/n	y	20		9.2.3 Project Selection Factors: Project Costs and Financing		y		
	Address economic feasibility	y/n	y	21		9.2.3 Project Selection Factors: Economic Feasibility		y		
	Project status	y/n	y	21		9.2.3 Project Selection Factors: Project Status		y		
	Strategic implementation of plan and project merit	y/n	y	21/48		9.2.3 Project Selection Factors: Strategic Considerations		y		
	Project's contribution to climate change adaptation	y/n	y	21		9.2.3 Project Selection Factors: Climate Change Adaptation; 9.2.3 Project Selection Factors: Climate Change Mitigation		y		

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Process for project inclusion must meet at least 3, cont.:	Contribution of project in reducing GHGs compared to project alternatives	y/n	y	21		9.2.3 Project Selection Factors: Climate Change Adaptation; 9.2.3 Project Selection Factors: Climate Change Mitigation	Chapter 9, Project Evaluation and Prioritization, Section 9.2 describes the Project Selection Process, while Section 9.2.3 details the Project Selection Factors. Each of these project review standards are included either directly or indirectly in <b>Table 9-2</b> (Project Prioritization Criteria and Relationship to IRWM Goals and Objectives) and <b>Table 9-3</b> (Project Scoring Guide)	y		
	Status of Project Proponent's IRWM plan adoption	y/n	y	21		7.2.1 Group Membership and Participation	Chapter 7, Stakeholder Involvement, Section 7.2.1 details the requirement that organizations whose projects have been included in an IRWM grant application are required to adopt the current IRWM Plan.	y		
	Project's contribution to reducing dependence on Delta supply (for IRWM regions receiving water from the Delta)	y/n	y	21		9.2.3 Project Selection Factors; 6.1.1 Determining Objectives	Chapter 9, Project Evaluation and Prioritization, Section 9.2.3 explains the project selection factors, including contribution to IRWM Plan Objectives. As noted in Chapter 6, Objectives, Section 6.1.1, four of the objectives (A, C, D, and I) have the potential to reduce future additional imported water demands, including Delta supplies.	y		
<b>IRWM Plan Standard: Impact and Benefits</b>								<b>Overall Standard Sufficient</b>	<b>Y</b>	
Discuss potential impacts and benefits of plan implementation within IRWM region, between regions, with DAC/EJ concerns and Native American Tribal communities	y/n	y	21	-	11.1 Impacts and Benefits	Potential impacts of project implementation are discussed in Chapter 11, Framework for Implementation, Section 11.1.2 and summarized in <b>Table 11-2</b> . Potential benefits of project implementation are described in Section 11.1.1 and summarized in <b>Table 11-1</b> . Impacts and Benefits of Plan implementation are described in Section 11.1.3. Potential impacts and benefits affecting DACs/EJs and tribes are described in each section.	y			
State when a more detailed project-specific impact and benefit analysis will occur (prior to any implementation activity)	y/n	y	49	-	11.1.1 Overview of Benefits; 11.1.2 Overview of Impacts	Potential benefits may be evaluated in greater detail if required in future IRWM grant applications, as described in Chapter 11, Framework for Implementation, Section 11.1.1. Potential impacts will be evaluated in greater detail if CEQA and/or NEPA compliance is required, as described in Section 11.1.2.	y			

Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
<i>From IRWM Guidelines</i>	<i>y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed</i>		<i>2012 IRWM Grant Program Guidelines Source Page(s)</i>	<i>Regulatory and/or Other Citations</i>	<i>Location of Standard in Grantee IRWMP</i>	<i>Brief Qualitative Evaluation Narrative</i>	<i>y/n</i>
Review and update the impacts and benefits section of the plan as part of the normal plan management activities	y/n	y	50	-	11.1 Impacts and Benefits	Chapter 11, Framework for Implementation, Section 11.1 states that impacts and benefits will be reevaluated during Plan updates.	y
<b>IRWM Plan Standard: Plan Performance and Monitoring</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
Contain performance measures and monitoring methods to ensure that IRWM objectives are met	y/n	y	21/53	PRC §75026.(a)	6.1.3 Goals, Objectives, and the Planning Hierarchy	Table 6-1 in Chapter 6, Objectives, Section 6.1.3 presents the targets and measures that will be used to evaluate progress towards achieving Plan objectives.	y
Contain a methodology that the RWMG will use to oversee and evaluate implementation of projects	y/n	y	21/53		11.4 Plan Performance and Monitoring	As described in Chapter 11, Framework for Implementation, Section 11.4, Plan performance will be evaluated by how well its goals and objectives are been addressed (see Table 6-1), as well as its progress towards priorities in Chapter 9, Project Evaluation and Prioritization. Projects will be evaluated based on project specific monitoring plans.	y
<b>IRWM Plan Standard: Data Management</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
Describe data needs within the IRWM region	y/n	y	54	-	11.3.1 Overview of Data Needs	Chapter 11, Framework for Implementation, Section 11.3.1 describes the types of data that have been used to develop the 2014 IRWM Plan, as well as data gaps.	y
Describe typical data collection techniques	y/n	y	54	-	11.3.2 Data Collection Techniques	As described in Chapter 11, Framework for Implementation, Section 11.3.2, all data collected for use in the plans and studies are presumed to be collected in a defensible manner consistent with typical or standard collection techniques.	y
Describe stakeholder contribution of data to a data management system	y/n	y	54	-	11.3.3 Stakeholder Contributions	Chapter 11, Framework for Implementation, Section 11.3.3 describes how stakeholders contributed data to the IRWM Program through outreach efforts, participation in public workshops and Planning Partners meetings, and the DAC Outreach Program's survey.	y
Describe the entity responsible for maintaining data in the data management system	y/n	y	54	-	11.3.4 Responsible Entity	Chapter 11, Framework for Implementation, Section 11.3.4 explains that the CVRWGM is responsible for the Region's data management system (DMS), and has a designated person in charge of maintaining the program library, though all agencies are responsible for uploading data to the CVRWGM file sharing site.	y

Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
<i>From IRWM Guidelines</i>	<i>y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed</i>		<i>2012 IRWM Grant Program Guidelines Source Page(s)</i>	<i>Regulatory and/or Other Citations</i>	<i>Location of Standard in Grantee IRWMP</i>	<i>Brief Qualitative Evaluation Narrative</i>	<i>y/n</i>
Describe the QA/QC measures for data	y/n	y	54	-	11.3.5 Quality Assurance/Quality Control (QA/QC) Measures	Chapter 11, Framework for Implementation, Section 11.3.5 states that the CVRWGM will vet data collected for regional planning that is unregulated by State or federal agencies, but will not conduct additional QA/QC for data required by State or federal agencies.	y
<b>Explain how data collected will be transferred or shared between members of the RWMG and other interested parties throughout the IRWM region, including local, State, and federal agencies</b>	y/n	y	54	-	11.3.6 Regional Data Sharing; 11.3.7 Statewide Data Sharing	Chapter 11, Framework for Implementation, Section 11.3.6 and Section 11.3.7 explain that data is shared regionally through a file sharing website amongst CVRWGM agencies, and with stakeholders through the online Library, available at <a href="http://www.cvrwmg.org">www.cvrwmg.org</a> . Data submitted to statewide databases are available to the public via those databases.	y
Explain how the Data Management System supports the efforts to share collected data	y/n	y	54	-	11.3.6 Regional Data Sharing	Chapter 11, Framework for Implementation, Section 11.3.6 explains that the CVRWGM has used a file sharing site to share data during IRWM planning activities, and that stakeholders may also access data through the online data library available on <a href="http://www.cvrwmg.org">www.cvrwmg.org</a> .	y
Outline how data saved in the data management system will be distributed and remain compatible with State databases included CEDEN, Water Data Library (WDL), CASGEM, California Environmental Information Catalog (CEIC), and the California Environmental Resources Evaluation System (CERES)	y/n	y	54	-	11.3.7 Statewide Data Sharing	Chapter 11, Framework for Implementation, Section 11.3.7 describes the statewide databases to which IRWM projects may be required to submit applicable data, and states that it is presumed such data will be compatible with the appropriate state systems, as required.	y
<b>IRWM Plan Standard: Finance</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
<b>Include a programmatic level (i.e., general) plan for implementation and financing of identified projects and programs including the following:</b>	y/n	y	21	CWC §10541.(e)(8)	See below.	This requirement is met by meeting the other requirements in this Standard.	y

Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
From IRWM Guidelines	y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)	Regulatory and/or Other Citations	Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
List known, as well as, possible funding sources, programs, and grant opportunities for the development and ongoing funding of the IRWM Plan	y/n	y	21	CWC §10541.(e)(8)	11.5.1 Sources and Certainty of Funding	<b>Table 11.4</b> in Chapter 11, Framework for Implementation, Section 11.5.1 summarizes the potential funding sources available for IRWM program activities that are currently known by the CVRWGM. These funding sources are also described in Section 11.5.1, Sources and Certainty of Funding: Funding Sources.	y
List the funding mechanisms, including water enterprises funds, rate structure, and private financing options, for projects that implement the IRWM Plan	y/n	y	21		11.5.1 Sources and Certainty of Funding	<b>Table 11.4</b> in Chapter 11, Framework for Implementation, Section 11.5.1 summarizes the potential funding mechanisms available for IRWM projects that are currently known by the CVRWGM. These funding mechanisms are also described in Section 11.5.1, Sources and Certainty of Funding: Funding Sources.	y
An explanation of the certainty and longevity of known or potential funding for the IRWM Plan and projects that implement the Plan	y/n	y	21		11.5.1 Sources and Certainty of Funding	<b>Table 11.4</b> in Chapter 11, Framework for Implementation, Section 11.5.1 summarizes the certainty and longevity of potential funding sources available for IRWM projects and program activities that are currently known by the CVRWGM. The certainty and longevity of these funding sources are also described in Section 11.5.1, Sources and Certainty of Funding: Funding Sources.	y
An explanation of how operation and maintenance (O&M) costs for projects that implement the IRWM Plan would be covered and the certainty of O&M funding.	y/n	y	21		11.5.1 Sources and Certainty of Funding	<b>Table 11.4</b> in Chapter 11, Framework for Implementation, Section 11.5.1 notes which potential funding sources may allow funding for O&M. This is also noted in the funding source descriptions in Section 11.5.1, Sources and Certainty of Funding: Funding Sources. <b>Appendix VII-C</b> and <b>Appendix VII-H</b> include potential for individual user fees to cover the costs of O&M for on-site water treatment systems and new or retrofitted septic systems, respectively.	y

Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
From IRWM Guidelines	y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)	Regulatory and/or Other Citations	Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
<b>IRWM Plan Standard: Technical Analysis</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
Document the data and technical analyses that were used in the development of the plan	y/n		22	-	3.6 Technical Analysis; <b>Appendix VI-B</b> Data and Technical Sources, Analysis, and Use in 2014 IRWM Plan; Chapter 12 References	Chapter 3, Issues and Need, Section 3.6 describes how the technical information was used in the development of the 2014 Plan. The technical analyses and data used are listed in Chapter 12, References, and throughout the Plan in appropriate chapters where referenced. <b>Appendix VI-B</b> contains a detailed description of the data and technical analysis used in the development of the 2014 IRWM Plan.	y
<b>IRWM Plan Standard: Relation to Local Water Planning</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
Identify a list of local water plans used in the IRWM Plan	y/n	y	22	CWC §10540.(b)	10.2 Relation to Local Water Planning	Chapter 10, Agency Coordination, Section 10.2 describes the major water plans used to develop the 2014 IRWM Plan: CVRWGM agency UWMPs, Coachella Valley WMP, Mission Creek – Garnet Hill WMP, IWA's Water Resources Development Plan, and the Whitewater River Watershed Municipal Stormwater Program Stormwater Management Plan.	y
Discuss how the plan relates to these other planning documents and programs	y/n	y	22		10.2 Relation to Local Water Planning	The description of plans used to develop the 2014 IRWM Plan in Chapter 10, Agency Coordination, Section 10.2 explains the relationship the IRWM Plan has to these other planning documents	y
Describe they dynamics between the IRWM plan and other planning documents	y/n	y	22		10.2 Relation to Local Water Planning	The description of plans used to develop the 2014 IRWM Plan in Chapter 10, Agency Coordination, Section 10.2 explains the dynamics between the IRWM Plan and these other planning documents	y
Describe how the RWGM will coordinate its water management planning activities	y/n	y	58		10.2 Relation to Local Water Planning	Chapter 10, Agency Coordination, Section 10.2 describes how the CVRWGM agencies coordinate with one another through Joint Board meetings, CVRWGM business meetings, and other specialized efforts.	y
<b>IRWM Plan Standard: Relation to Local Land Use Planning</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
Document current relationship between local land use planning, regional water issues, and water management objectives	y/n	y	22/59-62	-	10.3.2 Current Relationships between Water Managers and Land Use Planners	Chapter 10, Agency Coordination, Section 10.3.2 describes the existing relationship between water managers and land use planners. These relationships vary by agency, though Planning Partners meetings provide a forum for land use planners to interact with water managers.	y



Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
<i>From IRWM Guidelines</i>	<i>y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed</i>		<i>2012 IRWM Grant Program Guidelines Source Page(s)</i>	<i>Regulatory and/or Other Citations</i>	<i>Location of Standard in Grantee IRWMP</i>	<i>Brief Qualitative Evaluation Narrative</i>	<i>y/n</i>
Document future plans to further a collaborative, proactive relationship between land use planners and water managers	y/n	y	22/59-62	-	10.3.3 Future Efforts to Establish Proactive Relationships	Chapter 10, Agency Coordination, Section 10.3.3 outlines five ways to address coordination related to land use planning: 1. CVRWGM is committed to coordination with land use planning agencies in Region 2. 2. Important for water planners to be involved in General Plan updates 3. Important for water planners to be involved early in development of Specific Plans 4. Coordination with water planners during development approval to ensure adequate water services 5. Review and approval by local utilities during CEQA	y
<b>IRWM Plan Standard: Stakeholder Involvement</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
Contain a public process that provides outreach and opportunity to participate in the IRWM Plan	y/n	y	22/63	CWC §10541.(g)	7.2.1 Group Membership and Participation; 7.4 Balanced Access and Opportunity for Participation; 7.5 Disadvantaged Communities Outreach; 7.6 Tribal Outreach and Coordination	Chapter 7, Stakeholder Involvement describes how stakeholders participate in the IRWM Program, as well as who may participate. The CVRWGM invites all stakeholders to participate, as described in Section 7.2.1, and conducts outreach (general and targeted) during IRWM Program milestone activities (grant opportunities, Plan updates, etc.) as described in Section 7.4, 7.5, and 7.6.	y
Identify process to involve and facilitate stakeholders during development and implementation of plan regardless of ability to pay; include barriers to involvement	y/n	y	64	CWC §10541.(h)(2)	7.4 Balanced Access and Opportunity for Participation; Appendix VII-D	Chapter 7, Stakeholder Involvement, Section 7.4 describes how the CVRWGM encourages participation of stakeholders in IRWM Plan and Program activities. <b>Appendix VII-D</b> documents the challenges to participation by DACs in the IRWM Program, Plan, and grants.	y

Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
From IRWM Guidelines	y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed		2012 IRWM Grant Program Guidelines Source Page(s)	Regulatory and/or Other Citations	Location of Standard in Grantee IRWMP	Brief Qualitative Evaluation Narrative	y/n
Discuss involvement of DACs and tribal communities in the IRWM planning effort	y/n	y	23	-	7.2.1 Group Membership and Participation; 7.5 Disadvantaged Communities Outreach; 7.6 Tribal Outreach and Coordination; Chapter 4, Disadvantaged Communities; Volume II	The CVRWMP has conducted targeted outreach efforts to DACs and area tribes, as described in <i>Chapter 7, Stakeholder Involvement, Section 7.5</i> and <i>7.6</i> . DAC outreach is further described in <i>Chapter 4, Disadvantaged Communities</i> . As described in <i>Section 7.2.1 Group Membership and Participation</i> , future Planning Partners meetings may be held, as needed. The 2014 Coachella Valley IRWM Plan Volume II describes the efforts made to involve DACs and the challenges to DAC participation in the IRWM Program.	y
Describe decision-making process and roles that stakeholders can occupy	y/n	y	23	-	7.3 Effective Decision-Making	<i>Chapter 7, Stakeholder Involvement, Section 7.3</i> describes the decision making process for the Region. Planning Partners provide input and help to develop the Plan and implementation, while the CVRWMP makes all final decision and provides the Planning Partners with direction. Any stakeholder may participate as a Planning Partner, Issues Group member, or through public workshops and meetings.	y
Discuss how stakeholders are necessary to address objectives and RMS	y/n	y	23	-	9.2.3 Project Selection Factors; 8.2.2 Objectives Assessment	<i>Chapter 9, Project Evaluation and Prioritization, Section 9.2.3</i> describes how the implementation of projects by stakeholders uses RMS to achieve objectives. <b>Table 8-2</b> in <i>Chapter 8, Resource Management Strategies, Section 8.2.2</i> shows which RMS will contribute towards achieving IRWM Plan objectives. Further, <i>Chapter 8</i> highlights projects and activities implemented by stakeholders that use RMS.	y
Discuss how a collaborative process will engage a balance in interest groups	y/n	y	23	-	8.1.1 Stakeholder/Institutional Integration	<i>Chapter 8, Resource Management Strategies, Section 8.1.1</i> describes the collaborative efforts that involve diverse stakeholders and help to balance interest groups. Such efforts include public workshops, direct outreach with stakeholders, discussion of projects and integration opportunities with stakeholder, and stakeholder approval of key IRWM Program decisions.	y

Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
<i>From IRWM Guidelines</i>	<i>y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed</i>		<i>2012 IRWM Grant Program Guidelines Source Page(s)</i>	<i>Regulatory and/or Other Citations</i>	<i>Location of Standard in Grantee IRWMP</i>	<i>Brief Qualitative Evaluation Narrative</i>	<i>y/n</i>
<b>IRWM Plan Standard: Coordination</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
<b>Identify the process to coordinate water management projects and activities of participating local agencies and stakeholders to avoid conflicts and take advantage of efficiencies</b>	y/n	y	23/65	CWC §10541.(e)(13)	10.1.1 Coordination of Activities within IRWM Region; 9.2.2 Project Review and Prioritization Process	The IRWM Program provides a forum for coordination amongst water management projects. <i>Chapter 10, Agency Coordination, Section 10.1.1</i> describes the coordination opportunities provided through the IRWM Program. <i>Chapter 9, Project Evaluation and Prioritization, Section 9.2.2</i> describes how opportunities for integration are identified during the Project Review Process, and project proponents informed of the potential for improved project efficiencies.	y
Identify neighboring IRWM efforts and ways to cooperate or coordinate, and a discussion of any ongoing water management conflicts with adjacent IRWM efforts	y/n	y	23/65	-	10.1.2 Neighboring and/or Overlapping IRWM Efforts	<i>Chapter 10, Agency Coordination, Section 10.1.2</i> explains that while nearby IRWM Regions did meet to discuss potential collaboration, ultimately it was decided that the regions were too distinct for significant coordination to be efficient or effective.	y
Identify areas where a state agency or other agencies may be able to assist in communication or cooperation, or implementation of IRWM Plan components, processes, and projects, or where State or federal regulatory decisions are required before implementing the projects	y/n	y	23	-	10.1.3 Coordination with Tribal, Federal, State, and Local Agencies	As described in <i>Chapter 10, Agency Coordination, Section 10.1.3</i> , the Plan has identified state agencies that can assist in cooperation and communication related to IRWM Program activities and projects. A meeting was also held with the Regional Board to discuss the 2014 IRWM Plan Update. The agencies listed in <i>Section 10.1.3</i> have been invited to participate through inclusion on the stakeholder email list or their participation in IRWM projects.	y

Requirement	Included		Plan Standard Source		Evidence of Sufficiency	Sufficient	
<i>From IRWM Guidelines</i>	<i>y/n – Present and complete in IRWMP; if y/n/q qualitative evaluation needed</i>		<i>2012 IRWM Grant Program Guidelines Source Page(s)</i>	<i>Regulatory and/or Other Citations</i>	<i>Location of Standard in Grantee IRWMP</i>	<i>Brief Qualitative Evaluation Narrative</i>	<i>y/n</i>
<b>IRWM Plan Standard: Climate Change</b>						<b>Overall Standard Sufficient</b>	<b>Y</b>
Evaluate IRWM region's vulnerabilities to climate change and potential adaptation responses based on vulnerabilities assessment in the DWR Climate Change Handbook for Regional Water Planning	y/n	y	23/66-73	Climate Change Handbook vulnerability assessment: <a href="http://www.water.ca.gov/climatechange/CCHandbook.cfm">http://www.water.ca.gov/climatechange/CCHandbook.cfm</a> ; November 2012 Guidelines Legislative and Policy Context, p. 66 §10541.(e)(11)	3.4 Identification of Climate Change Vulnerabilities; 8.5 Adapting Resource Management Strategies to Climate Change	<i>Chapter 3, Issues and Needs, Section 3.4 describes and prioritizes the climate change vulnerabilities of the Region. Chapter 8, Resource Management Strategies, Section 8.5 describes how the RMS will help the Region adapt to or mitigate the effects of climate change.</i>	y
Provide a process that considers GHG emissions when choosing between project alternatives	y/n	y	23/68		9.2.3 Project Selection Factors; 8.5 Adapting Resource Management Strategies to Climate Change	<i>Chapter 9, Project Evaluation and Prioritization, Section 9.2.3 describes the relationship of projects to RMS, and how RMS are a project selection factor. Table 8-3 in Chapter 8, Resource Management Strategies, Section 8.5 shows which RMS will help mitigate GHGs.</i>	y
Include a list of prioritized vulnerabilities based on the vulnerability assessment and the IRWM's decision making process	y/n	y	23/66-73		3.4 Identification of Climate Change Vulnerabilities	<i>Chapter 3, Issues and Needs, Section 3.4 identifies and prioritizes 13 climate change vulnerabilities of the Region and describes how these vulnerabilities were identified and prioritized.</i>	y
Contain a plan, program, or methodology for further data gathering and analysis of prioritized vulnerabilities	y/n	y	23/66-73		8.5 Adapting Resource Management Strategies to Climate Change	Through the RMS, more data collection and analysis of climate change vulnerabilities will occur, especially for projects that implement adaptive management as recommended.	y
Include climate change as part of the project review process	y/n	y	23/68		9.2.3 Project Selection Factors; 8.5 Adapting Resource Management Strategies to Climate Change	<i>Chapter 9, Project Evaluation and Prioritization, Section 9.2.3 describes the relationship of projects to RMS, and how RMS are a project selection factor. Table 8-3 in Chapter 8, Resource Management Strategies, Section 8.5 shows which RMS are also climate change management strategies.</i>	y

## Appendix VI-B: Data and Technical Sources, Analysis, and Use in the 2014 Coachella Valley IRWM Plan Volume I

This appendix contains Table 6 from DWR's 2012 IRWM Guidelines, documenting the technical analysis used in development of the 2014 Coachella Valley IRWM Plan. Complete source citations are provided following the table, and can also be found in *Chapter 12, References*.



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## Data and Technical Sources, Analysis, and Use in 2014 IRWM Plan

### Data Used to Support Plan

Data or Study (full citation provided following table)	Analysis Method	Results/Derived Information	Use in IRWM Plan	Source Agency
Source: CVRWMG Agency Documents				
2010 Urban Water Management Plans	Water meter data, agency financials, monitoring data.	Water supply and demand within service areas, population served, projected water supplies, demands, issues, water quality.	2010 UWMPs were relied on heavily during development of the 2014 IRWM Plan. UWMPs were used to characterize the Region, describe the historical and projected water supplies and demand, document potential issues in the Region, describe water quality, and generally inform the description of the Region as a whole.	CWA, CVWD, DWA, IWA, MSWD
Mission Creek and Garnet Hill Sub-basins Water Management Plan	Existing studies and plans. Population, land use and socio-economic trends. Water demand and supply projections. Reported water supply, production, and use data.	Volumes of water delivered, used, supplied. Water quality data. Population, land use, and water supply/demand projections. Groundwater levels and quality data. Characterization of water supply sources and related information.	Used to document demand and projected future demand within the Mission Creek and Garnet Hill Sub-Basins and to describe issues pertaining to the sub-basin such as groundwater overdraft, potential impacts and solutions, and other water sources (recycled water).	CVWD, DWA, MSWD
Coachella Valley 2010 Water Management Plan Update	Review and analysis of existing studies, planning efforts, legal decisions, and contracts/agreements. Evaluation of accomplishments stemming from 2002 WMP. Projections from the Riverside County Center for Demographic Research. Reported water supply, production, and use data. Monitoring data.	Volumes of water delivered, used, supplied. Water quality data. Population, land use, and water supply/demand projections. Groundwater levels and quality data. Characterization of water supply sources and related information.	Used to characterize the Region's groundwater basins, water supplies, and water demands. Also used to describe recharge volumes, groundwater levels and management efforts, status of groundwater, wastewater and recycled water capacity, potential for use of untreated canal water for irrigation, and the (low) potential for use of desalinated ocean water.	CVWD
2012 Domestic Water Quality Report	Water samples, federal and state regulations	Levels of constituents that require monitoring by state and federal regulations.	Used to describe constituents monitored in drinking water, and sources of constituents.	CVWD
2009 Region Acceptance Process	Review of existing planning documents and other technical data.	Hydrologic connectivity (or lack of) in and around the Coachella Valley. Recycled water use over time.	The 2009 RAP was used to describe the Region boundaries and reasons for coordination structure (informal structure) with neighboring IRWM Regions. Also used to describe internal boundaries and discuss recycled water use.	CVRWVG

Data or Study (full citation provided following table)	Analysis Method	Results/Derived Information	Use in IRWM Plan	Source Agency
Source: CVRWGM Agency Documents				
Engineer's Report on Water Supply and Replenishment Assessment, Lower Whitewater River Sub-basin Area of Benefit 2013-2013; Engineer's Report on Water Supply and Replenishment Assessment, Mission Creek Sub-basin Area of Benefit 2013-2014; Engineer's Report on Water Supply and Replenishment Assessment, Upper Whitewater River Sub-basin Area of Benefit 2013-2014	Groundwater monitoring well data.	Groundwater elevations over time (ranging from 15-90 years of data). Groundwater storage changes.	Provides the baseline for measuring groundwater levels to meet Target under Goal 1, Objective B; Used to describe groundwater overdraft and demonstrate beneficial effects of groundwater overdraft reduction measures (based on increasing groundwater storage capacity).	CVWD
Integrated Flood Management Study	Stakeholder input, mapped flood zones overlaid with geologic, vegetation, soil-type, and land use to determine IFM opportunities.	Flood risks and maps, integrated flood management opportunities and locations.	Informed the discussion of flood issues in the Region, as well as possible opportunities for managing flooding. One of the key technical analyses completed in support of the 2014 IRWM Plan.	CVRWGM
DAC Outreach Program Study	Stakeholder input, DAC surveys, review of existing studies, spatial analysis.	Characterization of DACs and their issues/needs.	This program informed the development of <i>Chapter 4, Disadvantaged Communities</i> , as well as other discussions related to DACs.	CVRWGM
2009 Annual Review Water Quality Report	Reported agency data.	Average gross value per acre of cropland, and total value of crops in 2007.	Used to show the role of agriculture in Region economy.	CVWD
Source: Other Planning and Technical Documents				
California Water Plan Update 2009	Review of Resource Management Strategies and water supply and quality data.	Potential climate change impacts on California's water resources, contamination of the Coachella Valley Stormwater Channel, challenges to SWP water supplies.	Used to illuminate the potential impacts of climate change on the Region, provide basis for Objective C (secure reliable imported water supply), characterize water quality issues in the Region, and describe Resource Management Strategies.	DWR
Water Quality Control Plan Colorado River Basin – Region 7 (Basin Plan)	Review of water quality testing data and reports, stakeholder input.	Water quality objectives for the Colorado River Basin.	Used to characterize the Whitewater Hydrologic Unit and describe the water quality and basin plan objectives that are the basis for water quality assessments and issues in the Region.	Regional Board
Detection and Measurement of Land Subsidence Using Global Positioning System Surveying and Interferometric Synthetic Aperture Radar, Coachella Valley, California, 1996-2005.	Subsidence monitoring data collected using GPS surveys and radar.	Location and extent of inferred subsidence in the Region.	Used to describe where land subsidence is inferred and therefore a potential issue for the Region, and describe the potential impacts of subsidence on infrastructure.	USGS



Data or Study (full citation provided following table)	Analysis Method	Results/Derived Information	Use in IRWM Plan	Source Agency
Source: Other Planning and Technical Documents				
Watershed Management Initiative	Review and integration of existing federal, State, and local water-related programs, plans, and studies.	Nitrate concentrations in the groundwater basin, sources of nutrients in groundwater, and recommendations on possible strategies to reduce nitrate in drinking water supplies.	Used to discuss the issues and needs related to groundwater quality.	Regional Board
California 2010 303(3) Combined List Table	Water quality monitoring data.	Levels of constituents of concern in impaired waters.	Used to inform the discussion of surface water quality.	State Water Quality Control Board
Coachella Valley Multiple Species Habitat Conservation Plan	Scientific Advisory Committee (biologists from federal, State, and local agencies, and private sector groups). Population and land use projections. Scientific Advisory Committee-developed methodology for assessing relative biological value of land using best available science. Review of relevant scientific and planning documents.	Native habitat characterizations and native species of importance to the Region. Threats to native habitats and species.	Used to describe natural communities and habitats and discuss habitat conservation issues and needs.	CVAG
Wastewater Treatment Plant Improvements and Rate Study	City data on treatment plant capacity and state of repair.	Upgrades are necessary to outdated equipment/processes but sizing is more than adequate. Capacity is 10.9 MGD.	Used to discuss wastewater treatment in the Region and the need to upgrade the City of Palm Springs Wastewater Treatment Plant.	City of Palm Springs
Annual Economic Report	Economic data from cities and agencies in the Region.	Population and demographic data by city. Employment information by city and by industry.	Used to help characterize the Region's social/cultural make-up, economy, and economic drivers and concerns.	CVEP
2010-2011 Annual Progress Report	Reported water quality data.	Water quality data and exceedance incidents.	Used to inform the discussion on water quality concerns in the Region and water quality objectives.	RCFCWCD
Sewer System Management Plan (SSMP)	Agency data.	Salton Community Services District wastewater treatment plants and capacity.	Contributed to the discussion of the Region's wastewater treatment, and the potential for recycled water production in the future.	Salton Community Services District
Reconciling Projections of Colorado River Streamflow	High-resolution streamflow loss model for Colorado River.	Up to 20% reduction in Colorado River from Climate Change. Decreased flow in Colorado River Aqueduct.	Used to describe the potential impacts of Climate Change on the Region.	Hoerling, et al.

Data or Study (full citation provided following table)	Analysis Method	Results/Derived Information	Use in IRWM Plan	Source Agency
Source: Other Planning and Technical Documents				
Response of Vegetation Distribution, Ecosystem Productivity, and Fire to Climate Change Scenarios for California	MC1 Dynamic General Vegetation Model to determine response of vegetation distribution, carbon, and fire to three scenarios of future climate change.	Increased frequency of wildfires and related increased sedimentation and turbidity of surface water. Increased flash flooding.	Used to describe the potential impacts of Climate Change on the Region.	Lenihan et al.
Tapestry Segmentation Database	ESRI Tapestry Segmentation methodology – 65 behavioral market segments for lifestyle demography.	Neighborhood characterizations.	Used to identify areas that likely represent more severe DAC characteristics in the Region. Contributes to the classification and understanding of DACs in the Region.	ESRI
NPDES Permit and Waste Discharge Requirements	Regulatory requirements and water quality testing.	Waste discharge requirements for co-permittees.	Provides foundation for additional water planning activities in Region and agency coordination.	Regional Board
2008 and 2013 MS4 Permits	Regulatory requirements and water quality testing.	Municipal separate stormwater system requirements for co-permittees.	Used to describe water quality requirements for stormwater and as a driving force behind some regional coordination and planning efforts.	Regional Board
Bulletin 118 – Update 2003, California’s Groundwater	Compilation of existing data from federal, State, and local agencies.	Groundwater basin delineation and characteristics.	Used to help define groundwater basins in the Region, describe characteristics of groundwater basins and their resources, inflow/outflow of basins, and justify Region boundaries.	DWR
Our Changing Planet (2010)	Review of research and observational elements of agency programs related to climate change.	Effects of increased greenhouse gases (GHGs) and GHG emissions.	Used to describe the potential impacts of Climate Change on the Region.	United States Global Change Research Program
2009 California Climate Adaptation Strategy	Summary of best available science on climate change impacts in California.	Effects of climate change in California and identification of vulnerabilities.	Used to describe the potential impacts of Climate Change on the Region.	California Natural Resources Agency
2010 U.S. Census	Census data collection and analysis.	Spatial demographic information.	Used during identification of DACs in the Region and provide population and demographic information.	U.S. Census Bureau
Coachella Valley Area Time Series: Farmland Mapping and Monitoring Program 1984 to 2008	Farmland Mapping and Monitoring Program mapping results – maps use computer mapping system, aerial imagery, public review, and collection of field data.	Land use and conversion from farmland/agriculture to urbanization and other uses over 24 years.	Used to describe extent of agriculture and land use changes in the Region.	California Department of Conservation

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## Appendix VI-C: Memorandum of Understanding

This appendix includes the Memorandum of Understanding (MOU) between the five CVRWMG agencies (Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, Indio Water Authority, and Mission Springs Water District) that established the CVRWMG and funding mechanisms. This appendix also includes all addendums, supplements, and amendments made to the original MOU.



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**MEMORANDUM OF UNDERSTANDING**  
among  
**CITY OF COACHELLA/COACHELLA WATER AUTHORITY, COACHELLA  
VALLEY WATER DISTRICT, DESERT WATER AGENCY, CITY OF  
INDIO/INDIO WATER AUTHORITY, AND MISSION SPRINGS WATER  
DISTRICT**  
for  
**DEVELOPMENT OF AN INTEGRATED  
REGIONAL WATER MANAGEMENT PLAN**

This Memorandum of Understanding (MOU) dated Sept. 9, 2008 is entered into among the City of Coachella/Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, City of Indio/Indio Water Authority, and Mission Springs Water District (collectively known as Partners) for the purpose of coordinating water resources planning activities undertaken by the water agencies.

**WHEREAS**, each Partner has adopted a Resolution of commitment pledging to create an Integrated Regional Water Management Plan (IRWMP).

**WHEREAS**, it is in the interests of the signatory Partners and the region served by the Partners that these water resources are responsibly managed and conserved to the extent feasible; and

**WHEREAS**, the Partners wish to coordinate their long term water supply planning efforts in accordance with Section 10531 of the *Integrated Regional Water Management Planning Act of 2002* and Division 43 of the *Safe Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006* (Acts); and

**WHEREAS**, the Partners anticipate the potential need for future agreements on specific projects or programs and with other affected agencies to further coordinate long term water supply planning.

**NOW, THEREFORE**, it is mutually understood and agreed as follows:

**SECTION 1:  
AUTHORITY OF PARTNERS**

- 1.1 The Coachella Water Authority is a joint powers authority formed as a component of the City of Coachella and Redevelopment Agency of the City of Coachella and has statutory authority over water supply.
- 1.2 The Coachella Valley Water District is a public agency of the State of California organized and operating under County Water District Law, California Water Code section 30000, et seq, and Coachella District

**MEMORANDUM OF UNDERSTANDING**

August 10, 2008

Merger Law, Water Code section 33100, et seq. Coachella Valley Water District is a State Water Project Contractor and Colorado River Contractor empowered to import water supplies to its service area, and has statutory authority over water supply.

- 1.3 The Desert Water Agency is an independent special district created by a special act of the state legislature contained in chapter 100 of the appendix of the California Water Code. Desert Water Agency is also a State Water Project Contractor empowered to import water supplies to its service area, replenish local groundwater supplies, and collect assessments necessary to support a groundwater replenishment program as provided for in the Desert Water Agency Law and has statutory authority over water supply.
- 1.4 The Indio Water Authority is a joint powers authority formed as a component of the City of Indio and Redevelopment Agency of the City of Indio and has statutory authority over water supply.
- 1.5 Mission Springs Water District is a County Water District formed under Section 30000 et seq of the California Water Code and has statutory authority over water supply.

## **SECTION 2: DEFINITIONS**

The abbreviations and capitalized words and phrases used in this MOU shall have the following meanings:

- 2.1 Acts – mean Section 10531 of the Integrated Regional Water Management Planning Act of 2002 and California Water Code Division 43, known as the *Safe Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006*
- 2.2 Coachella Valley Region – the watershed bounded on the North by the San Bernardino Mountains, Little San Bernardino Mountains and Mecca Hills Area, on the East by Mortmar and Travertine Rock, on the South by the Santa Rosa Mountains and San Jacinto Mountains and on the West by Stubbe Canyon.
- 2.3 CVWD – Coachella Valley Water District
- 2.4 CVRWGMG – Coachella Valley Regional Water Management Group
- 2.5 CWA – Coachella Water Authority
- 2.6 DWA – Desert Water Agency

## **MEMORANDUM OF UNDERSTANDING**

- 2.7 IRWMP – Integrated Regional Water Management Plan
- 2.8 IWA – Indio Water Authority
- 2.9 MSWD – Mission Springs Water District

**SECTION 3:  
PURPOSES AND GOALS OF THIS MOU**

**3.1 Purpose and Goals:**

3.1.1 This MOU is to memorialize the intent of the Partners to coordinate and share information concerning water supply planning programs and projects and other information, and to improve and maintain overall communication among the Partners involved. It is anticipated that coordination and information sharing among the Partners will assist the agencies in achieving their respective missions to the overall well-being of the region. Coordination and information sharing shall focus on issues of common interest in Section 3.2.

3.1.2 The execution of this MOU by the Partners shall constitute the formation of a Regional Water Management Group consisting of the Partners, in accordance with the Acts. The Regional Water Management Group shall be named the Coachella Valley Regional Water Management Group (CVRWVG).

3.1.3 It is the goal of the Partners to prepare and adopt an IRWMP for the Coachella Valley Region and to implement projects and programs individually or jointly in groups that address issues of common interest, as the group so identifies.

**3.2 Common Issues and Interest:**

3.2.1 Water supply programs and projects that may provide mutual benefits in improving water supply reliability and/or water quality.

3.2.2 Coordination of near-term and long-term water supply planning activities.

3.2.3 Development of regional approaches to problem-solving and issues resolution as well as to further common interest.

**3.3 Future Agreements By Partners:** The Partners acknowledge that by virtue of commitments and intentions stated within this MOU, the need for

certain other considerations that will facilitate the preparation of an IRWMP for the Coachella Valley Region will likely emerge. These include and are not limited to:

- 3.3.1 Developing a Scope of Work
- 3.3.2 Determining the cost sharing of projects
- 3.3.3 Establishing methods for project management
- 3.3.4 Establishing a project timeline

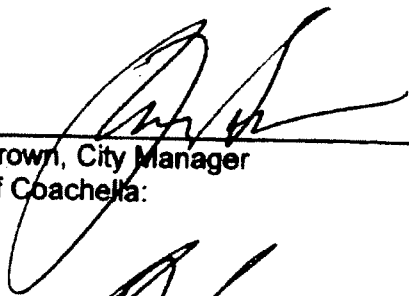
#### **SECTION 4: JOINT PLANNING FOR PROJECTS AND PROGRAMS**

- 4.1 **Projects and Programs Covered by this MOU:** it is the intent of the Partners that they coordinate and collaborate to address the common issues identified. The Partners may develop and implement projects and programs individually or jointly in groupings of two or more, or enter into additional agreements in furthering those goals. Applicable projects and programs include, but are not limited to the following:
  - 4.1.1 Water conservation programs and other demand management programs.
  - 4.1.2 Water recycling, desalination, groundwater basin management, and water quality improvement programs and projects.
  - 4.1.3 Water banking, conjunctive use and transfer arrangements.
  - 4.1.4 Storage development to improve system reliability, efficiencies, and flexibility.
  - 4.1.5 Project and program planning and development to solicit external funding.
  - 4.1.6 Other meritorious projects or programs consistent with the purposes of this MOU.
- 4.2 **Communication and Coordination:** It is the intent of the Partners to meet on a monthly basis in order to carry out the purposes and goals of this MOU. The frequency and location of meetings are subject to the discretion of the Partners and may be changed when appropriate.

**SECTION 5:  
GENERAL PROVISIONS GOVERNING MOU**

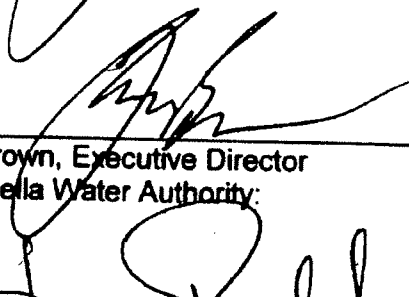
- 5.1 **Term:** The term of this MOU is indefinite. Any Partner may withdraw from the MOU by written notice given at least 45 days prior to the effective date.
- 5.2 **Construction of Terms:** This MOU is for the sole benefit of the Partners and shall not be construed as granting rights to any person other than the Partners or imposing obligations on a Partner to any person other than another Partner.
- 5.3 **Good Faith:** Each Partner shall use its best efforts and work wholeheartedly and in good faith for the expeditious completion of the objectives of this MOU and the satisfactory performance of its terms.
- 5.4 **Rights of the Partners and Constituencies:** This MOU does not contemplate the Partners taking any action that would:
- 5.4.1 Adversely affect the rights of any of the Partners; or
  - 5.4.2 Adversely affect the customers or constituencies of any of the Partners.
- 5.5 This document and participation in this IRWMP are nonbinding, and in no way suggest that a Partner may not continue its own planning and undertake efforts to secure project funding from any source.
- 5.6 It is expected that Partners will contribute the personnel and financial resources necessary to develop the IRWMP.

**IN WITNESS WHEREOF**, the parties have executed this Memorandum of Understanding as of the day and year indicated on the first page of this MOU.



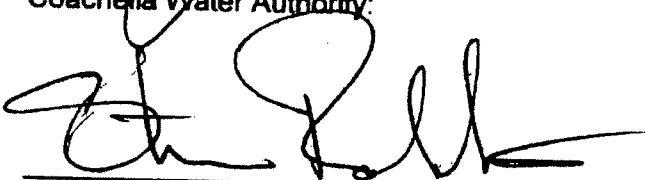
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Tim Brown, City Manager  
City of Coachella:



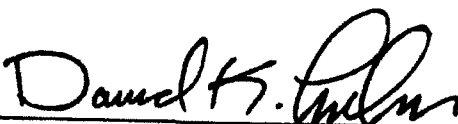
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Tim Brown, Executive Director  
Coachella Water Authority:



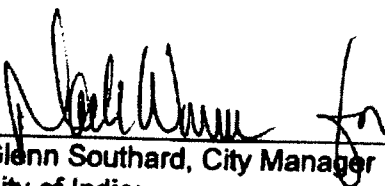
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Steve Robbins, General Manager/Chief Engineer  
Coachella Valley Water District:



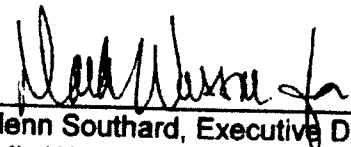
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Dave Luker, General Manager  
Desert Water Agency:



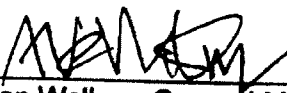
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Glenn Southard, City Manager  
City of Indio:



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Glenn Southard, Executive Director  
Indio Water Authority:



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Arden Wallum, General Manager  
Mission Springs Water District:

**MEMORANDUM OF UNDERSTANDING**

**SUPPLEMENT TO  
MEMORANDUM OF UNDERSTANDING  
among  
CITY OF COACHELLA/COACHELLA WATER AUTHORITY, COACHELLA  
VALLEY WATER DISTRICT, DESERT WATER AGENCY, CITY OF  
INDIO/INDIO WATER AUTHORITY, AND MISSION SPRINGS WATER  
DISTRICT  
for  
DEVELOPMENT OF AN INTEGRATED  
REGIONAL WATER MANAGEMENT PLAN**

This Supplement dated April 29, 2010 is entered into among the City of Coachella/Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, City of Indio/Indio Water Authority, and Mission Springs Water District (collectively known as Partners) for the purpose of coordinating water resources planning activities undertaken by the water agencies.

**WHEREAS**, each Partner is a party to a Memorandum of Understanding (MOU) for Development of an Integrated Water Management Plan (IRWMP) dated September 9, 2008; and

**WHEREAS**, the Partners wish to supplement the MOU for the purpose of retaining a consultant to assist in preparing an IRWMP;

**NOW, THEREFORE**, it is mutually understood and agreed as follows:

**SECTION 1:  
RETENTION OF CONSULTANT**

- 1.1 The consultant's scope of work, fees and contract terms shall be approved by the Partners.
- 1.2 Mission Springs Water District (MSWD) shall retain a consultant selected by the Partners and administer the consultant agreement as directed by the Partners.

**SECTION 2:  
PAYMENT**

- 2.1 MSWD shall initially pay the consultant per the terms of the consulting agreement and as approved by the Partners, and then invoice each partner for reimbursement of one-fifth (1/5) of the payment that has been made to the consultant.

2.2 Each Partner shall pay the invoice within 14 days of receipt of invoice.

**SECTION 3:  
PARTICIPATION**

3.1 Each Partner retains the right to withdraw its participation in the MOU, as stipulated by the MOU in Section 5.1.

3.2 A withdrawing Partner remains obligated for reimbursement of its share of consulting fees to be paid pursuant to agreement with the consultant executed prior to that Partner's withdrawal from participation.

**SECTION 4:  
MISCELLANEOUS**


4.1 Abbreviations, capitalized words and phrases used in this supplement shall have the same meaning as in the MOU.

4.2 All terms of the MOU remain unchanged, except, as supplemented herein.

4.3 This Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.





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**Gene Rogers, Interim City Manager  
City of Coachella**



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**Gene Rogers, Executive Director  
Coachella Water Authority**

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**Steve Robbins, General Manager-Chief Engineer  
Coachella Valley Water District**

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**Dave Luker, General Manager  
Desert Water Agency**

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**Tara Lee Adams, City Manager  
City of Indio**

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**Tara Lee Adams, Executive Director  
Indio Water Authority**

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**Arden Wallum, General Manager  
Mission Springs Water District**

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**Gene Rogers, Interim City Manager  
City of Coachella:**

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**Gene Rogers, Executive Director  
Coachella Water Authority:**



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**Steve Robbins, General Manager-Chief Engineer  
Coachella Valley Water District:**

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**Dave Luker, General Manager  
Desert Water Agency:**

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**Tara Lee Adams, Interim City Manager  
City of Indio:**

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**Tara Lee Adams, Interim Executive Director  
Indio Water Authority:**

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**Arden Wallum, General Manager  
Mission Springs Water District:**

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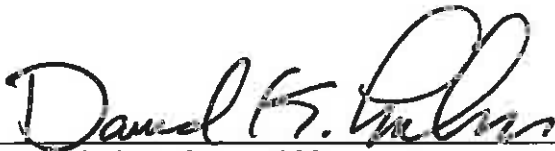
Gene Rogers, Interim City Manager  
City of Coachella:

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Gene Rogers, Executive Director  
Coachella Water Authority:

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Steve Robbins, General Manager-Chief Engineer  
Coachella Valley Water District:

A handwritten signature in black ink, appearing to read "Dave Luker". The signature is written in a cursive style with a large, looping initial "D".

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Dave Luker, General Manager  
Desert Water Agency:

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Tara Lee Adams, Interim City Manager  
City of Indio:

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Tara Lee Adams, Interim Executive Director  
Indio Water Authority:

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Arden Wallum, General Manager  
Mission Springs Water District:

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Gene Rogers, Interim City Manager  
City of Coachella:

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Gene Rogers, Executive Director  
Coachella Water Authority:

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Steve Robbins, General Manager-Chief Engineer  
Coachella Valley Water District:

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Dave Luker, General Manager  
Desert Water Agency:



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Tara Lee Adams, Interim City Manager  
City of Indio:



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Tara Lee Adams, Interim Executive Director  
Indio Water Authority:

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Arden Wallum, General Manager  
Mission Springs Water District:

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Gene Rogers, Interim City Manager  
City of Coachella

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Gene Rogers, Executive Director  
Coachella Water Authority

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Steve Robbins, General Manager-Chief Engineer  
Coachella Valley Water District

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Dave Luker, General Manager  
Desert Water Agency

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Tara Lee Adams, City Manager  
City of Indio

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Tara Lee Adams, Executive Director  
Indio Water Authority



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Arden Wallum, General Manager  
Mission Springs Water District



SECOND SUPPLEMENT TO  
MEMORANDUM OF UNDERSTANDING

among

CITY OF COACHELLA/COACHELLA WATER AUTHORITY, COACHELLA VALLEY  
WATER DISTRICT, DESERT WATER AGENCY, CITY OF INDIO/INDIO WATER  
AUTHORITY, and MISSION SPRINGS WATER DISTRICT

for

DEVELOPMENT OF AN INTEGRATED REGIONAL WATER MANAGEMENT PLAN

This SECOND SUPPLEMENT dated March 13, 2012, is entered into among the City Of Coachella/Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, City Of Indio/Indio Water Authority, and Mission Springs Water District (collectively known as Partners) for the purpose of coordinating water resources planning activities undertaken by the water agencies.

**WHEREAS**, each Partner is a party to a Memorandum of Understanding (MOU) for Development of an Integrated Regional Water Management Plan (IRWMP) dated September 9, 2008; and

**WHEREAS**, each Partner is a party to a first Supplement to that MOU for the purpose of retaining a consultant to assist in preparing an IRWMP dated April 29, 2010; and

**WHEREAS**, each Partner wishes to supplement the MOU a second time for the purpose of retaining consultants and entering into grant funding contracts with the Department of Water Resources (State) for Proposition 84, Chapter 2 as follows:

- A. Agreement Number 4600009468, for Disadvantaged Communities Outreach (DAC grant), in the amount of \$500,000.
- B. Agreement Number 4600009342, for updating the existing IRWMP (Planning grant), in the amount of \$1,000,000.

**NOW, THEREFORE**, it is mutually understood and agreed as follows:

SECTION 1:  
AGREEMENTS

- 1.1 The Coachella Valley Water District (CVWD), designated by the Partners as lead agency for the Coachella Valley IRWMP, shall have overall responsibility for executing and administering Proposition 84 grant agreements as directed by the Partners.
- 1.2 CVWD shall retain consultants selected by the Partners and administer consulting agreements as directed by the Partners.

1.3 Partners shall share equally with CVWD all necessary costs, risks, and obligations for satisfying the terms of the Proposition 84 grant agreements with the State.

SECTION 2:  
DAC AND PLANNING GRANT INVOICING AND PAYMENT

- 2.1 CVWD will establish an escrow account, and, upon signing this amendment, each Partner will deposit \$50,000 into that account for a total balance of \$250,000 to ensure that outstanding invoices can be paid if the State fails to provide reimbursements.
- 2.2 CVWD will receive invoices from consultants on a monthly basis, and will pay invoices from the escrow account.
- 2.3 No less than quarterly, CVWD will invoice the State. CVWD will deposit funds received from the State into the escrow account for payment of invoices.
- 2.4 If outstanding invoices exceed \$250,000 more than reimbursement from the State, the escrow account balance will drop to zero and the Partners will postpone grant work until State reimbursements are received.
- 2.5 CVWD will not be responsible for making payments which are neither backed by reimbursements from the State, nor by funds in the escrow account described in Section 2.1.
- 2.6 Upon completion of the Proposition 84 grant agreements, the funds remaining in the escrow account will be distributed equally to the Partners.
- 2.7 The sole purpose of escrow account funds is for paying consultant invoices for the DAC and planning grants after the invoices have been reviewed and approved by the Partners. The funds may not be used for any other purpose without the consensus of the Partners.

SECTION 3:  
PARTICIPATION

- 3.1 Each Partner retains the right to withdraw its participation in the MOU as stipulated by the MOU in Section 5.1
- 3.2 A withdrawing Partner remains obligated for reimbursement of its share of costs to be paid pursuant to any agreements executed prior to that Partner's withdrawal from participation.

SECTION 4:  
MISCELLANEOUS

- 4.1 Abbreviations, capitalized words and phrases used in this supplement shall have the same meaning as in the MOU.
- 4.2 All terms of the MOU remain unchanged, except, as supplemented herein.



4.3 This Second Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY



COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY

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CITY OF INDIO/INDIO WATER AUTHORITY

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MISSION SPRINGS WATER DISTRICT

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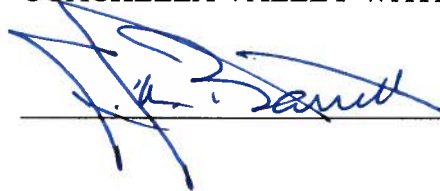
4.3 This Second Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY

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CITY OF INDIO/INDIO WATER AUTHORITY

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MISSION SPRINGS WATER DISTRICT

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4.3 This Second Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

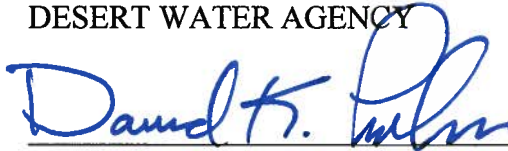
CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY



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David K. Luker  
General Manager

CITY OF INDIO/INDIO WATER AUTHORITY

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MISSION SPRINGS WATER DISTRICT

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4.3 This Second Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY

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CITY OF INDIO/INDIO WATER AUTHORITY

  
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MISSION SPRINGS WATER DISTRICT

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**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY

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CITY OF INDIO/INDIO WATER AUTHORITY

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MISSION SPRINGS WATER DISTRICT



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THIRD SUPPLEMENT TO  
MEMORANDUM OF UNDERSTANDING

among

CITY OF COACHELLA/COACHELLA WATER AUTHORITY, COACHELLA VALLEY  
WATER DISTRICT, DESERT WATER AGENCY, CITY OF INDIO/INDIO WATER  
AUTHORITY, and MISSION SPRINGS WATER DISTRICT

for

DEVELOPMENT OF AN INTEGRATED REGIONAL WATER MANAGEMENT PLAN

This THIRD SUPPLEMENT dated August 8, 2012, is entered into among the City Of Coachella/Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, City Of Indio/Indio Water Authority, and Mission Springs Water District (collectively known as Partners) for the purpose of coordinating water resources planning activities undertaken by the water agencies.

**WHEREAS**, each Partner is a party to a Memorandum of Understanding (MOU) for Development of an Integrated Regional Water Management Plan (IRWMP) dated September 9, 2008; and

**WHEREAS**, each Partner is a party to a first Supplement to that MOU for the purpose of retaining a consultant to assist in preparing an IRWMP dated April 29, 2010; and

**WHEREAS**, Each Partner is a party to the second Supplement to that MOU for the purpose of retaining consultants and entering into grant funding contracts with the Department of Water Resources (State) for Proposition 84, Chapter 2 as follows:

- A. Agreement Number 4600009468, for Disadvantaged Communities Outreach (DAC Grant), in the amount of \$500,000.
- B. Agreement Number 4600009342, for updating the existing IRWMP (Planning Grant), in the amount of \$1,000,000.

**WHEREAS**, each partner wishes to supplement the MOU a third time for the purpose of entering into grant funding contracts with the Department of Water Resources (State) for Proposition 84, Chapter 2, Agreement Number 4600009560, for an IRWM Implementation Grant (Implementation Grant) in the amount of \$4,000,000.

**NOW, THEREFORE**, it is mutually understood and agreed as follows:

SECTION 1:  
AGREEMENTS

- 1.1 The Coachella Valley Water District (CVWD), designated by the Partners as lead agency for the Coachella Valley IRWMP, shall have overall responsibility for executing and administering this Implementation Grant as directed by the Partners.
- 1.2 The Grant administration costs reimbursed to CVWD shall be limited to \$100,000 as described in EXHIBIT C, Table 1, Budget Category GA of the Implementation Grant Agreement.
- 1.3 The purpose of the Implementation Grant is to fund four individual projects, each of which has a Local Project Sponsor responsible for individual project management, oversight, compliance, and operations and maintenance. Local Project Sponsors are expected to act on behalf of CVWD in the fulfillment of Grantee responsibilities where specified in the Implementation Grant Agreement. The four individual projects and their Local Project Sponsors are listed in the Implementation Grant Agreement as follows:

- Regional Water Conservation Program      CVWD
- Short-Term Arsenic Treatment Project      Pueblo Unido Community Development
- Groundwater Quality Protection Program      Mission Springs Water District
- Groundwater Quality Protection Program      City of Cathedral City

- 1.4 The Regional Water Conservation Program equally benefits each of the five Partners.

SECTION 2:  
REGIONAL WATER CONSERVATION PROGRAM  
INVOICING AND PAYMENT

- 2.1 Each Partner will pay their share of costs to implement programs and shall submit invoices to CVWD for reimbursement no less than quarterly.
- 2.2 No less than quarterly, CVWD will invoice the State. CVWD will distribute funds received from the State to the Partners based on invoices submitted by the Partners.
- 2.3 No Partner shall be expected to make payments for any project or program that are greater than their individual share of costs, without first receiving funds from each Partner sufficient to cover their individual share of the cost.
- 2.4 CVWD will not be responsible for making payments which are neither backed by reimbursements from the State, nor by funds from the Partners as described in section 2.3 above.



SECTION 3:  
PARTICIPATION

- 3.1 Each Partner retains the right to withdraw its participation in the MOU as stipulated by the MOU in Section 5.1
- 3.2 A withdrawing Partner remains obligated for reimbursement of its share of costs to be paid pursuant to any agreements executed prior to that Partner's withdrawal from participation.

SECTION 4:  
MISCELLANEOUS

- 4.1 Abbreviations, capitalized words and phrases used in this supplement shall have the same meaning as in the MOU.
- 4.2 All terms of the MOU remain unchanged, except, as supplemented herein.
- 4.3 This Second Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY

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SECTION 3:  
PARTICIPATION

- 3.1 Each Partner retains the right to withdraw its participation in the MOU as stipulated by the MOU in Section 5.1
- 3.2 A withdrawing Partner remains obligated for reimbursement of its share of costs to be paid pursuant to any agreements executed prior to that Partner's withdrawal from participation.

SECTION 4:  
MISCELLANEOUS

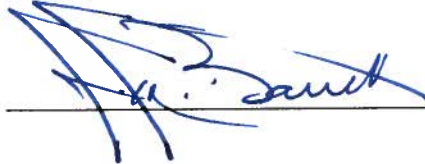
- 4.1 Abbreviations, capitalized words and phrases used in this supplement shall have the same meaning as in the MOU.
- 4.2 All terms of the MOU remain unchanged, except, as supplemented herein.
- 4.3 This Second Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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COACHELLA VALLEY WATER DISTRICT

  
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DESERT WATER AGENCY

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SECTION 3:  
PARTICIPATION

- 3.1 Each Partner retains the right to withdraw its participation in the MOU as stipulated by the MOU in Section 5.1
- 3.2 A withdrawing Partner remains obligated for reimbursement of its share of costs to be paid pursuant to any agreements executed prior to that Partner's withdrawal from participation.

SECTION 4:  
MISCELLANEOUS

- 4.1 Abbreviations, capitalized words and phrases used in this supplement shall have the same meaning as in the MOU.
- 4.2 All terms of the MOU remain unchanged, except, as supplemented herein.
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**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY

  
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CITY OF INDIO/INDIO WATER AUTHORITY

  
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MISSION SPRINGS WATER DISTRICT

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CITY OF INDIO/INDIO WATER AUTHORITY

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MISSION SPRINGS WATER DISTRICT



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FOURTH SUPPLEMENT TO  
MEMORANDUM OF UNDERSTANDING

among

CITY OF COACHELLA/COACHELLA WATER AUTHORITY, COACHELLA VALLEY  
WATER DISTRICT, DESERT WATER AGENCY, CITY OF INDIO/INDIO WATER  
AUTHORITY, and MISSION SPRINGS WATER DISTRICT

for

DEVELOPMENT OF AN INTEGRATED REGIONAL WATER MANAGEMENT PLAN

This FOURTH SUPPLEMENT dated February 22, 2013, is entered into among the City Of Coachella/Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, City Of Indio/Indio Water Authority, and Mission Springs Water District (collectively known as Partners) for the purpose of coordinating water resources planning activities undertaken by the water agencies.

**WHEREAS**, each Partner is a party to a Memorandum of Understanding (MOU) for Development of an Integrated Regional Water Management Plan (IRWMP) dated September 9, 2008; and

**WHEREAS**, each Partner is a party to a first Supplement to that MOU for the purpose of retaining a consultant to assist in preparing an IRWMP dated April 29, 2010; and

**WHEREAS**, Each Partner is a party to the second Supplement to that MOU for the purpose of retaining consultants and entering into grant funding contracts with the Department of Water Resources (State) for Proposition 84, Chapter 2 as follows:

- A. Agreement Number 4600009468, for Disadvantaged Communities Outreach (DAC Grant), in the amount of \$500,000.
- B. Agreement Number 4600009342, for updating the existing IRWMP (Planning Grant), in the amount of \$1,000,000.

**WHEREAS**, each Partner is a party to the third Supplement to the MOU for the purpose of entering into grant funding contracts with the Department of Water Resources (State) for Proposition 84, Chapter 2, Agreement Number 4600009560, for an IRWM Implementation Grant (Implementation Grant) in the amount of \$4,000,000, and for the purpose of designating the Coachella Valley Water District (CVWD) as administrating agency of the Implementation Grant as directed by the Partners.

**WHEREAS**, The Partners wish to supplement the MOU for the purpose of retaining a consultant for Subtask 9.1: Outreach of the Implementation Grant.

**NOW, THEREFORE,** it is mutually understood and agreed as follows:

SECTION 1:  
AGREEMENTS

- 1.1 The consultant's scope of work, fees and contract terms shall be approved by the Partners.
- 1.2 CVWD shall retain the consultant selected by the Partners and administer the consultant agreement as directed by the Partners

SECTION 2:  
REGIONAL WATER CONSERVATION PROGRAM  
INVOICING AND PAYMENT

- 2.1 The Regional Water Conservation Program equally benefits each of the five Partners, and the procedures agreed to for invoicing and payment established in the Third Supplement to the MOU shall be followed.
- 2.2 CVWD will establish an escrow account, and upon signing this fourth amendment, each Partner will deposit \$10,000 into that account for a total balance of \$50,000 to ensure that outstanding invoices can be paid if the state fails to provide reimbursements.
- 2.3 CVWD will receive invoices from the consultant on a monthly basis and will pay invoices from the escrow account.
- 2.4 No less than quarterly, CVWD will invoice the State. CVWD will deposit funds received from the State into the escrow account for payment of consultant invoices.
- 2.5 If the escrow account balance drops to zero, the Partners will postpone grant work until state reimbursements are received.
- 2.6 CVWD will not be responsible for making payments, which are neither backed by reimbursements from the State, nor by funds in the escrow account.
- 2.7 Upon completion of Subtask 9.1: Outreach, the funds remaining in the escrow account will be distributed equally to the Partners.
- 2.8 The sole purpose of this escrow account is for paying consultant invoices for Subtask 9.1: Outreach. The funds may not be used for any other purpose without consensus of the Partners.



3.2 A withdrawing Partner remains obligated for reimbursement of its share of costs to be paid pursuant to any agreements executed prior to that Partner's withdrawal from participation.

SECTION 4:  
MISCELLANEOUS

- 4.1 Abbreviations, capitalized words and phrases used in this supplement shall have the same meaning as in the MOU.
- 4.2 All terms of the MOU remain unchanged, except, as supplemented herein.
- 4.3 This Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY



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COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY

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3.2 A withdrawing Partner remains obligated for reimbursement of its share of costs to be paid pursuant to any agreements executed prior to that Partner's withdrawal from participation.

SECTION 4:  
MISCELLANEOUS

4.1 Abbreviations, capitalized words and phrases used in this supplement shall have the same meaning as in the MOU.

4.2 All terms of the MOU remain unchanged, except, as supplemented herein.

4.3 This Second Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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COACHELLA VALLEY WATER DISTRICT

  
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DESERT WATER AGENCY

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SECTION 3:  
PARTICIPATION

- 3.1 Each Partner retains the right to withdraw its participation in the MOU as stipulated by the MOU in Section 5.1
- 3.2 A withdrawing Partner remains obligated for reimbursement of its share of costs to be paid pursuant to any agreements executed prior to that Partner's withdrawal from participation.

SECTION 4:  
MISCELLANEOUS

- 4.1 Abbreviations, capitalized words and phrases used in this supplement shall have the same meaning as in the MOU.
- 4.2 All terms of the MOU remain unchanged, except, as supplemented herein.
- 4.3 This Fourth Supplement may be executed in any number of counterparts, each of which shall be deemed original, but all of which, when taken together, shall constitute one and the same instrument.

**IN WITNESS WHEREOF**, the Partners have executed this Supplement as of the day and year indicated on the first page of this MOU.

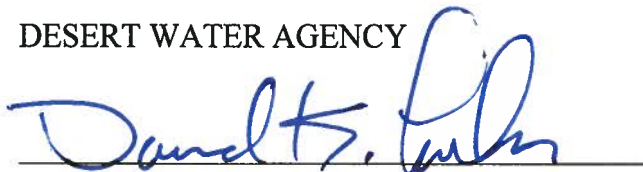
CITY OF COACHELLA/ COACHELLA WATER  
AUTHORITY

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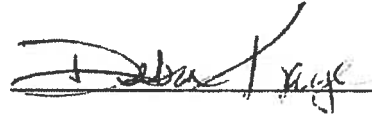
COACHELLA VALLEY WATER DISTRICT

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DESERT WATER AGENCY

  
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CITY OF INDIO/INDIO WATER AUTHORITY

  
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MISSION SPRINGS WATER DISTRICT


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CITY OF INDIO/INDIO WATER AUTHORITY

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MISSION SPRINGS WATER DISTRICT

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A handwritten signature in black ink, appearing to be "J. W. Beck", is written over a horizontal line.



## Appendix VI-D: Public Meeting Notes

This appendix includes meeting notes from Public Workshops, Disadvantaged Community Outreach meetings, Tribal Outreach meetings, Planning Partners meetings, Targeted Stakeholder Outreach meetings, and other public meetings held between finalization of the 2010 IRWM Plan and the finalization of the 2014 IRWM Plan.



Meeting	Dates
Planning Partners Meetings	6/20/2012 9/13/2012 12/13/2012 6/13/2013 9/12/2013
Public Workshops – Integrated Flood Management (IFM)	1/15/2013 9/18/2013
Public Workshops – Disadvantaged Communities (DAC)	9/13/2012 12/13/2012 6/18/2013 6/20/2013 11/6/2013
Public Workshops – Draft 2014 IRWM Plan Update	11/6/2013
Targeted Outreach – Tribes	8/14/2012 8/22/2012 9/11/2012 9/13/2012 10/22/2013
Targeted Outreach - Stakeholder Groups	Meeting notes not provided; these were separate meetings not hosted by the IRWM Program

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# Coachella Valley Integrated Regional Water Management Program

## Planning Partners

Wednesday June 20, 2012  
2:00 – 4:00 p.m.

Coachella Valley Water District  
Training Facility  
75-515 Hovley Lane East  
Palm Desert, CA 92260

### DRAFT NOTES

*Italics denote action items.*

#### Attendees:

##### Planning Partners

Debi Livesay, Torres Martinez Desert Cahuilla Indians  
Theresa Kimsey, Regional Water Quality Control Board  
Jose Cortez, Regional Water Quality Control Board  
Phoebe Seaton, California Rural Legal Assistance Foundation  
Dan Malcolm, Agua Caliente Band of Cahuilla Indians  
Sergio Carranza, Pueblo Unido CDC  
Brenda Aleman, Council of Mexican Federations in North America  
Anna Vargas, Poder Popular  
Mike Gialdini, Supervisor Benoit  
Leticia DeLara, Supervisor Benoit

##### CVRWVG

Berlinda Blackburn, CWA  
Mitch Nieman, CWA  
Brian Macy, IWA  
Trevor Bisset, IWA  
John Soulliere, MSWD  
Mark Krause, DWA  
Katie Ruark, DWA  
Patti Reyes, CVWD  
Rosalyn Prickett, RMC  
Kathy Caldwell, RMC  
Crystal Mohr, RMC

#### Meeting Objectives:

- A. Kick-off the Coachella Valley IRWM Plan Update
- B. Discuss the role of Planning Partners and Workgroups in the IRWM Plan Update
- C. Provide an update on salt and nutrient, groundwater, and flood management activities
- D. Provide an update on ongoing disadvantaged community (DAC) outreach and assistance efforts
- E. Discuss upcoming grant opportunities and updates to the IRWM Project Database

#### Meeting Notes:

##### Welcome and Introductions

Patti Reyes, Coachella Valley Water District (CVWD), welcomed the Planning Partners on behalf of the Coachella Valley Regional Water Management Group (CVRWVG), the five regional water suppliers in the Coachella Valley who are responsible for overseeing the Coachella Valley Integrated Regional Water Management (IRWM) Program.

Rosalyn Prickett, RMC Water and Environment (RMC), provided an overview of the agenda and meeting objectives.

### **Past IRWM Planning in the Coachella Valley Region**

Rosalyn updated the group on the State's IRWM grant program. She provided an overview of the history of IRWM planning in the Coachella Valley from the Region Acceptance Process in 2009 to current work underway to update the 2010 IRWM Plan. In total, the Coachella Valley Region has been successful at receiving \$5 million in grant money through Prop 84.

Prop 84 Implementation Grants, a component of the IRWM Program, will be available through three separate funding rounds. Round 1 occurred in 2011, through which the Coachella Valley Region was awarded \$4 million. This funding will go to four projects: two septic-to sewer conversion projects, one regional conservation project, and one project to provide short-term arsenic treatment to various East Valley communities.

Round 2 is expected to begin in the late summer of 2012, when the California Department of Water Resources (DWR) anticipates releasing the draft grant guidelines (Project Solicitation Package or PSP). DWR has indicated that applications for Round 2 will be due in March 2013.

### Questions/Comments

Planning Partner asked about the total amount of funding available for the Coachella Valley Region through Prop 84 Implementation Grants. There is a total of \$36 million available for the Colorado River Funding Area, which is competitive between the Coachella Valley, Mojave, Imperial, and Borrego regions. DWR awarded \$8 million to Mojave and \$4 million to Coachella Valley during Round 1, even though they had previously indicated that only \$4 million would be available. That fact, in addition to DWR's 8.5% retention to cover program expenses, has resulted in a lower amount of funding that is available in subsequent rounds of grant funding.

### **Current Update of Coachella Valley IRWM Plan – 2012-2014**

Rosalyn provided an overview on the next steps for the Coachella Valley IRWM Program, which is to update the 2010 IRWM Plan. The original IRWM Plan was completed on a short timeframe in order to allow the region to be eligible for Round 1 funding. As such, there are key issues that need to be addressed within the IRWM Plan Update, including:

- Stakeholder Outreach
- Groundwater Quality Evaluation
- Salt and Nutrient Management
- Integrated Flood Management
- Groundwater Elevation Monitoring
- Comprehensively update the IRWM Plan

Rosalyn explained the timeline for the IRWM Plan Update, which is a 24-month schedule that will occur from now until the summer of 2014. In addition, the CVRWMG is completing work under a separate Disadvantaged Community (DAC) Outreach Program that is also funded by DWR. The DAC Outreach Program is being conducted in parallel to the IRWM Plan Update, and there will be coordination between the two efforts. The DAC Outreach Program has an 18 month timeline, which began in April 2012 and will be complete in October 2013.

Rosalyn then provided an overview of the role of the Planning Partners, who serve as an advisory body to the CVRWMG. She also noted that the CVRWMG is convening three separate workgroups to address technical issues associated with the IRWM Plan Update. Those workgroups will address salt and nutrient management, groundwater quality, and integrated flood management.

Rosalyn provided an overview of each workgroup, noting that each workgroup corresponds to a technical study that is being conducted for the IRWM Plan Update. The workgroups will be a subset of the Planning Partners, and will provide input on the technical analyses prior to incorporation of each technical study into the IRWM Plan Update.

#### Questions/Comments

Planning Partner noted that there is a need to look into cost-effective and innovative solutions to water issues in the Coachella Valley, especially pertaining to DACs. There are a lot of ongoing infrastructure issues, which cannot be comprehensively addressed with traditional management approaches due to funding constraints.

Planning Partner asked if the DAC Outreach Program will include technical work to assist DACs with developing projects. The answer is yes, the DAC Outreach Program will fund technical assistance (concept planning and design) for a few projects that address critical water supply or water quality issues in DACs.

#### **Salt and Nutrient Management Workgroup**

Rosalyn provided an overview of this workgroup, noting that it will specifically address salt and nutrient management associated with recycled water in accordance with the State's Recycled Water Policy. She then asked if the Planning Partners had any initial input for this workgroup or if any Planning Partners were interested in participating on the workgroup, noting that the CVRWGM would like the Regional Water Quality Control Board (RWQCB) to be involved.

#### Questions/Comments

Planning Partner noted that anybody with a discharge permit and all water agencies should be involved.

CVRWGM clarified that this workgroup is meeting to specifically address salt and nutrient management as it pertains to recycled water and the Recycled Water Policy, and will not necessarily be discussing overall groundwater quality issues. Those issues will be addressed in the Groundwater Quality Workgroup.

*Patti Reyes, CVWD, will look into finding a representative from the agriculture sector who may be interested in participating.*

#### **Groundwater Quality Workgroup**

Rosalyn provided an overview of this workgroup, noting that this planning study will address groundwater quality issues in and around DAC areas throughout the Coachella Valley. This workgroup will include an analysis of groundwater quality issues in the region, and will also address data gaps where further analysis needs to be conducted. The workgroup will concentrate on identifying areas where groundwater quality does not meet maximum contaminant levels (MCLs) defined by the USEPA.

#### Questions/Comments

Planning Partner noted that there is data available through Pueblo Unido CDC and CVWD efforts to install reverse osmosis systems in the East Valley. Data has been collected through that program regarding where reverse osmosis systems have been installed, and areas where arsenic has been detected in groundwater wells.

Planning Partner noted that there is a need for education in the East Valley regarding groundwater quality issues, and potential solutions such as reverse osmosis systems.

Planning Partner noted that the Torres Martinez tribal group has been conducting quarterly water quality testing on groundwater quality, and has tabular data.

Planning Partner noted that the Agua Caliente and Cabazon tribal groups have also been conducting testing, and that all of the CVRWGM agencies and other agencies such as the Myoma Dunes Mutual Water Company also have water quality data.

Planning Partner asked if there is funding available to define MCLs for things such as Chromium VI. No, there is not budget available for that task.

Planning Partners noted that there are specific issues associated with salts (TDS), nitrates (in conjunction with leaking septic systems), and uranium (which is naturally occurring near fault zones). There are also high fluoride levels at Pierce Street and Avenue 66.

Planning Partner asked if there would be technical staff available to provide Spanish translation for the workgroup meetings, and suggested that meetings be held in the afternoon when more people will be able to attend. It was noted that there are translation tools available through Pueblo Unido.

*RMC will send out a poll to find a workgroup meeting time that will work for the maximum number of participants.*

*Participants identified at the Planning Partners meeting include: Sergio Carranza, Phoebe Seaton, Debi Livesay, CVRWGM agencies*

### **Integrated Flood Management Workgroup**

Rosalyn provided an overview of this workgroup, noting that the purpose of this study is to develop multi-benefit flood control projects that also enhance water quality, habitat, and groundwater recharge. She then asked for interested participants and feedback on integrated flood issues in the Coachella Valley.

#### Questions/Comments

CVRWGM noted that in general, flood issues are from flash flood events. Due to the Region's aquitard and high water table, flood waters tend to pool and generally take time to drain.

Planning Partner noted that there are flood concerns in Oasis, which has forced the Oasis Elementary School to relocate (along with high arsenic in groundwater). This issue has been evaluated, but has not been resolved.

CVRWGM noted that many flood issues are regional in nature, and would therefore require a large, expensive, regional-based solution. There is a need to find cost-effective solutions for many flooding issues in the region.

CVRWGM also noted that Desert Hot Springs has occasional flooding issues, which are flash floods that cause a substantial amount of damage.

Planning Partner noted that CVWD is doing flood-related work in the East Valley, and can share data gathered to date with the workgroup.

Planning Partner stated that the Torres Martinez Tribe has received grants to address flooding issues on the reservation.

Planning Partner noted that municipalities (cities and the County) have data on entitlements, and therefore likely have related flood evaluations.

Planning Partner noted that there was a proposed project in the Travertine area, which has been discontinued due to flooding issues.

Planning Partner inquired if the integrated flood workgroup has any latitude for public policy advocacy. There are currently issues associated with flooding and vector control, which are detrimental to efforts to build affordable housing. There is a need to engage vector control agencies, who may not understand issues in the Coachella Valley. Alternatively, in some places simple retention basins have been built to hold flood flows. While it is not appropriate for the

IRWM Program to advocate for policy changes, the workgroup process can document issues associated with vector control and how regulations can impede affordable housing projects.

*Participants identified at the Planning Partners meeting include: Sergio Carranza, Phoebe Seaton, Debi Livesay, CVWD, and Riverside County (including vector control)*

### **DAC Outreach Program**

Kathy Caldwell, RMC, provided an overview of the DAC Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. She provided an overview of activities that have been completed to date, noting that the next steps are to conduct further outreach and ensure that all DAC-related groups are contacted. A form was handed out to Planning Partners to solicit input on further groups and organizations that should be contacted as part of the effort.

Kathy also provided an overview of the DAC Outreach Program Timeline, noting that this program will be interwoven with the IRWM Plan Update.

### Questions/Comments

Planning Partner commented that if possible it would be helpful to conduct outreach efforts on the ground, and hold meetings at such places as the Salton Sea area, Desert Hot Springs, and the East Valley.

CVRWMG suggested that the DAC Outreach team organize a tour of the DAC areas within the Valley to see firsthand and better understand the issues they're facing.

### **Upcoming DWR Grant Opportunities**

Kathy provided an overview of upcoming grant opportunities, including Proposition 1E and Proposition 84 Implementation Grants. She noted the following:

#### Prop 1E Stormwater Flood Management Grant-Round 2

1. Due to DWR December 2012
2. Last Round of Funding
3. Competitive throughout California (not just funding area)
4. Submitted individually

#### Prop 84 Implementation Grant-Round 2

1. Due to DWR March 2013
2. 2nd Round of Funding (of 3)
3. Competitive only in Colorado River Funding Area
4. Submitted by Coachella Valley IRWM Region

### Questions/Comments

CVRWMG noted that in Prop 84 Implementation Grant-Round 1, the CVRWMG agencies paid for the entire application. There is not currently a strategy for funding future applications.

Planning Partner asked if tribal entities have to complete CEQA documentation if they receive IRWM grant funding. Yes, all projects must adhere to state laws including CEQA, GMA, etc. Tribal entities may choose to partner with other agencies or organizations to resolve potential contracting issues, so that they will not directly sign contracts with CVWD.

Planning Partner asked when the deadline is for submitting projects into the online project database for Prop 1E, and also asked if the CVRWMG has to approve of the projects. The CVRWMG does review projects for consistency with the IRWM Plan, and will generally write a letter that indicates that a project is consistent with the Plan. This generally takes a few weeks. Projects can be submitted into the project database at any time, it does not close for Prop 1E.

## **Project Database**

Rosalyn provided an overview of the IRWM Project database, which is hosted through [www.cvrwmg.org](http://www.cvrwmg.org). She noted that the database will be updated as part of the IRWM Plan Update. All projects previously submitted are still within the database, and Planning Partners and other local project sponsors are encouraged to update their projects as necessary.

## **Next Steps**

Rosalyn discussed the future meeting dates for IRWM Plan Update work, including:

- Salt and Nutrient Management Workgroup meeting: August 22<sup>nd</sup> 1-3 p.m.
- Integrated Flood Management Workgroup meeting: August 22<sup>nd</sup> 3-5 p.m.
- Planning Partners Meeting: TBD, mid-September 2012
- DAC Workshop Meeting: TBD, mid-September 2012 (same day as Planning Partners)

# Coachella Valley Integrated Regional Water Management Program

## Planning Partners

Thursday September 13, 2012  
1:00 – 3:00 p.m.

Coachella Valley Water District  
Training Facility  
75-515 Hovley Lane East  
Palm Desert, CA 92260

### DRAFT NOTES

*Italics denote action items.*

#### Attendees:

##### Planning Partners

Debi Livesay, Torres Martinez Desert Cahuilla Indians  
Les Ramirez, Augustine Band of Cahuilla Indians  
Phoebe Seaton, California Rural Legal Assistance Foundation  
Cristina Mendez, California Rural Legal Assistance Foundation  
Margaret Park, Agua Caliente Band of Cahuilla Indians  
Christina Mokhtarzadeh, BIA SoCal Agency  
Elizabeth Versace, City of Desert Hot Springs  
Bill Simons, Cathedral City  
Rodolfo Pinon, Pueblo Unido  
Mike Gialdini, SPVR Benoit  
Anna Aljabiry, DWR  
Jeremy Wittie, Coachella Valley Mosquito and Vector Control District

##### CVRWMG

Berlinda Blackburn, CWA  
Mitch Nieman, CWA  
Brian Macy, IWA  
Sara Toyoda, IWA  
Michael Thornton, TKE  
Engineering on behalf of MSWD  
Mark Krause, DWA  
Katie Ruark, DWA  
Patti Reyes, CVWD  
Roselyn Prickett, RMC  
Kathy Caldwell, RMC  
Crystal Mohr, RMC  
Leslie Dumas, RMC  
Daniel Cozad, IPM  
Diana Cozad, IPM

#### Meeting Objectives:

- A. Discuss Upcoming Grant Opportunities and Submittal Process
- B. Status of Coachella Valley IRWM Plan Update, including Salt and Nutrient, Groundwater Quality, and Flood Management Activities
- C. Update on Ongoing Disadvantaged Community (DAC) Outreach Efforts

#### Meeting Notes:

##### Welcome and Introductions

Patti Reyes, Coachella Valley Water District (CVWD), welcomed the Planning Partners on behalf of the Coachella Valley Regional Water Management Group (CVRWMG), the five

regional water suppliers in the Coachella Valley who are responsible for overseeing the Coachella Valley Integrated Regional Water Management (IRWM) Program.

Rosalyn Prickett, RMC Water and Environment (RMC), provided an overview of the agenda and meeting objectives.

### **Upcoming DWR Grant Opportunities**

Rosalyn Prickett noted that there are two upcoming DWR grant opportunities. The first is for Proposition 84 – Round 2 funding, for which the Coachella Valley will be submitting a regional application. In total, there is approximately \$36 million in grant funding available to the Colorado River Funding Area, which is a highly competitive funding area consisting of the Mojave, Imperial, Anza Borrego Desert, and Coachella Valley IRWM regions. The Coachella Valley was awarded \$4 million in Round 1 of Proposition 84 funding – there will be approximately \$5.24 million available in Round 2, although this is competitive among all four IRWM regions.

Proposition 84 funding requires that one complete grant application be submitted per IRWM Region. That means that the Coachella Valley stakeholders will be asked to submit projects into the online project database, and a project selection process will be applied to all projects, which will then be scored and ranked. Some important requirements that potential project applicants should know about include the following:

- Projects must be submitted into the project database by October 19<sup>th</sup> to be considered for funding. Any projects previously submitted (in 2010 for Round 1 funding) must be updated to be considered.
- DWR has several contracting requirements, including:
  - Grant reimbursement is a lengthy process – it can take months for DWR to reimburse for invoices, and organizations must be prepared for this.
  - All applicants must have a 25% funding match from local or federal sources.
  - DWR holds back (retains) 10% of the grant funding until project completion.
  - CEQA is required for all projects, including those on tribal lands.
  - Labor compliance programs are required for all applicable projects.
  - For projects selected for inclusion in the Coachella Valley regional IRWM application, proponents will be responsible for contributing funds required to produce the grant application.

The project selection process for Round 2 funding is similar to Round 1 funding in that projects will be evaluated with the Project Selection Criteria in the 2010 IRWM Plan. On December 13<sup>th</sup> the CVRWGM will present the recommended projects and funding amounts to the Planning Partners. The final grant proposal will be submitted to DWR in March 2013, and application development will require input from project proponents.

Proposition 1E funds are also currently available – applications are due in December 2012. These applications, specifically for stormwater flood management, must be completed by individual project sponsors – not by the Coachella Valley Region. These applications are also competitive on a statewide basis rather than within the Colorado River Funding Area. Further, this application requires a 50% funding match, and there is no DAC waiver available. There is \$92 million available in this second and last round of Proposition 1E funding.

The group was asked to discuss thoughts and pros/cons regarding how to determine how much of the grant application project proponents should be responsible for. Should proponents all pay a flat fee by equally dividing the total application cost, or should costs be specific to each project?



Below is an overview of the Planning Partners discussion on this topic:

- Are applicants allowed to charge a fee for administration? Could they use this fee to eventually get reimbursed for the application costs?
  - DWR allows a total of 5% of the grant to pay for administration. We generally allocate a portion of this (2-3%) to CVWD for their grant administration costs.
- A proportional fee seems fair; however this is only really fair if some projects require more work than others.
  - Some of the attachments are completed for the whole proposal – others, such as the Work Plan, Budget, Schedule, and Economic Analysis require a certain amount of individual project work and coordination, which may vary project to project.
- Then perhaps the fee should be split evenly for the “global” attachments (those completed equally for all projects), and charged project-by-project for the others.
- A reminder to all applicants: please make sure that you discuss paying for application costs with your organization. Some organizations may need board approval, and will need this approval prior to January 2013 for the application to be produced in time.

#### Questions/Comments

- How competitive is the other Funding Area within which the Mojave IRWM Region is located?
  - The Mojave IRWM Region is located in our Funding Area (Colorado River) and the Lahontan Funding Area. The Lahontan Funding Area is not very competitive.
- That does not seem very fair – Mojave is double-dipping!
  - The CVRWGMG agrees, and has made that comment to DWR several times.
- Do we have the ability to link to a project?
  - Yes – email Crystal Mohr ([cmohr@rmcwater.com](mailto:cmohr@rmcwater.com)) to change any information regarding the login and access to an existing project.
- What are the restrictions for eligible applicants?
  - Any subdivision of State – cities, counties, resource conservation districts, associations of governments, etc. In addition, non-profit organizations with an official 501(c)(3) designation and tribes are eligible applicants.
- Can organizations partner such that eligible applicants partner with non-eligible applicants as a pass-through for grant funding?
  - Yes, although we recommend that you have a formal agreement to avoid any contracting issues.
- Is there a waiver for the 25% match?
  - Potentially, this is at DWR’s discretion. However, the entire grant application needs a 25% match – if one project has a match that is less than 25% of the total project cost, the other projects in the application will need to provide a larger match to account for the difference.
- When could an organization expect to receive grant funds from DWR?
  - To date, this process has been very lengthy – one year passed between the time that DWR sent the final award letter and the time the grant contract was

executed. DWR says the process could be as short as 60 days, but this assumes that there will be no edits to the work plan, budget, or schedule.

- Other Proposition 84 funds have less strict requirements so that proponents may begin grant reimbursement starting at a set date. Is this possible for IRWM funding?
  - To date DWR has not allowed for any reimbursement to occur until a grant contract is fully executed. Funding match can go back to 2008, but all of those expenditures need to be paid by proponents until a grant contract is executed. The CVRWGM understands the burden this places on proponents, especially non-governmental organizations (NGOs) and disadvantaged community (DAC) organizations.
- Would the CVRWGM agencies, or other agencies, be willing to provide start-up funding to relieve this burden on NGOs and DACs?
  - It is difficult for agencies to provide funding for beneficiaries that are not within their service areas. In addition, agencies are at risk if they pay for activities that may not be reimbursed by DWR.
  - DWR recommends that NGOs and DAC organizations invoice as frequently as possible to speed up the reimbursement process.
- Is it possible for organizations to do a companion application to California Infrastructure Bank to get a loan to help pay for the upfront costs? The terms are very good, 90 day bond rate and no upfront application fees.
  - The CVRWGM will explore this option for NGOs and DACs.
- How do you assess how much of a project benefits DACs?
  - This is something that needs to be quantified in the analysis included in the grant application.
  - The Guidelines are not currently clear on how to assess a project's contribution to a DAC. This comment has been made to DWR.
- Regarding the Proposition 84 funding, is there any way that the Round 2 funding will not be available?
  - No. According to DWR these funds are already secured and ready.

### **Update on Coachella Valley IRWM Planning Studies**

Rosalyn provided an overview on the next steps for the Coachella Valley IRWM Program, which is to update the 2010 IRWM Plan. The IRWM Plan Update will include three planning studies: Salt and Nutrient Management, Groundwater Quality Evaluation, and Integrated Flood Management.

#### ***Salt and Nutrient Management***

Rosalyn provided an overview of this workgroup, noting that it will specifically address salt and nutrient management associated with recycled water in accordance with the State's Recycled Water Policy. She then noted that the first workgroup meeting was held on August 22<sup>nd</sup>.

Progress to date for this workgroup includes: developing an approach, continuing to reach out to stakeholders, met with the Regional Board to get their perspective on the proposed approach. Next steps include conducting at least two additional workshops (September 26<sup>th</sup> and October 24<sup>th</sup>), and to develop a Work Plan that will provide a scope of work for activities that should be completed to develop a complete Salt and Nutrient Management Plan. The goal is to pull the Work Plan together by 2013.

## ***Groundwater Quality Evaluation***

Leslie Dumas, RMC, provided an overview of the groundwater quality evaluation that is being conducted as part of the IRWM Plan Update. She noted that the current step of this evaluation is to identify “areas of concern.” Areas of concern include DACs that are not served by municipal water suppliers, and are therefore served by private groundwater wells. After these areas are identified, research will be conducted to try to determine groundwater quality and constituents or contaminants of primary concern within the areas of concern. Similar to the other IRWM planning efforts, this effort focuses on identifying key water quality issues associated with DACs – the identification of these issues will help determine how to allocate resources to critical DAC issues.

Any entity that has groundwater quality and quantity data can really help! If you have data, please send it to Leslie: [ldumas@rmcwater.com](mailto:ldumas@rmcwater.com).

### Questions/Comments

- The City of Coachella is not fully served by the municipal water system. As such, the entire boundary for the City of Coachella should not be excluded from the areas of concern.
- Does the list of constituents include Chromium VI?
  - Yes, the list includes Chromium III and Chromium VI.
- Is it true that processes that treat for arsenic also treat for chromium?
  - Yes, they generally also treat for manganese and iron.

## ***Integrated Flood Management***

Rosalyn Prickett provided an overview of this workgroup, noting that this study and associated workgroup are currently on hold until the Flood Futures report is available from the State.

## **Update on DAC Outreach and Assistance**

Kathy Caldwell, RMC, provided an overview of the DAC Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. She provided an overview of activities that have been completed to date, noting that the first DAC Workshop was held the morning of September 13<sup>th</sup>.

Current efforts for the DAC Outreach Program include: completing outreach to stakeholders and interested organizations, conducting DAC-focused mapping, and reaching out to DACs to provide support for Proposition 84-Round 2 Implementation Grant Funding. If any interested non-profit organizations are interested in being involved in the DAC-focused mapping effort, please contact Kathy: [kcaldwell@rmcwater.com](mailto:kcaldwell@rmcwater.com)

Kathy also provided an overview of the DAC Outreach Program Timeline, noting that this program will be interwoven with the IRWM Plan Update.

## **Next Steps**

Please remember to submit your projects into the online database by October 19<sup>th</sup>!

Please mark your calendars: the next Planning Partners meeting will be on December 13<sup>th</sup>.

# Coachella Valley Integrated Regional Water Management Program

## Planning Partners

Thursday December 13, 2012  
1:00 – 3:00 p.m.

Coachella Valley Association of Governments  
Conference Room #115  
73-710 Fred Waring Drive  
Palm Desert, CA 92260

### DRAFT NOTES

*Italics denote action items.*

#### Attendees:

##### Planning Partners

Anna Aljabiry, DWR  
Asaad Akar, Cathedral City  
Jeff Benson, City of Rancho Mirage  
Bill Engs, City of Rancho Mirage  
Mike Gialdini, Supervisor Benoit  
Jennifer Henke, Coachella Valley Mosquito and Vector Control District  
Jacquelyn Gonzales, Cabazon Band of Mission Indians  
Savat Khamphou, City of Palm Springs  
Debi Livesay, Torres Martinez Desert Cahuilla Indians  
Laura Massie, California Rural Legal Assistance  
Alan Pace, Petra Geotechnical  
Tim Roberts, Salton Community Services District

##### CVRWMG

Berlinda Blackburn, CWA  
Sara Toyoda, IWA  
Mark Krause, DWA  
Katie Ruark, DWA  
David Tate, DWA  
Patti Reyes, CVWD  
John Soulliere, MSWD  
Roselyn Prickett, RMC  
Randy Raines, RMC  
Kathy Caldwell, RMC  
Leslie Dumas, RMC  
Crystal Mohr, RMC  
Daniel Cozad, IPM

#### Meeting Objectives:

- A. Keep Planning Partners Up-to-Date on the Coachella Valley IRWM Program, including Salt and Nutrient, Groundwater Quality, and Flood Management Activities
- B. Update on Disadvantaged Community (DAC) Outreach Efforts
- C. Review Recommended Project Package for Proposition 84-Round 2 Grant Cycle
- D. Review Climate Change Vulnerability Analysis for Coachella Valley

#### Meeting Notes:

##### Welcome and Introductions

Roselyn Prickett, RMC Water and Environment (RMC), welcomed the Planning Partners on behalf of the Coachella Valley Regional Water Management Group (CVRWMG), the five regional water suppliers in the Coachella Valley who are responsible for overseeing the

Coachella Valley Integrated Regional Water Management (IRWM) Program. Ms. Prickett then provided an overview of the agenda and meeting objectives.

### **Status of IRWM Planning Activities and Schedule**

Rosalyn Prickett provided an overview of the Coachella Valley IRWM Plan Update, noting that there are six key pieces of the Plan Update: stakeholder outreach (including outreach with the Planning Partners), a Salt and Nutrient Management Technical Evaluation, a DAC Groundwater Quality Evaluation, an Integrated Flood Management Technical Evaluation, a Groundwater Elevation Monitoring Technical Evaluation, and a comprehensive update to the existing IRWM Plan. Rosalyn Prickett also explained the schedule for the aforementioned pieces of the IRWM Plan Update, noting that stakeholder outreach will occur throughout the two-year process, the DAC Groundwater Quality Evaluation and the Salt and Nutrient Management pieces will be complete by mid-2013, and the Integrated Flood Management and Groundwater Elevation pieces will be complete by the end of 2013. The IRWM Plan Update, which will incorporate information from all of the technical evaluations and stakeholder outreach efforts, will be complete by mid-2014.

### **Recommended Proposition 84-Round 2 Grant Package**

Rosalyn Prickett noted that the Coachella Valley IRWM Region is in the process of developing an application for Round 2 of Proposition 84 Implementation Grant funding, for which the Coachella Valley will be submitting a regional application. In total, there is approximately \$36 million in grant funding available to the Colorado River Funding Area, which is a highly competitive funding area consisting of the Mojave, Imperial, Anza Borrego Desert, and Coachella Valley IRWM regions. The Coachella Valley was awarded \$4 million in Round 1 of Proposition 84 funding – there will be approximately \$5.24 million available in Round 2, although this is competitive among all four IRWM regions.

Rosalyn Prickett provided an overview of the Coachella Valley's Proposition 84-Round 2 Grant application process, noting that the Region recently completed the project selection process. Next steps are for the Planning Partners to review and potentially approve of the recommended project list; once the list of projects is approved, the consultant team will work with the CVRWGM and all local project sponsors (LPS) to complete the grant application.

Rosalyn Prickett then provided an overview of the project selection process that was completed for the Proposition 84-Round 2 Grant application process. After all projects were submitted to the online project database, the CVRWGM reviewed all projects in accordance with the scoring and ranking process outlined within the adopted IRWM Plan. This process involved evaluating each project and assigning a numerical score based upon a set of adopted criteria. Once all projects received a score, the projects were separated into Tier 1 (top 50%) and Tier 2 (bottom 50%) lists. While Tier 1 projects were all considered for further funding, the CVRWGM also evaluated all projects within the Tier 2 list to ensure that any highly eligible projects were not overlooked. Further, the CVRWGM pulled out all projects that involved septic-to-sewer conversion activities and compared and assessed those projects as a group.

Based upon lessons learned from the Proposition 84-Round 1 process, the CVRWGM conducted interviews with the top 9 project applicants to determine further information about project eligibility and competitiveness. Following the project interviews, the CVRWGM formalized a draft recommended project list based on a set of secondary criteria that were applied to each interviewed project. The secondary project selection criteria are as follows:

- Are the proposed scope and budget reasonable? Is the project technically feasible / able to move forward to implementation?
- Is the project cost effective (e.g., grant \$\$/connection)?

- What value does the project provide to the Coachella Valley? Are those benefits aligned with the California Department of Water Resources' (DWR's) scoring criteria?
- Is the project ready to proceed? Would the project be able to proceed if there were substantial funding delays?
- Are there any potential hurdles to completing the project on-time?
- Is the funding match secure?
- Does the project serve a disadvantaged community (DAC)?
- Has need been documented (e.g., history of septic failures for septic-to-sewer project and associated water quality issues)?

Rosalyn Prickett then noted that based on the secondary criteria, the CVRWGMG is currently recommending the following list of projects for Proposition 84 funding:

<b>Project Title</b>	<b>Recommended Funding Award</b>
Coachella Valley Salt and Nutrient Management Plan (SNMP)	\$500,000
Groundwater Quality Protection Project – Sub-Area D2	\$1,845,000
Non-Potable Water Use Expansion Project	\$2,000,000
San Antonio del Desierto – Sewer Sanitary Collection System Extension Project	\$740,000
Torres-Martinez Water Line Extension Project Avenue 64	\$155,000
<b>TOTAL</b>	<b>\$5,240,000</b>

Following an explanation of each project, Rosalyn Prickett noted that every project has been recommended for partial funding (below the original grant request). Rosalyn Prickett then inquired if the Planning Partners have any questions or comments about the list of projects or the project selection process.

#### Questions/Comments

- Can the grant application be partially funded by DWR?
  - Yes. Sometimes DWR will pick projects to fund or not fund, and sometimes they will ask regions to choose projects out of the application to be funded if there is not enough money available in the Funding Area.
- Are the five projects on the recommended list prioritized?
  - No, the projects are not prioritized.
- Why did the Pierce Community Infrastructure – Sewer Sanitary Collection System Project get placed in the list of projects not considered for the Round 2 grant cycle?
  - This project had very high connection costs; the CVRWGMG was concerned that this project would not be competitive from a cost-benefit ratio point of view. Given the competitive nature of the Implementation Grant process, the CVRWGMG wanted to put forward the most competitive application possible. Please note that all projects within the IRWM database are immediately considered to be within the IRWM Plan; this makes them potentially eligible for other funding sources.
- Given the competitive nature of the process and the fact that DWR could choose to select a subset of projects to fund, wouldn't it be most beneficial to ask for more than the available \$5,240,000?
  - Other regions, such as Mojave, have chosen to do this. However, it is risky to ask for more than the available funding amount. Ultimately the CVRWGMG decided

that it would be best to go for the full amount available, but not ask for more than that.

- Note that the SNMP Project and the Non-Potable Water Use Expansion Project are connected in that all recycled water discharge permits require a SNMP to be in place.
- Regarding the Torres-Martinez project, you noted that the grant request was originally for full construction, but was reduced drastically to only cover design and engineering costs. Does the CVRWMG see this as a risk regarding the grant application? I had heard previously that design/engineering projects are not very competitive for Proposition 84 funding.
  - There are pros and cons to this decision. Ultimately the tribal and DAC benefits of this project are thought to overcome the fact that the grant request will not be for project implementation. Further, this grant will set the tribe up to receive funding from USDA for construction of the project.
- In the future, will there be an opportunity for other projects to apply for funding to cover engineering and design work, which would also make them eligible for other funding sources?
  - This is something for the CVRWMG and the Planning Partners to consider during future rounds of funding.
- Is there a way that the IRWM Program can be used to increase integration that will help make projects more cost-effective? For example, there are potential septic-to-sewer conversion projects that would be more cost-effective if nearby residents would all hook into the sewer system. Further, this would be more efficient, because it would ensure that an under-sized sewer system is not installed now and replaced in the next few years. It seems like the IRWM Program would be an appropriate venue for this kind of integration.
  - The IRWM Program has not been involved in such activities in the past, but could consider further integration activities that increase efficiencies within the Region.
- How much consideration was given to the need for the project? How was this evaluated?
  - The CVRWMG considered the actual need for the project from an environmental and technical standpoint, such as if septic systems were failing and causing public health and environmental issues. The CVRWMG also evaluated if project-related issues were impacting DACs, and then evaluated the security of the funding match. The security of the funding match helps to determine how likely the project is to actually move forward if provided grant funding. It is a priority to the CVRWMG to ensure that grant funding brought into the Region is put to use in an effective manner.

Following the discussion regarding the recommended Proposition 84-Round 2 Project List, the Planning Partners approved the project list.

### **Climate Change Vulnerability Analysis**

Crystal Mohr, RMC, provided an overview of the climate change vulnerability analysis that is being conducted as part of the IRWM Plan Update. This analysis is being conducted in accordance with DWR standards for climate change planning per the IRWM Guidelines. DWR requires the climate change analysis to include two types of analysis: adaptation analysis and mitigation analysis. The first step of both analyses is to conduct a literature review; the consultant team did this by using widely cited statewide climate change resources as well as all relevant local climate change sources such as Climate Action Plans for various cities within the

Coachella Valley. Cumulatively, these sources demonstrate that the Coachella Valley could experience the following effects as a result of climate change:

- Temperature Change: Increase between 5-10 degrees (Fahrenheit)
- Precipitation: Little to no change in annual average rainfall
- Wildfire Risk: Same or slightly increased likelihood of wildfire
- Water Demand: Increases expected but not quantified
- Water Supply: Expect decreases to imported water (Colorado River) delivery and non-quantified changes to local groundwater supply

Ms. Mohr then provided an overview of the potential climate change vulnerabilities that the Region could face. These vulnerabilities are categorized into 7 categories, including: water demand, water supply, water quality, sea level rise, flooding, ecosystem and habitat, and hydropower. Ms. Mohr provided a brief overview of the analysis, inquiring if the Planning Partners had any comments. Following the meeting, the consultant team will distribute the climate change vulnerability matrix to stakeholders for further comments.

#### Questions/Comments

- Did the literature take into account population change associated with temperature increases? It seems like if the temperature in the Coachella Valley actually increased by 10 degrees, there would be much less people, and therefore water demand would not increase as currently projected.
  - RMC will check with the technical team on this question, however, in general the analysis only took into consideration very specific water-related climate change issues and did not analyze things such as population change.
- The matrix needs to be edited under water quality – it currently says that the Coachella Valley does not use any surface water sources, which is not accurate.

#### **Update on DAC Outreach and Assistance**

Kathy Caldwell, RMC, provided an overview of the DAC Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. She provided an overview of activities that have been completed to date, noting that the second DAC Workshop was held the morning of December 13th.

Current efforts for the DAC Outreach Program include: continuing outreach to stakeholders and interested organizations, continuing work on DAC-focused mapping and characterization, contracting with non-profit organizations to assist in the process, holding stakeholder outreach meetings (DAC Workshops), beginning the flood mapping process, and continuing to coordinate with the IRWM Plan Update efforts.

Kathy also provided an overview of the DAC Outreach Program Timeline, noting that this program will be interwoven with the IRWM Plan Update.

#### Questions/Comments

- Does the flood mapping process include updating FEMA maps?
  - Yes and no. The process will start with available data such as FEMA data, and use locally-collected data to update those maps. The focus, however, will be on mapping disadvantaged communities that face flood-related issues.
- Does the flood analysis include Salton City? Flooding is a huge problem there.



- Yes. The flood analysis will cover the entire IRWM Region, which includes Salton City.

### **Update on Coachella Valley IRWM Technical Evaluations**

Rosalyn Prickett provided an overview on the three planning studies that will be incorporated into the IRWM Plan Update: Salt and Nutrient Management, Groundwater Quality Evaluation, and Integrated Flood Management.

#### ***Salt and Nutrient Management***

Rosalyn provided an overview of this workgroup, noting that it will specifically address salt and nutrient management associated with recycled water in accordance with the State's Recycled Water Policy. She then noted that three stakeholder workshops were conducted for this planning study.

The current status of the planning study is that the technical team has compiled a draft work plan, which outlines the salt and nutrient management planning process that would be recommended for the Coachella Valley. The next step with this planning study is to compile and respond to all comments – if you have not submitted comments, please do so ASAP! Modifications will be made to the work plan based upon relevant comments, and then the revised work plan will be reviewed by the CVRWGM. After the CVRWGM has approved of the work plan, they will meet with the Regional Water Quality Control Board staff for feedback, and potentially revise the work plan again based upon the Regional Board's comments. Following these steps, the CVRWGM will give a presentation to the Regional Board on January 17<sup>th</sup> to discuss the process and receive input from the board before moving on to the next phase, which would involve developing a salt and nutrient management plan.

#### ***Groundwater Quality Evaluation***

Leslie Dumas, RMC, provided an overview of the groundwater quality evaluation that is being conducted as part of the IRWM Plan Update. She noted that the current step of this evaluation is to identify "areas of concern." Areas of concern include DACs that are not served by municipal water suppliers, and are therefore served by private groundwater wells. Information available from the Coachella Valley water purveyors as well as publically available state and federal data has allowed the technical team to identify areas of concern as well as constituents of concern in those areas. The data that was analyzed shows that there are four primary constituents of concern: arsenic, fluoride, nitrate, and uranium. The next step in the analysis is to determine potential solutions for addressing the various constituents. According to information from the EPA, membrane separation (which includes reverse osmosis), is the best available technology for addressing each constituent potentially present in local groundwater basins. Future steps in this process will involve a data gap analysis to determine more information that may be useful such as the exact location of wells, the volume of water being pumped and used, and a confirmation of water quality at each well. Following the data gap analysis, the technical team will develop an outline for a monitoring program that can potentially be implemented to address identified data gaps and other outcomes from the planning study.

#### **Questions/Comments**

- The number of sampling points reported for constituents of concern – do those represent the number of samples throughout the County or within the Coachella Valley Groundwater Basin?
  - The number of sampling points represents the number of samples that exceeded the MCL value – these sampling points are only for the local groundwater basins and are not County-wide.

### ***Integrated Flood Management***

Rosalyn Prickett provided an overview of this workgroup, noting that this study and associated workgroup will kick off during the new year. The first integrated flood management workgroup will be held on January 15<sup>th</sup>, 2013. The technical team will send an announcement to stakeholders for this meeting.

### **Next Steps**

The technical team, CVRWMG, and LPS will begin preparing the Round 2-Proposition 84 Implementation Grant application, and will continue to conduct work on the various planning studies that will be incorporated into the IRWM Plan Update.

Please mark your calendars: the next Planning Partners meeting will be held on March 14, 2013!

# Coachella Valley Integrated Regional Water Management Program

## Planning Partners

Thursday June 13, 2012  
2:30 – 4:30 p.m.

Coachella Valley Association of Governments  
Conference Room #115  
73-710 Fred Waring Drive  
Palm Desert, CA 92260

### DRAFT NOTES

*Italics denote action items.*

#### Attendees:

##### Planning Partners

Mike Gialdini, Supervisor Benoit  
Phoebe Seaton, California Rural Legal Assistance  
Maria Elena Kennedy, DAC Representative  
Margaret Park, Agua-Caliente Band of Cahuilla Indians  
Jim Sullivan, Coachella Valley Association of Governments  
Abdi Haile, Colorado River Regional Board  
Susie del Toro, El Sol Neighborhood Educational Center  
Rodolfo Piñon, Pueblo Unido CDC  
Ryan Sinclair, Loma Linda University  
Jaime Lopez, Loma Linda University  
Tom West, Carollo Engineers  
Dave Rydman, Carollo Engineers

##### CVRWMG

Berlinda Blackburn, CWA  
Sara Toyoda, IWA  
Katie Ruark, DWA  
David Tate, DWA  
Patti Reyes, CVWD  
John Soulliere, MSWD  
Roselyn Prickett, RMC  
Kathy Caldwell, RMC  
Leslie Dumas, RMC  
Crystal Mohr, RMC  
Daniel Cozad, IPM

#### Meeting Objectives:

- A. Keep Planning Partners Up-to-Date on the Coachella Valley IRWM Program, including Salt and Nutrient, Groundwater Quality, and Flood Management Activities
- B. Update on Disadvantaged Community (DAC) Outreach Efforts
- C. Discuss IRWM Goals, Objectives, and Targets for the IRWM Plan Update

#### Meeting Notes:

##### Welcome and Introductions

Roselyn Prickett, RMC Water and Environment (RMC), welcomed the Planning Partners on behalf of the Coachella Valley Regional Water Management Group (CVRWMG), the five regional water suppliers in the Coachella Valley who are responsible for overseeing the

Coachella Valley Integrated Regional Water Management (IRWM) Program. Ms. Prickett then provided an overview of the agenda and meeting objectives. The group did self-introductions.

### **Status of IRWM Planning Activities and Schedule**

Rosalyn Prickett provided an overview of the Coachella Valley IRWM Plan Update, noting that there are five key pieces of the Plan Update: stakeholder outreach (including outreach with the Planning Partners), a Salt and Nutrient Management Technical Evaluation, a DAC Groundwater Quality Evaluation, an Integrated Flood Management Technical Evaluation, and a comprehensive update to the existing IRWM Plan.

Rosalyn Prickett also explained the schedule for the aforementioned pieces of the IRWM Plan Update, noting that stakeholder outreach will occur throughout the two-year process, the Salt and Nutrient Management piece is complete, and the DAC Groundwater Quality Evaluation and the Integrated Flood Management pieces will be complete by the end of 2013. The IRWM Plan Update, which will incorporate information from all of the technical evaluations and stakeholder outreach efforts, will be complete by mid-2014.

Patti Reyes, Coachella Valley Water District (CVWD), added that the Salt and Nutrient Management piece of the IRWM Plan Update (Workplan) has been completed, and the CVRWGM is currently soliciting proposals to develop the Salt and Nutrient Management Plan (SNMP). The loose schedule for this process is:

- Proposals due in July
- July-August: select consultant team
- September: finalize contracting
- October: begin work to prepare the SNMP

### **Overview of IRWM Grant Program and Other Grant Opportunities**

Rosalyn Prickett noted that the Coachella Valley IRWM Region submitted an application for Round 2 of Proposition 84 Implementation Grant funding for five high-priority projects. In total, there is approximately \$36 million in grant funding available to the Colorado River Funding Area, which is a highly competitive funding area consisting of the Mojave, Imperial, Anza Borrego Desert, and Coachella Valley IRWM regions. The Coachella Valley was awarded \$4 million in Round 1 of Proposition 84 funding – there will be approximately \$5.24 million available in Round 2, although this is competitive among all four IRWM regions.

Rosalyn Prickett provided an overview of the Coachella Valley's project evaluation and selection process, noting that the Region followed the process outlined in the 2010 IRWM Plan, which included vetting the recommended projects through the Planning Partners in December of 2012.

Rosalyn Prickett then provided an overview of other funding opportunities that are available to the Region. The California Department of Public Health (CDPH) is currently soliciting proposals across the state. Pre-applications are due on July 8, 2013. CVWD and the other CVRWGM agencies are interested in working with interested parties to submit pre-applications. Rosalyn Prickett also noted that there is a flyer for the California Financing Coordinating Committee (CFCC) in the Planning Partners handout packet – there will be a local funding fair held in Cathedral City on September 26, 2013.

### **Update on Coachella Valley IRWM Technical Evaluations**

#### ***Integrated Flood Management***

Rosalyn Prickett provided an overview of this workgroup, noting that the first integrated flood management workgroup was held on January 15<sup>th</sup>, 2013. The technical team will be

coordinating a second workgroup meeting, and all stakeholders will receive an invitation to attend.

### ***DAC Groundwater Quality Evaluation***

Leslie Dumas, RMC, provided an overview of the groundwater quality evaluation that is being conducted as part of the IRWM Plan Update.

Ms. Dumas explained the process that was taken for this evaluation, involving seven primary steps. At this point, data indicates that there are existing water quality concerns pertaining to arsenic, fluoride, nitrate, and uranium. Although there is not a current maximum contaminant level (MCL) or CDPH standard for hexavalent chromium, this constituent is being considered due to pending regulations. Information gathered to date demonstrates that membrane separation (reverse osmosis) and ion exchange systems will both be adequate in treating the aforementioned constituents to levels established by the MCLs. Information gathered to date also suggests that point-of-use (POU), point-of-entry (POE), and wellhead treatment systems are likely realistic to address water quality concerns given the location of many of the areas of concern (very far from municipal water service areas). Ms. Dumas explained that these systems are already being installed in the East Valley by Pueblo Unido CDC and other organizations. These systems are both technologically and economically effective in addressing DAC water quality concerns.

Given the technological and economical effectiveness of these systems, one of the recommendations of this study (Technical Evaluation) is that a program for installation of POU/POE/wellhead treatment systems be developed for the entire Coachella Valley.

### **Questions/Comments**

- How does the public health goal recommended for hexavalent chromium relate to the future potential MCL?
  - The two are not necessarily related – it is just a goal and needs substantial input before it becomes a MCL. We are using the public health goal, because it is the only health-related water quality standard we have for hexavalent chromium at this time.
- Where has the Short Term Arsenic Treatment Program (by Pueblo Unido CDC) been implemented?
  - Five mobile home parks (MHPs) have been retrofitted with reverse osmosis systems to treat water to-date. These have all been installed in the eastern Coachella Valley.
- The onsite reverse osmosis systems are fine, but have you considered consolidation with the municipalities? Seems like a better long-term solution.
  - The study analyzed distance to municipal water systems – part of the issue is the remoteness of some of the MHPs is so extreme, that the systems are simply not cost effective (i.e. several millions of dollars for a single pipeline extension).
- One of the major issues that needs to be discussed is, once funding is received from the state (specifically from DWR Proposition 84 funds) – reimbursement makes installation challenging. Pueblo Unido CDC would have installed more systems already if the reimbursement process did not take so long.
  - The DAC Outreach Program will cumulatively address funding issues such as these.

## Update on DAC Outreach and Assistance

Kathy Caldwell, RMC, provided an overview of the DAC Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. She provided an overview of activities that have been completed to date.

Dr. Ryan Sinclair from Loma Linda University (LLU) provided an overview of the process that has been taken to-date, which involved pairing trained promoters (promotoras) from El Sol and Pueblo Unido CDC with students from LLU. All students and promotoras were trained, and the team developed a survey that would be taken out into the field in both the east and west valley. To-date, 214 surveys have been completed.

Kathy Caldwell noted that the next step is to hold workshops: one in the East Valley and one in the West Valley. She welcomed all Planning Partners to attend, and to get the word out! Attendance is welcome at both meetings by all interested parties.

- East Valley Workshop: June 18<sup>th</sup>, 5-7 p.m. San Jose Community and Learning Center, 69455 Pierce Street, Thermal, CA
- West Valley Workshop: June 20<sup>th</sup>, 5-7 p.m. DHS Family Resource Center, 14201 Palm Drive, Suite 108, Desert Hot Springs, CA

Daniel Cozad, IPM then explained noted that part of the DAC Outreach Program includes funding for preliminary planning and design/engineering. The idea being that these funds can be used to develop and grow projects into formal projects that can be competitive for other forms of grant funding. Mr. Cozad explained that this process is looking at projects or project concepts that will meet pressing needs on a near-term basis. To-date, the team has found that there is a need for projects that fall in three general categories: water quality (drinking water), wastewater (addressing septic systems), and flooding. Ms. Caldwell explained that part of the handouts include forms for the Planning Partners to fill-out, which will provide additional input to the team as they choose project concepts to move forward for preliminary design and engineering.

Dr. Sinclair then asked the partners (Susie del Toro from El Sol and Rodolfo Piñon from Pueblo Unido CDC) to provide information about their survey experiences with the group. Below is an overview of this discussion, which took place with input from the Planning Partners.

- The survey teams in the West Valley were surprised to hear of some of the issues, particularly involving concerns with drinking water. This was a surprise, because the West Valley water is generally considered very high in quality and surveyors did not expect to hear that people did not trust the water quality in that area.
- The survey teams were highly successful – in part due to their intergenerational nature with surveyors and students of all ages. The diversity of the team really helped with outreach to individuals across the valley.
- In general the survey teams in the East Valley were not surprised to hear the issues: wastewater disposal and treatment, potable (drinkable) water supplies, and flooding issues. In addition, many residents are concerned with unpaved streets.
  - Yes and no. The process will start with available data such as FEMA data, and use locally-collected data to update those maps. The focus, however, will be on mapping disadvantaged communities that face flood-related issues.
- Does the flood analysis include Salton City? Flooding is a huge problem there.
  - Yes. The flood analysis will cover the entire IRWM Region, which includes Salton City.

- Will the workshops be conducted in English and in Spanish? How will this be handled?
  - The team is planning on getting headsets from the Healthy Communities organization. There will be a translator at each meeting to do in-person translation.
- There are concerns with using the headset translation services. There are communities that do not like these and find them isolating.
  - The team spoke with the non-profit partners, who stated that the residents in Coachella Valley are ok with this type of communication.
- What is being done to address big picture issues? Surveys will reveal site-based issues, but I would like to see some holistic planning – for example, holistically addressing flooding in the East Valley.
  - The IRWM Program in conjunction with the DAC Outreach Program is attempting to do this, especially through the integrated flood management study.
- Although the on-site treatment systems are technologically effective, they are still near-term in nature. In general my input is that consolidation (connection to the municipal system) is the most effective long-term solution.
  - The program is considering this – the issue is that especially with grant funding, those projects are simply not cost-effective enough to be competitive in our highly competitive funding area. As development increases in the East Valley, the cost-benefit ratios may change.

### **Overview of IRWM Grant Program and Other Grant Opportunities**

Rosalyn Prickett then provided an overview of the IRWM Objectives, included in the 2010 IRWM Plan. Those objectives are the backbone of the IRWM Plan in that they define regional priorities and provide a mechanism for measuring implementation success.

The next step of the IRWM Plan Update will be to go over the existing objectives, which were developed with the Planning Partners, and discuss the following:

- Which objectives are the most important?
- What issues are addressed by the objectives?
- What do we want to accomplish through implementation of the IRWM Plan?

The CVRWGMG members then went through and explained each of the 13 objectives included in the 2010 IRWM Plan, which are:

- A. Provide reliable water supply for residential and commercial, agricultural community, and tourism needs.
- B. Manage groundwater levels to reduce overdraft, manage perched water, and minimize subsidence.
- C. Secure reliable imported water supply, including restoring/improving reliability of State Water Project supply and securing other imported water supplies.
- D. Maximize local supply opportunities, including water conservation, water recycling and source substitution, and capture and infiltration of runoff.
- E. Protect groundwater quality and improve, where feasible.

- F. Preserve and improve surface water quality by maintaining integrity of agricultural drainage systems, protecting the quality of natural runoff used for potable supply, and reducing pollution in stormwater runoff.
- G. Preserve local environment and restore, where feasible.
- H. Manage flood risks, including current acute needs and needs for future development.
- I. Optimize conjunctive use of available water resources.
- J. Maximize stakeholder involvement and stewardship in water resource management.
- K. Address water-related needs of local Native American culture.
- L. Address water and sanitation needs of disadvantaged communities, including those in remote areas.
- M. Maintain affordability of water.

Planning Partners were each given seven stickers and asked to place their stickers on the objectives to indicate which are most important to them. The result of the exercise is as follows:

- A. 8 stickers
- B. 8 stickers
- C. 9 stickers
- D. 9 stickers
- E. 13 stickers
- F. 1 stickers
- G. 5 stickers
- H. 6 stickers
- I. 3 stickers
- J. 11 stickers
- K. 5 stickers
- L. 13 stickers
- M. 10 stickers

#### Questions/Comments

- Objective E could be modified to address relevant permit requirements for agricultural drains.
- Targets for Objective L need to be modified to address distance from municipal services.
- Objective L could also be modified to reflect that wastewater is not just a local, but a global issue. The Gates Foundation is actively seeking out alternatives to wastewater treatment and disposal.
- Would it be possible to develop some sort of master plan for sewer systems? It would be good to see holistically – if sewers were to be installed across the Valley – where would this occur, and how much would it cost?
- For flooding – more consideration needs to be taken for existing ponds and lagoons. Also, regrading sites can really help move water away from homes.



- Objective J does not include outreach or education. Perhaps this could be included as a target? A lot of the issues, particularly with septic systems involve education on proper use and maintenance.
- What about addressing ownership issues? Many of the East Valley residents are renters – even if you do outreach to these folks, it will not change mobile home park practices. The education needs to be with the owners and the residents.
- It is also important to conduct outreach and education on the regulatory level – so that regulators are aware of the issues.

### **Next Steps**

Please mark your calendars: the next Planning Partners meeting will be held on September 12, 2013!

# Coachella Valley Integrated Regional Water Management Program

## Planning Partners

Thursday September 12, 2012  
1:00-3:00 p.m.

Coachella Valley Association of Governments  
Conference Room #119  
73-710 Fred Waring Drive  
Palm Desert, CA 92260

### DRAFT NOTES

*Italics denote action items.*

#### Attendees:

##### Planning Partners

Margaret Park, Agua-Caliente Band of Cahuilla Indians  
Tim Roberts, Salton Community Services District  
Jon Rokke, Colorado River Regional Board  
Jennifer Henke, Coachella Valley Mosquito and Vector Control District  
Anna Aljabiry, DWR  
Melissa Sparks, DWR  
Evon Willhoff, DWR  
Laura Massie, California Rural Legal Assistance  
Frank Kopcinski, California Rural Legal Assistance

##### CVRWMG

Sara Toyoda, IWA  
Katie Ruark, DWA  
David Tate, DWA  
Patti Reyes, CVWD  
John Soulliere, MSWD  
Rosalyn Prickett, RMC  
Sally Johnson, RMC  
Daniel Cozad, IPM

#### Meeting Objectives:

- A. Keep Planning Partners Up-to-Date on the Technical Evaluations
- B. Update on Disadvantaged Community (DAC) Outreach Program
- C. Discuss Revisions to Existing IRWM Plan Chapters: Region Description, Issues & Needs, and Project Selection
- D. Discuss New IRWM Plan Chapters: Tribal Water Resources and Disadvantaged Communities

#### Meeting Notes:

##### Welcome and Introductions

Rosalyn Prickett, RMC Water and Environment (RMC), welcomed the Planning Partners on behalf of the Coachella Valley Regional Water Management Group (CVRWMG), the five regional water suppliers in the Coachella Valley who are responsible for overseeing the Coachella Valley Integrated Regional Water Management (IRWM) Program. Ms. Prickett then provided an overview of the agenda and meeting objectives. The group did self-introductions.

## Status of IRWM Planning Activities and Schedule

### *Update from DWR Representatives*

Anna Aljabiry, DWR, announced she was stepping down from her position at DWR and this would be her last Planning Partners meeting. She introduced Melissa Sparks and Evon Willhoff as the CVIRWM Region's new DWR representatives for grant administration. Ms. Sparks will be responsible for the Disadvantaged Communities (DAC) program, while Ms. Willhoff will be responsible for Implementation grants. Melissa Sparks provided a handout with the IRWM grant solicitation timelines, a summary of the proposed water bonds (Senate Bill 42 and Assembly Bill 1331), an overview of the draft Appendix H, Plan Review Process for the 2012 IRWM Grant Program Guidelines, and dates for the Round 2 Strategic Plan Workshops. She noted that the draft Appendix H was open for public comment until October 18, 2013, with public workshops being held in Sacramento on October 7, 2013, and Ventura on October 9, 2013. Appendix H is expected to be adopted by the end of 2013, with Plan review beginning in January 2014.

Rosalyn Prickett asked if DWR could provide an update on the IRWM grant schedule. Evon Willhoff informed the group that senior supervisor review of the Proposition 84 Round 2 Implementation Grants was wrapping up, and public review of grant awards would be available by the end of the month.

The Planning Partners and CVRWGM informed DWR that there were problems with the format of the previous Strategic Plan Workshop, and asked if the format would be different for the Round 2 workshops. Ms. Sparks informed the group that there would likely be changes to the format of the workshop for this round. Patti Reyes, Coachella Valley Water District (CVWD) and Laura Massie, California Rural Legal Assistance (CRLA) both expressed that the table-wide statements used in the previous format did not capture all of the issues, and that the resulting conversation tended to lose unique views and issues that were not obvious.

Ms. Aljabiry provided a handout on new environmental education materials that had become available. These materials are designed for classrooms with material geared towards students from kindergarten through twelfth grade (K-12), with a water focus. Materials can be ordered in "classroom sets" which contain 30 student copies and 1 teacher copy. Anyone can order these free materials by visiting <http://www.water.ca.gov/education/wffcatalog.cfm>. Questions regarding the education program should be directed to:

Michelle Robinson  
Water Education Specialist  
Public Affairs Office  
Department of Water Resources  
Office 916-653-9892  
Fax: 916-653-3310  
Michelle.Robinson@water.ca.gov

Ms. Prickett provided an overview of the key activities for the Coachella Valley IRWM Plan Update, and the timeline for completion, noting that the DAC Water Quality Evaluation, and Salt and Nutrient Planning were almost finished, while the Integrated Flood Management and DAC Outreach Program were in the final stages. The Groundwater Monitoring is underway.

### Questions/Comments

- Is the groundwater monitoring program only looking at groundwater elevations?
  - No, it is also looking at water quality and other water management parameters.

## **Update on Coachella Valley IRWM Technical Evaluations**

### ***Integrated Flood Management***

Rosalyn Prickett provided an overview of the Integrated Flood Management Workgroup, noting that an integrated flood management workshop will be held on Wednesday, September 18th, 2013. She explained the purpose of Integrated Flood Management is to assess the opportunities for utilizing flood water a resource. One of the ways the study is doing this to map flood areas and overlay this on maps of soil permeability to see if there are naturally occurring flood areas that could be suitable for groundwater recharge basins. The results of these efforts will be presented at the September 18th workshop. Ms. Prickett encouraged the Planning Partners and DAC representatives to attend. The workshop will be held at the Coachella Valley Water District (75-515 Hovley Lane East, Palm Desert, CA 92211) from 10:00 am until noon.

### ***DAC Groundwater Quality Evaluation***

Rosalyn Prickett provided an overview of the Coachella Valley-wide Groundwater Monitoring Plan, which builds on the DAC Water Quality Evaluation. The DAC Water Quality Evaluation identified maximum contaminant level (MCL or drinking water standards) exceedances and mapped the location of DACs as they pertain to exceedances, but the overall Groundwater Monitoring Plan will extend this mapping effort across the entire Coachella Valley. This effort will also incorporate recommendations from the Coachella Valley Water Management Management Plan and the Mission Creek-Garnet Hills Sub-Basin Water Management Plan.

Patti Reyes added that this effort will establish the information gaps and issues for future IRWM projects to address, and set up projects that monitor groundwater. Ms. Prickett stated that more recommendations would be presented at the November Public Workshop (scheduled for November 6<sup>th</sup>, 2013).

### **Questions/Comments**

- There should be an extended conversation on where additional wells are needed.
- Does the Groundwater Monitoring Program include the Salton Community Services District (SCSD)?
  - No, SCSD does not use groundwater, so this does not apply.
- Groundwater monitoring program will consolidate information so the Region will be able to determine what information already exists, what information is missing, and will help identify the roadblocks to achieving what the Region wants.
- The Groundwater Monitoring Program should include salts when considering constituents of concern.
- Does the Program look at funding for groundwater data or for groundwater treatment?
  - Only groundwater data.
- Don't see any biological indicators in the monitoring criteria/constituents. Is this because the groundwater is too deep for septic system contamination?
  - Yes. The only biological constituent that might be present is nitrate.

### **Update on DAC Outreach and Assistance**

Rosalyn Prickett provided an overview of the DAC Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. She provided a timeline for the DAC Outreach Program components, and noted that the Program will be complete by the end of 2013.

Daniel Cozad, IPM presented the DAC Outreach Program components.

## ***Presentation of Surveying Effort Results***

Mr. Cozad explained the DAC surveys conducted by Loma Linda University. This effort will result in refined maps of DAC locations and issues, and a formal report on the perceived water resources issues and needs.

### Questions/Comments

- Will the report be circulated?
  - We are still working on the final report, but will give a presentation during November 6<sup>th</sup>.

Mr. Cozad then explained the DAC projects. The goal of this process was to develop projects based on issues and needs defined by Planning Partners and DAC stakeholders. He explained the process used to identify issues, and the four projects that were selected. The Outreach Program met with DACs who were aware of their water issues, and DACs that were not aware of water issues they may have. For the most part, this outreach reaffirmed the issues previously identified by the Region. The four DAC projects that were selected are:

- Design and engineering for faulty or under-sized septic systems
- Mapping of problematic DAC systems within proximity to existing infrastructure
- Bilingual outreach and educational materials for residents
- Reverse osmosis systems to treat water from onsite groundwater wells

Patti Reyes asked Mr. Cozad to please explain why there is a focus on septic issues. Mr. Cozad explained that septic was considered one of the most important issues (self-reported by stakeholders) and is also the most complex issue to fix. Ms. Reyes added further clarification that the East Valley has very limited wastewater infrastructure, and such infrastructure is too expensive to fund. Sewer needs in the East Valley are as important as water needs, and many stakeholders ranked wastewater needs as their most important issue.

There will be a final DAC Workshop on November 6th, from 10:00 am – noon, at the Coachella Valley Water District (75-515 Hovley Lane East, Palm Desert, CA 92211), immediately prior to the Public Workshop on the Coachella Valley IRWM Plan Update Meeting (1:00-3:00 pm). The DAC Workshop will present all final findings of the DAC Outreach Program, and the draft DAC Outreach Report.

### Questions/Comments:

- Which 4 mobile home parks were selected for the Septic project?
  - Pueblo Unido was used to select the mobile home parks, they are all located in Thermal and include: Don Jose, Cisneros, Valenzuela, and Gutierrez Mobile Home Parks.
- The bilingual outreach and education materials are designed to close information gaps determined during the outreach process. If residents have a problem, the program can tell residents how to solve the problem. These materials, therefore work to empower people to solve their own problems. The program will not solve the problems themselves. In part this is to respect other agencies that might be responsible for managing the potential problem.
- Is IVAN included? IVAN is a central database of East Valley residents to report issues. Issues get reported to IVAN, and then IVAN filters these reports and informs the appropriate agency. Information about IVAN is included in the outreach and education materials.
  - Jon Rokke, Colorado River Regional Board is the individual who receives the IVAN reports and sends them to the appropriate agency. He also follows up

on the reports he sends out to make sure they are getting addressed. He does not have any objections to expanding this resource to the entire Coachella Valley.

- IVAN allows people to report via phone, text message, or website. Many different types of reports are submitted. Mr. Rokke said some reports are not appropriate for any agency, but are often left on the site, which acts as a community board.
- *Ms. Reyes said IVAN will be addressed in the report, but will delegate to El Sol to work with Mr. Rokke to expand IVAN*
- See-Click-Fix is a mobile app that allows people who see a problem to take a picture and add a short description of the problem. The photo, message, and location is automatically sent to a responsible party (based on location) and has gotten quick responses. Mobile devices are the future for easily reporting issues.

### **IRWM Plan Update Components**

Rosalyn Prickett then provided an overview of the IRWM Plan Update. She presented the proposed changes to three chapters: Region Description, Issues and Needs, and Project Evaluation and Prioritization. She presented two proposed new chapters: Tribal Water Resources and Disadvantaged Communities.

#### Questions/Comments

- What is the timeline for the draft IRWM Plan?
  - Feedback solicited from Planning Partners and RWMG at meetings will be used to write the chapters. The draft Plan is scheduled to be available for public review starting on November 4, 2013. There will be a 2 month public comment period to accommodate schedules during the holidays. The comment period will close at the end of December. Comments will be incorporated in early 2014, with the final plan likely to be released in mid-February, and adopted by the RWMG agencies' governing boards by the end of March. While the final release schedule has not been finalized; the CVRWGM's grant agreements require that the Plan be finalized and adopted by the end of March, 2014.
- Will discussion of the proposed Chrome-6 MCL be part of the Plan Update?
  - Yes.

### ***Region Description***

Rosalyn Prickett reviewed the updated Region Description chapter. She noted that the chapter was updated for consistency with current planning documents, including those released after the 2010 IRWM Plan was adopted. Key changes include improving discussion of the differences between the East Valley and West Valley, expanding discussion of groundwater basins, non-potable water, and natural communities, and updating with new stormwater permit information.

#### Questions/Comments

- Will the differences between the East Valley and the West Valley include demographics, water quality, and other factors?
  - The East and West Valley differences were explored in the outreach survey – the Plan will include information gathered from the survey.
- The Regional Board's Onsite Wastewater Treatment Policy will be updated next week (Thursday, September 19). This will change the way septic systems in the Valley are permitted.

## **Issues and Needs**

Rosalyn Prickett presented the updated Issues and Needs chapter. The chapter was updated to be consistent with current plans and issues identified by stakeholders. Key changes in the chapter include a lower project water demand for 2030, expanded discussion of water supplies, stormwater capture, water quality, and flooding. There were no changes to Table 3-1 in the Plan, Summary of Significant Water Management Issues in Coachella Valley. Planning Partners were asked to confirm that this table should remain the same.

## Questions/Comments

- For Issue #5, Groundwater Quality – Change “Several small private water systems in mobile home parks...” to “Many small private water systems in mobile home parks...” The use of the word “several” diminishes the problem and doesn’t reflect the severity of the issue.
  - *May cross-reference the actual number of systems exceeding arsenic MCL*
- For Issue #12, Affordability of Water – if the Chrome 6 MCL is adopted, costs will go up because of the added costs of treatment options to address the MCL
  - *May add statement at end of first paragraph to acknowledge regulatory changes as a cost related toe continued overdraft*
- Were the population projections based on RHNA (Regional Housing Needs Assessment)?
  - Population projections were based on the projections from the Urban Water Management Plans, which are based on the Riverside County population projections.
- RHNA projects how much housing will be needed to accommodate the projected population, should link the water needs planning and the housing needs planning.
  - The population projections used in the UWMPs and in the Plan are more conservative than the RHNA projections because they are not the revised down version of the projections. Therefore, we are planning for the “worst-case” population projections, which is more conservative.
- The SCAG Region RHNA is due in October.
  - *We will ask CVAG about the RHNA numbers in October.*
  - The planning horizon is different for the different plans. Even with a dip in projected populations on a shorter timescale, it is expected that in the long-term, population projections will go back up.
- We don’t want to have too much housing and not enough water to serve residents.
  - With the projections currently being used for the UWMPs and the IRWM Plan, we are planning for more water than the planned housing. It takes a long time to plan, fund, and build water infrastructure, as well as to receive the actual water. It is better to over-plan for water.
- There are mechanisms already in place that force communication between water and housing/land use planners.
- Water use has dropped through conservation efforts and other factors, and water demand projections have been adjusted down accordingly.
- Reminder that everything in the Plan must be publicly adopted.

## **Project Evaluation and Prioritization**

Rosalyn Prickett presented the updated Project Evaluation and Prioritization chapter. Changes to this chapter include highlighting how IRWM efforts address priorities, describing how the

project evaluation process was used during recent grant application cycle, the addition of a new criterion to the project scoring process: “Maximizes stakeholder involvement and stewardship in water resources management”, addition of a interview for project selection for grant applications, and the removal of Appendix B (Project List).

#### Questions/Comments

- To clarify, there are State Requirements and there are Plan Requirements. Plan requirements incorporate state requirements, but also have other requirements. Projects are scored based on the Plan requirements.
- Regarding Appendix B (Project List), people won’t go to the website to look at the project list, so a project list should be included in the Plan. However, not all projects are valuable, so we should consider only including high-scoring projects as an example.
- DWR reaffirmed that a printed list of projects is required for grant applications. They cannot accept a link because that is external data. Additionally, most reviewers look at the hard copy of the application. It would be acceptable to include a link in the Plan, but not in grant applications. Applications are competitive, but the Plan Review Process is not, so if the Plan reviewer thinks it is necessary, they will probably ask for a hardcopy of the project list.
- In what format is the Plan distributed?
  - Electronic (pdf).
- Suggest writing into the Plan that the official Project List is on the database, and then date Appendix B as “Project List as of DATE”.
- Is there a button that can be added to the Project Database that would allow a visitor to easily export the list of projects?
  - No, it would require users to log in to the database.

The Planning Partners decided that Appendix B should remain in the Plan.

#### ***Tribal Water Resources***

Rosalyn Prickett presented a new chapter in the Plan, Tribal Water Resources. This chapter was developed in response to stakeholder feedback and with significant input from the Tribes. Key content includes description of the Tribes, their water resource concerns, their water quality monitoring efforts, and tribal participation in water resources planning.

#### Questions/Comments

- Does the chapter contain geographic information about the Tribal lands?
  - Yes, there is also a map of the Region showing the location of tribal lands.
- What research, other than meeting with Tribes and receiving their feedback, was or will be conducted for developing this chapter? The U.S. EPA? The Days Desert Sun article on the arsenic problem at a mobile home park on Torres-Martinez land?
  - RMC consulted Bureau of Indian Affairs, and any electronic sources they could find. Patti Reyes sent the Days Desert Sun article to Ms. Prickett.

#### ***Disadvantaged Communities***

Rosalyn Prickett presented a new chapter in the Plan, Disadvantaged Communities. This chapter was developed in response to stakeholder feedback. It presents the results of the DAC Outreach Program, and key content includes the history of DAC participation in the IRWM Program, the DAC Outreach Program, DAC characterization and mapping, DAC project Development, and process recommendations for DAC participation in the IRWM program.



## Questions/Comments

All questions and comments were related to the Process Recommendations portion of the chapter.

- DWR stated that Process Recommendations should include recommendations for future funding for DACs
- Would the funding be for information gathering or project development?
  - Should create a guideline for other regions in the state for improving DAC involvement. Can go a step further to work on the projects that were identified during the process.
  - Must meet DWR recommendations and regional recommendations to move forward on a project
    - Project development for the DAC Outreach Program is meant to provide a tool to DWR to show how to move forward on a DAC project.
  - There is no agreement between DWR and Grantees to fund projects identified during the process. They will still need to go through the project selection process and grant application process that any other IRWM project is subject to.
- In the previous IRWM grant cycle, the CVIRWM Program held a project database workshop with DACs to explain how to submit projects successfully. The CVRWGM also entered DAC projects into the database for those DAC project proponents who needed help.

## **Next Steps**

The CVRWGM is conducting direct outreach to stakeholder groups (e.g., golf course superintendent association, builders associations, etc.). If anyone knows of a group that would be appropriate for direct outreach, please email Rosalyn Prickett ([rprickett@mcwater.com](mailto:rprickett@mcwater.com)).

Please mark your calendars for upcoming workshops and meetings:

- Integrated Flood Management Workshop: September 18, 10:00 am – noon (at CVWD)
- Public Review for 2014 IRWM Plan: November 4 – December 31, 2013
- DAC Workshop: November 6, 10:00 am – noon (at CVWD)\*
- Public Workshop on IRWM Plan Update: November 6, 1:00 – 3:00 pm (at CVWD)\*

\*Lunch will be provided for those attending the DAC workshop and staying for the Public Workshop on the IRWM Plan Update. Please RSVP to Crystal Mohr: [cmohr@mcwater.com](mailto:cmohr@mcwater.com), 858-875-7421.

# Coachella Valley Integrated Regional Water Management Plan

## Integrated Flood Management Workshop #1

Tuesday January 15, 2013  
1:00 – 3:00 pm

Coachella Valley Water District  
CVWD Training Room  
75-515 Hovley Lane East  
Palm Desert, CA 92260

### DRAFT NOTES

*Italics denote action items.*

#### Attendance

Berlinda Blackburn, CWA	Patti Reyes, CVWD
David Tate, DWA	Matthew Palavido, CVWD
Mark Krause, DWA	Tesfaye Demissie, CVWD
Sara Toyoda, IWA	Margaret Park, Agua Caliente Tribe
Tim Roberts, Salton Community Services District	Elizabeth Versace, City of Desert Hot Springs
Jennifer Henke, Coachella Valley Mosquito and Vector Control	Paul Russell, Riverside County Transportation Department
Jeremy Wittie, Coachella Valley Mosquito and Vector Control	Bill Simons, Cathedral City
Janis Smith, Dudek	Rodolfo Piñon, Pueblo Unido
Chuck Greely, Dudek	Scott Lynch, RMC
	Bruce Phillips, PACE

#### Meeting Objectives

- Introduction to Integrated Flood Management
- Understanding of Flood Risks, Issues, and Sources in Region
- Implementation of Flood Hazard Mitigation

#### Agenda

##### 1. Integrated Flood Management (IFM) Background

Bruce Phillips welcomed the group, who did self-introductions. Mr. Phillips then provided an overview of the meeting objectives and an overview of IFM.

## 2. Why IFM?

Bruce Phillips identified the benefits offered by IFM planning and common IFM strategies at different scales.

## 3. Progress to Date

Bruce Phillips explained the IFM planning process that would be undertaken for the Coachella Valley IRWM Plan and across the Coachella Valley IRWM Region, and informed the group of all progress to date on information gathered and findings, including the Region's flood hazards, sources, and maps of flood hazard zones. He also identified IFM opportunities through analysis of GIS data related to the physical and biological characteristics of the Region.

## 4. Stakeholder Input Requested

Bruce Phillips led a discussion and presentation on the input that is being requested from stakeholders to complete the IFM Study:

a) Input needed includes:

- Additional documents not already received
- Additional data
- Existing localized flooding locations (key hot spots)
- Chronic flood damage loss areas
- Critical facilities/locations
- Participation
- Review of draft vision

b) Vision document will be a regional vision for multi-purpose IFM opportunities to develop projects

c) Overlaying of data can help to identify multi-objective project opportunities

d) GIS Layers needed to develop opportunities include:

- Pollutant sources
- Flood hazards
- Groundwater basins
- Habitat/wetlands
- Sensitive species
- Permeable soils
- Erosion hazards
- Debris/sediment potential
- Impaired water bodies

e) Stakeholder Workshop Input – *will send survey requesting data/information on:*

- Common flooding problem/sources (local)
- Common watershed flood problems/sources
- Chronic/key flood locations/damages/issues
- Deficiency locations of existing stormwater/drainage facilities

Discussion followed the presentation, and included:

- a) Are we using the DWR flood information? Yes, we are using DWR database in our data. DWR used the FEMA database, but not the State's own data. FEMA is missing a lot of areas. *We will look into using the additional state database.*
- b) Are we identifying alluvial fans via aerial photos? We have limited budget to be able to do that, but we are using the FEMA database, which shows the alluvial fans.
- c) There are a lot of agricultural facilities, but they may not be providing any flood protection.
- d) CVAG is working on a new aerial photography/mapping of the area in 2013. They are looking for more agencies to provide funding for this valley-wide effort. Plan is to have 6" resolution. They can get elevation data with another contractor.
- e) Patti Reyes: As part of the IRWM process, we are encouraging Disadvantaged Community (DAC) involvement. Are there opportunities within the IRWM area to assist in identifying local flood areas in DAC areas? Note, as part of the IFM process, we do want to encourage multi-benefits with major factors being recharge/capturing of water and not just standard flood protection projects.
- f) There is not a weighting system on the benefits to the opportunities being identified. The benefits/scoring is just based on the number of multi-objective opportunities being identified.
- g) Some strategies (i.e. project benefits) may be in conflict with each other. One example is mosquito control vs. groundwater recharge (esp. underground). How is this addressed? We want to get this input so that we can identify potential concerns and adjust the strategies as appropriate.

## **5. Next Steps**

- a) Make today's presentation available online
- b) Identify next workshop date
- c) Send information request to stakeholders.

# Coachella Valley Integrated Regional Water Management Plan Update IFM Workshop # 2

Wednesday September 18, 2013  
10:00am – 12:00 pm

Coachella Valley Water District  
Training Room  
75-515 Hovley Lane East  
Palm Desert CA

## DRAFT NOTES

*Action items in italics*

### Attendance

Mike Gialdini, County of Riverside	Phenvana Panpradith, Cathedral City
Donald Raymond, County of Riverside – Transportation Dept.	Jerry Santillan, SCSD
Berlinda Blackburn, City of Coachella	Sarah Jimenez, Agua Caliente Band of Cahuilla Indians
Jim Sullivan, CVAG	David Tate, DWA
Jennifer Henke, Coachella Valley Mosquito and Vector Control District	William Meraz, GODWIN
Bill Enos, City of Rancho Mirage	Patti Reyes, CVWD
	Tesfaye Demissie, CVWD
	Rosalyn Prickett, RMC
	Bruce Phillips, PACE

### Agenda

#### 1. Introductions

Patti Reyes gave introductions for the five Coachella Valley Regional Water Management Group (CVRWVG) agencies. Introductions were made around the room.

#### 2. IFM Study Objectives and Benefits

Bruce Phillips presented an overview of the Coachella Valley's Integrated Regional Water Management (IRWM) efforts, noting that the original IRWM Plan was developed in 2010 and is currently being updated. As part of the Plan Update effort, the Integrated Flood Management (IFM) study is being developed to improve the understanding of IFM and increase competitiveness of flood projects. Mr. Phillips noted that the study is also being developed to meet the requirements in the 2012 IRWM Program Guidelines. He also stated that IFM would provide opportunity for flood and stormwater projects to participate in State grant funding, would engage watershed stakeholders, provide coordination between flood and water agencies, and promote watershed and land use planning.

### **3. Review of IFM Principles and Background**

Bruce Phillips provided a brief background on IFM.

### **4. Characterize Flood Problems/Flood Risk and Exposures**

Bruce Phillips presented the characterization of Coachella Valley flood hazards and exposure that was developed in the IFM study. These characterizations included existing and future flood risk, level of risks, sources of flooding, and priorities. This analysis was developed through spatial analysis using GIS overlays of data related to flood causes and predictors, the extent of flooding and damage, and potential flood management strategies.

### **5. Guidance for Planning IFM in the Coachella Valley**

The mapping analysis, which included pollutant sources, flood hazards, groundwater basins, habitat/wetlands, sensitive species, permeable soils, erosion hazards, debris/sediment production, and impaired water bodies, was used to characterize the Coachella Valley IRWM Region as it relates to flooding.

### **6. Applicable IFM Techniques to the Desert**

Bruce Phillips explained that the study considered which IFM techniques are applicable or feasible for a desert area such as the Coachella Valley IRWM Region.

### **7. Correlate Watershed Characteristics to IFM Measures**

Bruce Phillips explained how the IFM study correlated watershed characteristics to IFM measures. Using the East Valley's portion of the stormwater channel as an example, he presented how IFM could work.

The East Valley Storm Water Channel is narrow and roughness is high because of large trees. IFM would involve working with the Coachella Valley Association of Governments (CVAG) to expand channel width while retaining habitat benefits.

- For IFM Approach A (Increased floodplain infiltration) – Managers could increase the base width of the stormwater channel
- For IFM Approach F (Application of Low Impact Development (LID) techniques, Parks with flood storage areas) – Managers could develop Freedom Park with ground water recharge and LID
- For IFM Approach M (Retention/Detention Storage) – Managers could construct the Big Horn Detention Basin with a hidden outflow device to disguise it and help it blend into the surrounding environment

### **8. Mapping IFM Opportunities**

Combining the results of the mapping analysis with the correlated watershed characteristics and IFM measures allowed the IFM technical team to map IFM opportunities in the Region.

### **9. GIS Guidance Tool Planning IFM Measures Locations for the Coachella Valley Area**

IFM strategies were then considered in relation to these maps to provide guidance on IFM Planning for the Region. Areas of different IFM opportunities are geocoded, allowing planners to select project locations on the map, and see which IFM Opportunities may be feasible for that particular project area.

## 10. Stakeholder Funding Opportunities

A brief overview of potential IRWM funding opportunities was presented. Included was Proposition 84 Implementation grant funding, the success the Region has had in Rounds 1 and 2 of Proposition 84 grants, and the anticipated Round 3 application period in Fiscal Year 2014/2015. Stakeholders were encouraged to submit projects to the online Project database, available on the IRWM Program website ([www.cvrwmg.org](http://www.cvrwmg.org)).

## 11. Stakeholder Input

The workshop was opened to discussion to solicit stakeholder input. The discussion included:

- a) Stakeholders noted that Coachella Valley Mosquito and Vector Control (CVMVCD) should be included in the flood section.
  - Jennifer Henke, CVMVCD said that her group may have GIS maps of flood areas. CVMVCD focuses on standing water.
- b) It was noted that IRWM is working to reach out to land use planners to teach them about IFM and multiple benefits from coordinating water and land use planning.
- c) It was noted that IFM has been happening in the Region.
  - The CVAG Thousand Palms Project is coordinating with the Multiple Species Habitat Conservation Plan. There should be acknowledgement of these efforts and agencies in the IFM Study.
- d) The County has Emergency Management Zones in Sky Valley. New FEMA maps were produced 6 years ago.
  - Can we ask Riverside County Flood Control and Water Conservation District for update on layers?
  - Will follow-up with CVWD flood engineer
- e) Need to acknowledge that CVAG vegetation map is old and from the 1990's
- f) For the IFM examples that were presented for the East Valley's stormwater channel:
  - IFM Approach A:
    - Purchase land with floodplain
    - Morongo, CVMSHCP, Thousand Palms flood control project
    - USACE/CVWD has design plans (*Create a call-out box*)
    - Drainage of Torres-Martinez (Torres Canyon)
  - IFM Approach F:
    - Recreation opportunities in Salton City?
    - Natural washes (unimproved) breach with summer storms.
    - Interim IFM for DAC areas?
    - Levees and washes?
    - Erosion/slope stabilization.
    - Repeated spot flooding in Vandevere, North Shore, reported in disadvantaged communities mapping, Salton City.
    - Agricultural drains – as East Valley urbanizes, is drainage system maintained for reuse, or will it continue to the Salton Sea to support habitat?

- IFM Approach M:
  - Thousand Palms has a sand deposition area for fringe toed lizard. This slows water down, and leads to recharge

## **12. Next Steps**

- Bruce Phillips will provide the presentation to the CVRWMG, who will post it on the IRWM website ([www.cvrwmq.org](http://www.cvrwmq.org)).
- A new data page will be added to the IRWM Program website for IFM data
- The CVRWMG will review the IFM analysis prior to distribution of the final IFM report.
- There will be a closed CVRWMG meeting in October to discuss needs and projects with Salton City.



**Coachella Valley Integrated Regional Water Management Program**  
**Disadvantaged Communities Outreach Program**  
**Disadvantaged Communities Workshop #1**

**Thursday September 13, 2012**  
**10:00 a.m. – 12:00 p.m.**

**Coachella Valley Water District**  
**Training Facility**  
**75-515 Hovley Lane East**  
**Palm Desert, CA 92260**

**DRAFT NOTES**

*Italics denote action items.*

**Attendees:**

**Planning Partners**

Anna Aljabiry, DWR  
Phoebe Seaton, California Rural Legal Assistance Foundation  
Cristina Mendez, California Rural Legal Assistance Foundation  
Christina Mokhtarzadeh, Bureau of Indian Affairs Southern California Agency  
Elizabeth Versace, City of Desert Hot Springs  
Mike Gialdini, Supervisor Benoit  
Jennifer Henke, Coachella Valley Mosquito and Vector Control  
Anna Vargas, Poder Popular.  
Ellen Shimakawa, Cal State University, San Bernardino  
Robert Phalen, Cal State University, San Bernardino  
Phenvana Panpradith, City of Cathedral City  
Carrie McLeod, USDA  
Brian Sinclair, Loma Linda University

**CVRWVG**

Berlinda Blackburn, CWA  
Brian Macy, IWA  
Mark Krause, DWA  
Katie Ruark, DWA  
Patti Reyes, CVWD  
Michael Thornton, TKE  
Engineering on behalf of MSWD  
Roselyn Prickett, RMC  
Kathy Caldwell, RMC  
Crystal Mohr, RMC  
Leslie Dumas, RMC  
Daniel Cozad, IPM  
Diana Cozad, IPM

**Meeting Objectives:**

- A. Provide an overview of IRWM Planning and Coachella Valley specific IRWM Planning efforts
- B. Provide an overview of efforts completed to date and next steps
- C. Share/capture other relevant thoughts and ideas for future discussion

**Meeting Notes:**

**Welcome and Introductions**

Patti Reyes, Coachella Valley Water District (CVWD), welcomed the meeting attendees on behalf of the Coachella Valley Regional Water Management Group (CVRWVG), the five regional water suppliers in the Coachella Valley who are responsible for overseeing the Coachella Valley Integrated Regional Water Management (IRWM) Program.

Kathy Caldwell, RMC Water and Environment (RMC), provided an overview of the agenda and meeting objectives.

### **Overview of CV IRWM DAC Program**

Kathy Caldwell, RMC, provided an overview of the Disadvantaged Community (DAC) Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. One of the forms within the agenda packet is a letter and corresponding stakeholder form – Kathy encouraged all attendees to fill out the stakeholder form to assist in identifying issues and helping the team contact all relevant stakeholders.

### **Introduction to CV IRWM Planning**

Kathy Caldwell provided an overview of IRWM planning and DAC outreach efforts, noting that there are two distinct yet interwoven planning efforts being conducted. She explained that the first effort, the DAC Outreach Program has five main components:

- Completing directed outreach to DACs to create a database of stakeholders that are interested or involved in DAC-related issues.
- Identify where DAC populations are located within the Coachella Valley.
- Work with identified stakeholders and DAC populations to characterize issues faced by DACs.
- Work to identify DAC issues through the creation of projects that could potentially be funded with Proposition 84 (IRWM) funding.
- Coordinate DAC Outreach efforts with the larger IRWM planning effort.

Rosalyn Prickett, RMC, briefed the group on the State's IRWM program. She provided an overview of the history of IRWM planning in the State of California and in Coachella Valley, noting that the three goals of the State's IRWM Program are: develop long-term water supply reliability, improve water quality, and protect natural resources. The first Coachella Valley IRWM Plan was adopted in 2010 (available on [www.cvrwmg.org](http://www.cvrwmg.org)), which made the region eligible for Proposition 84 funding. In Round 1 of Proposition 84 funding, in 2011, the Coachella Valley was awarded \$4 million in grants.

The Coachella Valley IRWM Region generally follows the Whitewater River watershed, but also extends to encompass Salton City. The Coachella Valley IRWM planning efforts are led by the CVRWMG, which includes the Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, Indio Water Authority, and Mission Springs Water District.

Rosalyn provided an overview on the Coachella Valley IRWM Plan Update, which is a “sister effort” to the DAC Outreach Program. The Coachella Valley IRWM Plan Update will include six major efforts, including:

- Stakeholder Outreach
- Groundwater Quality Evaluation
- Salt and Nutrient Management
- Integrated Flood Management
- Groundwater Elevation Monitoring
- Comprehensively update the IRWM Plan

Rosalyn then explained that the Coachella Valley IRWM planning effort has always included outreach efforts and planning associated with DACs. Such efforts include the formation of a DAC Issues Group, identifying DAC-specific issues in the IRWM Plan, and awarding funds to two projects that provide benefits to DACs.

#### Questions/Comments

- Does the information provided regarding the amount of funding available to the Region include funds for Proposition 84 and Proposition 1E, or just Proposition 84?
  - There will be more information at the Planning Partners meeting. However, the amount of funding available to the Colorado River Funding Area in Round 2 of Proposition 84 (approximately \$5 million) only pertains to Proposition 84. Please remember that while there is more money available through Proposition 1E, those funds are competitive on a state-wide basis rather than competitive within the Colorado River Funding Area.
- With regards to the mapping, I have some questions about the scale and how this was completed.
  - There will be a detailed discussion of the DAC mapping later in the meeting.
- What is the range of the Salton Sea CSD? This jurisdiction is not delineated on the map provided of the Region.
  - We will update the figure to include the boundaries of the Salton Sea CSD.

#### **DAC Outreach Efforts and Planning**

Kathy Caldwell provided an overview of the DAC Outreach Program, which is a companion project to the IRWM Plan Update effort described previously by Rosalyn. Kathy noted that these efforts are closely coordinated with similar tasks. The primary difference is that the DAC Outreach Program focuses exclusively on DACs, while the IRWM Plan Update focuses on the entire IRWM Region. Kathy noted that there is a DAC Outreach Project tab on the CVRWGM website, please check the website for pertinent information.

Kathy explained that upcoming activities include use of mapping with GIS to identify and characterize smaller DAC areas and flood control needs. This work will be completed, in part, by non-profit organization(s) within Coachella Valley. One of the forms within the agenda packet is a form for non-profit organizations to fill out to express their interest in working on this task. Organizations must be registered as a 501(c)(3) organization to be eligible to participate in this task.

Kathy explained that, as will be discussed later in the meeting, the IRWM Program is currently soliciting projects for Round 2 of Proposition 84 funding. The DAC Outreach Program will assist this effort by helping to identify DAC issues and projects, as well as provide some engineering and planning support to help NGOs and organizations involving DACs develop projects that can be eligible and competitive for Proposition 84 funding.

Daniel Cozad, IPM, asked that any stakeholders who did not directly receive an invitation to the meeting please contact Diana Cozad to be added to the DAC Outreach Program stakeholder list.

#### **Initial DAC Characterization Maps/ Characterization mapping, 501C3 Participation Overview**

Daniel Cozad provided an overview on the initial DAC characterization maps, noting that the primary purpose of this exercise is to use Census and demographic data to try to better understand key issues in the Coachella Valley. This process of identifying key issues will help

the Region determine where it allocates resources (IRWM funding, etc.) For example, the focus for this effort is to locate DACs that are primarily not served by municipal water services – these are the areas that are more likely to experience critical water quality issues due to the use of untreated groundwater. The maps were produced with information from the U.S. Census, Tapestry Community Data (from ESRI), and the American Communities Survey.

Daniel noted that the purpose of the overview today is to discuss the maps that have been produced, and provide any feedback. Please feel free to be critical – we want to know if there are any errors in the information being presented or misperceptions about the way it is shown.

Daniel then walked the group through each map, describing what each map represents. He noted that the team started by analyzing information from DWR regarding the location of DACs in the Coachella Valley. It is notable that the DWR data is very different from the US Census and other data, indicating that the DWR data may not be accurate. Daniel also explained the tapestry profile maps, which are a tool to understand demographics within an area, and in particular to understand the economic purchasing power of various communities.

As indicated previously by Kathy, the next step in the mapping process is to take a closer look at the maps with support from local non-profit organizations. This work will begin very soon, as it needs to be completed in early 2013. If your organization is interested in participating in this process, please fill out a form and return it to Kathy Caldwell.

#### Questions/Comments

- Do the maps take into consideration metropolitan statistic overlays?
  - Yes, to a certain extent. We can consider this data source as we refine the maps.
- What do you mean by “closer look” when referring to the mapping exercise?
  - We mean refining the scale of the maps, and incorporating actual on-the-ground data collected by local entities.
- To clarify – does DWR consider Palm Springs to be a DAC?
  - Palm Springs does appear as a DAC in DWR’s data set. You will see that this area is largely not considered a DAC within the refined mapping using U.S. Census and other data.
- Can you please clarify the data source on each of the maps?
  - Yes.
- Suggest that you use US Department of Commerce data and the American Community Survey. Specifically, it would be helpful to look at USDA food stamp allocations, foreclosure rates, and unemployment. These factors help to characterize the Region’s economic status.
- It would also be good to look at areas with high rates of renters.
- Does DWR have a population minimum with regards to providing financial support to DACs? In other words, are there DAC projects that are too small to fund through the IRWM Program?
  - DWR does not have a set minimum value; however, each project included within the grant application needs to have a benefit: cost ratio that is greater than 1. In past evaluations we have found that very small communities that require very expensive infrastructure improvements cannot meet this benefit/cost ratio.

## **Groundwater Quality and Flood Risk Studies**

Leslie Dumas, RMC, provided an overview of the groundwater quality evaluation that is being conducted as part of the IRWM Plan Update. She noted that the current step of this evaluation is to identify “areas of concern.” Areas of concern include DACs that are not served by municipal water suppliers, and are therefore served by private groundwater wells. After these areas are identified, research will be conducted to try to determine groundwater quality and constituents or contaminants of primary concern within the areas of concern. Similar to the other IRWM planning efforts, this effort focuses on identifying key water quality issues associated with DACs – the identification of these issues will help determine how to allocate resources to critical DAC issues.

Any entity that has groundwater quality and quantity data can really help! If you have data, please send it to Leslie: [ldumas@rmcwater.com](mailto:ldumas@rmcwater.com).

### Questions/Comments

- Do you have the AB2020 Report?
  - Yes.
- Do you need surface hydrology studies?
  - Not necessarily, this study is focusing on groundwater. However, those would be useful for the IRWM Plan Update.
- It would be easier to provide data if you can first narrow down the areas where you need data. If you identify the areas of concern, CVWD can potentially provide groundwater quality data for those areas.

Kathy Caldwell provided an overview of the flood management study that is going to be conducted as part of the IRWM Plan Update and the DAC Outreach Program. She noted that this process is going to dovetail with the State’s Flood Futures report, which has not yet been released by DWR.

Although the Coachella Valley effort will dovetail with the state effort, through the Outreach Program the team is working to collect additional data from stakeholders regarding flooding and flood risks. If you have any data or information regarding flooding, please submit it to the team through the stakeholder form that is within the agenda packet.

## **Issue Identification and Project Development**

Kathy Caldwell explained that previous outreach efforts and current DAC-specific outreach efforts have led to the development of a preliminary list of DAC issues, including:

1. Cost of conversion to combined/advanced treatment or connection to sewer
2. Provision of quality water supply and wastewater services
3. Accurate DAC stakeholder data
4. Coordination between cities, tribes, county, and water agencies

The next steps are to expand upon the preliminary list of DAC issues, and create a robust list of DAC issues within the Coachella Valley. Those issues will lay the foundation for characterizing DAC issues, and will also guide development of potential projects that can be developed or implemented to address the issues.

Other next steps are associated with Round 2 of Proposition 84, for which the Region is currently accepting projects. If there are ready-to-go DAC projects, the Program will channel those projects to the IRWM Plan for consideration.

For future grant funding, the DAC Outreach Program is able to provide technical support to help develop project ideas into projects, or to provide some preliminary engineering or planning work that will assist organizations in developing projects that are competitive for IRWM grant funding.

#### Questions/Comments

- Do you know the status of the DAC project (the Short-Term Arsenic Treatment Project)?
  - Our understanding is that the project did face start-up funding issues, but that those issues have been resolved. CVWD is working to schedule a kick-off meeting with all project proponents.
- Can you please email out the project database information? Who do I contact if I need to change an existing project?
  - Contact Crystal Mohr: [cmohr@rmcwater.com](mailto:cmohr@rmcwater.com) or (858) 875-7421

#### **Next Steps**

Kathy Caldwell closed the meeting by thanking attendees, and informing them how to be involved in the DAC Outreach Program. She asked attendees to please contact an IPM or RMC team member with any additional questions. Kathy also encouraged attendees to stay for the Planning Partners meeting, which will begin at 1 p.m.

**Coachella Valley Integrated Regional Water Management Program**  
**Disadvantaged Communities Outreach Program**  
**Disadvantaged Communities Workshop #2**

**Thursday December 13, 2012**  
**10:00 a.m. – 12:00 p.m.**

**Coachella Valley Association of Governments**  
**Conference Room #115**  
**73-710 Fred Waring Drive**  
**Palm Desert, CA 92260**

**DRAFT NOTES**

*Italics denote action items.*

**Attendees:**

**Planning Partners**

Anna Aljabiry, DWR  
Sergio Carranza, Pueblo Unido Community Development Corporation  
Mike Gialdini, Supervisor Benoit  
Jennifer Henke, Coachella Valley Mosquito and Vector Control District  
Jacquelyn Gonzales, Cabazon Band of Mission Indians  
Debi Livesay, Torres Martinez Desert Cahuilla Indians  
Laura Massie, California Rural Legal Assistance  
Tim Roberts, Salton Community Services District  
Jon Rokke, Colorado River Basin Regional Water Quality Control Board  
Ryan Sinclair, Loma Linda University  
Thomas Weiler, Inland Congregations United for Change

**CVRWMG**

Berlinda Blackburn, CWA  
Sara Toyoda, IWA  
Mark Krause, DWA  
Katie Ruark, DWA  
David Tate, DWA  
Patti Reyes, CVWD  
Roselyn Prickett, RMC  
Randy Raines, RMC  
Kathy Caldwell, RMC  
Leslie Dumas, RMC  
Crystal Mohr, RMC  
Daniel Cozad, IPM

**Meeting Objectives:**

- A. Keep Participants Up-to-Date on the Coachella Valley DAC Outreach Program, including Updated Characterization Maps
- B. Provide an Overview of Non-Profit Contracting for the DAC Outreach Program
- C. Provide an Update on Groundwater Quality and Flood Risk Studies

**Meeting Notes:**

**Welcome and Introductions**

Patti Reyes, Coachella Valley Water District (CVWD), welcomed the meeting attendees on behalf of the Coachella Valley Regional Water Management Group (CVRWMG), the five regional water suppliers in the Coachella Valley who are responsible for overseeing the

Coachella Valley Integrated Regional Water Management (IRWM) Program and the DAC Outreach Program, which is a companion program to the IRWM Program.

Kathy Caldwell, RMC Water and Environment (RMC), provided an overview of the agenda and meeting objectives.

### **Overview and Status of Coachella Valley IRWM DAC Outreach**

Kathy Caldwell, RMC, provided an overview of the Disadvantaged Community (DAC) Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. The program is a pilot program that was designed to improve outreach to DACs with respect to the IRWM Program; as such, the DAC Outreach Program is considered a companion program to the IRWM Program.

### **Discuss Non-Profit Assistance for the DAC Outreach Program**

One component of the DAC Outreach Program will include hiring local non-profit organizations to provide on-the-ground support to the DAC Outreach Program. Local organizations will be hired to provide local expertise and knowledge on DAC issues. The non-profit organizations will provide support through three primary tasks: outreach, mapping, and a final report.

In September the DAC Outreach team distributed a form (which was also distributed online) to all stakeholders, which was intended to capture all potential non-profit partners interested in participating. Since that time, interviews were conducted and a preliminary selection has been made. The next step in this process will be to finalize contracts, and begin work in January of 2013.

The non-profit organizations will play a large role in refining DAC maps and helping to characterize the locations of DACs and their specific water-related issues. This will be done through ground-validating existing data through field work, and talking with members of the community.

### **Update on DAC Groundwater Quality Evaluation**

Leslie Dumas, RMC, provided an overview of the groundwater quality evaluation that is being conducted as part of the IRWM Plan Update. She noted that the current step of this evaluation is to identify “areas of concern” (AOC). Areas of concern include DACs that are not served by municipal water suppliers, and are located in areas where the groundwater quality is known to exceed maximum contaminant levels (MCLs). Information available from the Coachella Valley water purveyors as well as publically available state and federal data has allowed the technical team to identify areas of concern as well as constituents of concern in those areas. The data that was analyzed shows that there are four primary constituents of concern: arsenic, fluoride, nitrate, and uranium. The next step in the analysis is to determine potential solutions for addressing the various constituents. According to information from the EPA, membrane separation (which includes reverse osmosis), is the best available technology for addressing each constituent potentially present in local groundwater basins. Future steps in this process will involve a data gap analysis to determine more information that may be useful such as the exact location of wells, the volume of water being pumped and used, and a confirmation of water quality at each well. Following the data gap analysis, the technical team will develop an outline for a monitoring program that can potentially be implemented to address identified data gaps and other outcomes from the planning study.



## Questions/Comments

- A lot of DACs use drinking water that is not reported at all, because it is not regulated. Is there any attempt to describe groundwater quality in those areas?
  - Yes, we have put out requests for additional data, especially at the Federal-level. We do have some data for those areas, because the government has some monitoring wells within proximity to private groundwater wells.
- Does this assessment take into consideration new or anticipated MCLs?
  - No, this assessment only considered existing MCLs.
- How is “community” defined? Is there a threshold for how many people are needed to define a community?
  - This is a good question – we will look into the SWRCB document titled, “Communities that Rely on Contaminated Groundwater” to see if they specify a population threshold.
- There is a gap between AOC 2 and AOC 4 – is this because of a lack of data? There are arsenic-related groundwater quality issues there.
  - Yes, this is due to a lack of groundwater quality data for that area. We will expand the area to ensure that this entire area is covered, and also do additional research to see if we can find data for that area.
- Mike Gialdini from Supervisor Benoit’s office can potentially get data from the Bureau of Indian Affairs (BIA) for the area that is missing between AOC 2 and AOC 4. Supervisor Benoit’s office has been working with BIA and other federal agencies to obtain such data.
- The Regional Board also has a Study Group that is looking into gathering data throughout the Coachella Valley, and potentially has groundwater quality data for the Region.
- There are serious groundwater quality issues in the East Valley due to previous activities that involved dumping of sludge from the San Diego Bay. The Department of Toxic Substances Control (DTSC) used to monitor this area, but they no longer monitor it because the site no longer accepts hazardous waste.
- Please note that in areas where there is an aquitard, monitoring wells generally only measure above the aquitard and do not monitor low-level groundwater. It is important to note the quality associated with the depth of groundwater, because, in this same area (East Valley), the Coachella Valley Water District has deep groundwater wells, and the groundwater system in this area is healthy. Also, CVWD offers groundwater quality testing, and can be of assistance in this regard.
- Sergio Carranza from PUCDC can provide water quality data from mobile home park sampling, which has been conducted with CVWD.
  - *Patti Reyes will look into whether or not CVWD maintains a database of their groundwater quality data.*
- Work conducted by PUCDC demonstrates that reverse osmosis systems are able to remove approximately 90% of arsenic from the groundwater, indicating that these systems are very effective.
- As a potential treatment alternative, please consider suggesting drilling deeper wells rather than only installing on-site treatment systems.

- Please add “reverse osmosis” into the “Membrane Separation” column in the assessment – this will make it clear to folks what is meant as reverse osmosis is much more familiar than membrane separation.
- We know that mobile home parks and other communities in the East Valley tend to be under-counted in the US Census data – have you considered using other data sources?
  - This is the primary purpose of the non-profit contracting: to ground-truth existing data (such as Census data) with real on-the-ground data.
- The County of Riverside has a database of all permitted mobile home parks, and also has information about those on the way to become permitted. Contact Mike Gialdini for this information, which is available through the County’s Code Enforcement department.

Kathy Caldwell then provided an overview of a draft survey, which would be conducted by the non-profit partners as part of the DAC Groundwater Quality Evaluation. Ms. Caldwell provided an overview of the survey questions, then asked if there were any comments or suggestions.

#### Questions/Comments

- You need to make sure to talk with Tribal Council before conducting these surveys on tribal lands. Also, you should make sure that you are conducting the survey with someone who would be trusted by tribal members, or you will not likely have people respond.
- The same is true across the East Valley mobile home parks. You need to be very careful about how you approach people, or they will not be likely to respond. Make sure that you know somebody such as the mobile home park owner or a resident – this will help establish trust and increase the likeliness that people will talk to you. Also, be aware that residents have a history of not reporting issues because they are afraid of retaliation – this may deter people from providing honest answers to the survey questions.
- In general, the promotores must have trust and established relationships in the community in order to be effective.
- Consider explaining to tenants and community members that in order to develop long-term solutions, we must first fully understand the problem.
- Are there any plans to have the survey reviewed by the Humans Ethics Commission or other party that would evaluate the survey? If being conducted through Loma Linda University, the survey would likely need to be funneled through the Institutional Review Board.
- Residents may not have information about contamination, but they will know about things onsite such as flooding or if the septic tanks fail or overflow. Consider asking these more simple questions to infer information about contamination, etc.

#### **Presentation of Updated DAC Characterization Maps**

Daniel Cozad provided an overview on the initial DAC characterization maps, noting that the primary purpose of this exercise is to use Census and demographic data to try to better understand key issues in the Coachella Valley. The maps have been updated since the previous DAC Workshop in order to take into consideration comments that were received, and provide additional detailed maps about specific DAC areas.

Daniel then walked the group through each map, describing what each map represents. He noted that there are 14 discrete DAC areas in the Coachella Valley, which have been mapped at a more refined level. He asked the group if there is any information or feedback, noting that

everything, including what the communities are called, needs to be vetted through stakeholders to ensure that the maps are accurate and cognizant of local issues, etc.

#### Questions/Comments

- While the MHI is a good indicator, it would likely be more useful to look at the poverty level. Poverty level, which takes into consideration household size, is a better indicator. For example, in the Coachella Valley population and household size tend to increase towards the south and east – this means that the poverty level is generally higher in those areas, where a similar income is used to provide for a larger family. For example, a retired couple who earns \$40,000 per year is at a much higher poverty level than a family of six who lives off the same income.
- It is possible that polanco parks exist in the tapestry areas classified as “Top Rung”, which in many cases are agricultural lands.
- Agricultural wells, which were not intended for drinking water purposes may be used by polanco parks. These wells are often shallow and have groundwater quality issues.

#### **Next Steps**

Kathy Caldwell closed the meeting by thanking attendees, and informing them how to be involved in the DAC Outreach Program. She asked attendees to please contact an IPM or RMC team member with any additional questions. Kathy also encouraged attendees to stay for the Planning Partners meeting, which will begin at 1 p.m.

# Coachella Valley Disadvantaged Community (DAC) Outreach Program Community Water Workshop – Eastern Coachella Valley

Tuesday June 18<sup>th</sup>, 2013  
5:00 p.m. – 7:00 p.m.

San Jose Community and Learning Center  
69455 Pierce Street  
Thermal, CA 92274

## Notes

*Italics denote action items*

### Meeting Notes:

#### Welcome and Introductions

Matthew Doyle, President of the San Jose Community and Learning Center (Center), welcomed the meeting attendees to the Center. He stated that this workshop was the first to be held in the Center, a new facility for the eastern Coachella Valley, which will provide important resources to the community. Sister Gabriella Williams, Director of Programs for the Center, also welcomed the group and thanked Sergio Carranza, Executive Director of Pueblo Unido Community Development Corporation (PUCDC) for organizing the meeting.

Kathy Caldwell, RMC Water and Environment (RMC), provided an overview of the agenda and meeting objectives.

#### Background and Purpose of DAC Outreach Project

Kathy Caldwell, RMC, provided an overview of the Disadvantaged Community (DAC) Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. Ms. Caldwell explained that the DAC Outreach Program is a companion program to the Integrated Regional Water Management (IRWM) Program that has been active in the Coachella Valley since 2009.

Kathy Caldwell provided an overview of IRWM planning and DAC outreach efforts, noting that there are two distinct yet interwoven planning efforts being conducted. She explained that the first effort, the DAC Outreach Program has five main components:

- Completing directed outreach to DACs to create a database of stakeholders that are interested or involved in DAC-related issues.
- Identify where DAC populations are located within the Coachella Valley.
- Work with identified stakeholders and DAC populations to characterize issues faced by DACs.
- Work to identify DAC issues through the creation of projects that could potentially be funded with Proposition 84 (IRWM) funding.

- Coordinate DAC Outreach efforts with the larger IRWM planning effort.

Kathy Caldwell then briefed the group on the overall IRWM program. She provided an overview of the history of IRWM planning in the State of California and in Coachella Valley, noting that the three goals of the State's IRWM Program are: develop long-term water supply reliability, improve water quality, and protect natural resources. The first Coachella Valley IRWM Plan was adopted in 2010 (available on [www.cvrwmq.org](http://www.cvrwmq.org)), which made the region eligible for Proposition 84 funding. In Round 1 of Proposition 84 funding, in 2011, the Coachella Valley was awarded \$4 million in grants. The Coachella Valley IRWM Region generally follows the Whitewater River watershed, but also extends to encompass Salton City. The Coachella Valley IRWM planning efforts are led by the Coachella Valley Regional Water Management Group (CVRWMG), which includes the Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, Indio Water Authority, and Mission Springs Water District.

### **DAC Mapping and Surveying Approach**

Dr. Ryan Sinclair, Loma Linda University (LLU) provided an overview on the DAC mapping and surveying, which was conducted as part of the DAC Outreach Program. Dr. Sinclair explained that the purpose of this exercise was to more clearly define where the DACs are located throughout the Coachella Valley, and to conduct a survey of residents to understand their issues pertaining to water management. This portion of the program was conducted by LLU and two local non-profit organizations: El Sol Neighborhood Educational Center (El Sol) and PUCDC.

As of the East Valley Workshop, the survey team had completed 196 surveys in the West Valley and over 150 surveys in the East Valley. Dr. Sinclair explained that surveys were conducted by groups containing LLU students and promoters from El Sol and PUCDC. To-date, the group has gathered a lot of very useful information pertaining to the location of DACs and to water-related issues that are faced by DACs. The team will continue to finish surveys in the East Valley, and will have the data ready to present to stakeholders in September of 2013.

### **Community Mapping Exercise**

Dr. Ryan Sinclair then asked meeting attendees to participate in a brief mapping exercise. Meeting attendees had already been grouped into tables according to where they live, and would be completing the exercise with their designated group. During this exercise, attendees would be given a large piece of paper and asked to draw a localized community (apartment or mobile home park) where they live. In the drawing, they were asked to color-code information as follows:

- Black Ink would indicate functioning infrastructure such as roads and buildings.
- Blue ink would indicate resources such as groundwater wells and lagoons.
- Red ink would indicate challenges and issues.

The groups were given the appropriate materials and asked to draw their communities. Once drawings were completed, a representative from each group gave a presentation of their drawing. Below is a summary of each drawing as presented by meeting attendees:

#### **1. Oasis: Oasis Mobile Home Park**

- Map shows the Oasis Mobile Home Park (infrastructure) and septic systems (black).
- Map shows a wastewater lagoon that was shut down by the government (red).
- Red ink in the street shows where wastewater (black water) from the septic systems leaks into the streets.

## Draft Notes

### Eastern Workshop – June 18, 2013

- The map also shows that the red area (leaking wastewater) is in very close proximity to the mobile home parks and to the groundwater well. There is concern that the black water contaminates the park's drinking water well.
  - Red ink in the corner of the mobile home park shows an area where trash is illegally dumped. There is concern about the proximity of the trash pile to the groundwater well, and potential contamination.
  - Red ink in the streets also indicates flooding, which happens when it rains. Flooding also causes issues with access – when it rains the ground erodes (the roads and ground are not paved), and cars cannot access the park.
  - The group indicated that the conditions described for this park also apply to two other neighboring mobile home parks: La Cienega and Rancho los Ferros
2. Mecca: Lake St. Anthony Mobile Home Park
- Map shows the Lake St. Anthony Mobile Home Park (black ink), which has about 92 units.
  - Map shows wastewater lagoons, which are very close to the mobile home park units.
  - Map shows (red ink) flooding that covers almost the entire park. The flooding also causes access issues as the entire park is un-paved. Access issues here are severe as the school bus has access issues when picking up children for school. This forces children to wait for the bus along Highway 111, which is very dangerous.
  - Map shows red ink throughout the park as an indicator of electricity issues.
  - The mobile home park has blue ink (resources) associated with a water well that is being connected by PUCDC.
3. Pierce: Avenue 69 Mobile Home Park
- Map shows the Avenue 69 Mobile Home Park (black ink).
  - Map shows septic system issues, as black water comes up from the systems.
  - Map shows severe flooding issues, which cause access issues. When there is a severe rain and flooding, no cars (even emergency vehicles) can access the park.
  - Map shows a pile of rocks that spontaneously ignites – some residents believe due to satanic activity. Others believe that this is a dump site that has burning trash beneath the rocks.
4. Indio: Sunbird Mobile Home Park
- Map shows the Sunbird Mobile Home Park (black ink) along Highway 86.
  - Map shows (red ink) overflowing septic tanks in the area.
  - Map shows (red ink) wastewater lagoons from Valley Sanitary District, which present odor issues to residents.
  - Map also shows that residents in the area, especially children, suffer from asthma and other health issues.
5. West Thermal: Harrison/Avenue 66 Mobile Home Park
- Map shows that there is a need for drinking water and sewer infrastructure.

## Draft Notes

### Eastern Workshop – June 18, 2013

- Map shows that there are no recreational facilities (playground, etc.) for the children.
- Map shows that there is no paving or electricity. Both of these things cause safety issues as children play outside in the dark at night and may be hit by cars. Additionally, the paving issue presents access issues as others have mentioned.

Kathy Caldwell thanked each group for their input, and explained that the next step of the exercise would be to discuss potential solutions to each of the issues that were raised by the groups. Ms. Caldwell explained that part of the DAC Outreach Program includes limited funding to complete design and engineering for a few projects. The design and engineering work will develop projects to the necessary level to be competitive for IRWM funding or other funding sources. On this topic, Ms. Caldwell noted that the meeting packet included a form for stakeholders to fill out to further articulate potential projects to be considered for funding.

Below is a summary of the potential solutions that were discussed for each of the five mobile home parks described above:

#### 1. Oasis: Oasis Mobile Home Park

- Residents believe that there is an organizational issue – help is needed to organize the community. The current issues are extreme, and need a lot of help.
- Another issue is that this park is on tribal land – residents are concerned that this will impact what can be done.
- Residents think that the government should come fix conditions in the community. There is not enough money for basic infrastructure in this community, although it seems like the government has money available for other things.
- A mobile home park owner in the area was present at the meeting, and stated that they would be open to making infrastructure improvements.

#### 2. Mecca: Lake St. Anthony Mobile Home Park

- Residents believe that full-scale infrastructure: connection to the water and sewer system, electrical upgrades, and pavement are necessary.
- In the short-term, the park has point-of-use reverse osmosis systems installed by PUCDC to resolve drinking water issues.

#### 3. Pierce: Avenue 69 Mobile Home Park

- Residents see paving as the primary issue and the most pressing issue. Flooding and erosion are the biggest issues.
- Residents see the overflowing septic systems as the second-largest issue, but do not know how to resolve this issue.

#### 4. Indio: Sunbird Mobile Home Park

- Residents believe that the best solution would be to connect to the local sewer system, and to put in internal piping systems in place of the wastewater lagoons.
- Residents see the need to purchase bottled water as the biggest issue: the water is not safe to drink.
- Residents believe that detention basins on the property could be used to hold flood flows.

## Draft Notes

### Eastern Workshop – June 18, 2013

- Issues are considered severe, and believe that relocation (such as what happened with the Duroville residents) would be a last resort, but is an option.
5. West Thermal: Harrison/Avenue 66 Mobile Home Park
- Potable water is seen as the largest issue in this mobile home park. Overflowing septic systems is the second issue.
  - Residents are unaware of potential solutions, but believe that governmental intervention is required.

### Questions and Comments

Kathy Caldwell thanked each group for their input, and invited all meeting attendees to ask any questions or make any comments. Below is an overview of the questions and comments received and answers (*in italics*).

- If we were interested in getting money for preliminary design and engineering, who would we meet with?
  - *The first step will be to synthesize the information received at the meeting. Please fill out a project concept form for consideration, and contact Kathy Caldwell with any additional questions.*
- What system will be used to determine who is helped (what projects are selected)?
  - *The project team will develop a set of criteria, which will be applied to all projects equally.*
- What will happen with mobile home parks on tribal lands? Can they get help too?
  - *Tribal lands to present unique jurisdictional challenges, but this does not mean that no help is available. Federal funding may be the most appropriate for projects on tribal lands. The biggest issue would be to find a sponsor, and make sure that tribal land owners will agree to the project on their land.*
- Can we have our water tested to make sure it is safe?
  - *If you are located within the Coachella Valley Water District, you can call and have your water tested. There are pamphlets (in English and Spanish) on the back table with the necessary information.*

### Next Steps

Kathy Caldwell thanked everyone for attending the meeting. She noted that there will be another workshop in the West Valley on June 20<sup>th</sup>. Information for that meeting is:

- **DATE:** June 20<sup>th</sup>, 2013
- **TIME:** 5 p.m. - 7 p.m.
- **LOCATION:**  
DHS Family Resource Center (in the Kmart shopping center)  
14201 Palm Drive Suite 108  
Desert Hot Springs, CA

There will be another meeting on September 12<sup>th</sup> (location TBD) – please give us your contact information, and we will send you the details. Any questions, please contact Kathy Caldwell: [kcaldwell@rmcwater.com](mailto:kcaldwell@rmcwater.com) or (310) 566-6460.



# Coachella Valley Disadvantaged Community (DAC) Outreach Program Community Water Workshop – Western Coachella Valley

Thursday June 20<sup>th</sup>, 2013  
5:00 p.m. – 7:00 p.m.

DHS Family Resource Center  
14201 Palm Drive, Suite 108  
Desert Hot Springs, CA

## Notes

*Italics denote action items*

### Meeting Notes:

#### Welcome and Introductions

Larry Singh, Director of the DHS Family Resource Center, welcomed the meeting attendees to the Center. He thanked Susie del Toro of El Sol Neighborhood Educational Center (El Sol) for putting the meeting together. John Soulliere of Mission Springs Water District (MSWD) also thanked meeting attendees and organizers for coming and for dedicating their evening to discuss important water-related issues in the West Valley.

Kathy Caldwell, RMC Water and Environment (RMC), provided an overview of the agenda and meeting objectives.

#### Background and Purpose of DAC Outreach Project

Kathy Caldwell, RMC, provided an overview of the Disadvantaged Community (DAC) Outreach Program. The purpose of this program is to expand upon previous DAC outreach to target individuals and groups representing DAC issues, and to also engage members of DAC community in order to frame and articulate water management issues facing DACs. Ms. Caldwell explained that the DAC Outreach Program is a companion program to the Integrated Regional Water Management (IRWM) Program that has been active in the Coachella Valley since 2009.

Kathy Caldwell provided an overview of IRWM planning and DAC outreach efforts, noting that there are two distinct yet interwoven planning efforts being conducted. She explained that the first effort, the DAC Outreach Program has five main components:

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- Work to identify DAC issues through the creation of projects that could potentially be funded with Proposition 84 (IRWM) funding.
- Coordinate DAC Outreach efforts with the larger IRWM planning effort.

Kathy Caldwell then briefed the group on the overall IRWM program. She provided an overview of the history of IRWM planning in the State of California and in Coachella Valley, noting that the three goals of the State's IRWM Program are: develop long-term water supply reliability, improve water quality, and protect natural resources. The first Coachella Valley IRWM Plan was adopted in 2010 (available on [www.cvrwmg.org](http://www.cvrwmg.org)), which made the region eligible for Proposition 84 funding. In Round 1 of Proposition 84 funding, in 2011, the Coachella Valley was awarded \$4 million in grants. The Coachella Valley IRWM Region generally follows the Whitewater River watershed, but also extends to encompass Salton City. The Coachella Valley IRWM planning efforts are led by the Coachella Valley Regional Water Management Group (CVRWVG), which includes the Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, Indio Water Authority, and Mission Springs Water District.

### **DAC Mapping and Surveying Approach**

Dr. Ryan Sinclair, Loma Linda University (LLU) provided an overview on the DAC mapping and surveying, which was conducted as part of the DAC Outreach Program. Dr. Sinclair explained that the purpose of this exercise was to more clearly define where the DACs are located throughout the Coachella Valley, and to conduct a survey of residents to understand their issues pertaining to water management. This portion of the program was conducted by LLU and two local non-profit organizations: El Sol Neighborhood Educational Center (El Sol) and PUCDC.

As of the East Valley Workshop, the survey team had completed 196 surveys in the West Valley and over 150 surveys in the East Valley. Dr. Sinclair explained that surveys were conducted by groups containing LLU students and promoters from El Sol and PUCDC. To-date, the group has gathered a lot of very useful information pertaining to the location of DACs and to water-related issues that are faced by DACs. The team will continue to finish surveys in the East Valley, and will have the data ready to present to stakeholders in September of 2013.

### **Community Mapping Exercise**

Dr. Ryan Sinclair then asked meeting attendees to participate in a brief mapping exercise. Meeting attendees had already been grouped into tables according to where they live, and would be completing the exercise with their designated group. During this exercise, attendees would be given a large piece of paper and asked to draw a localized community (apartment or mobile home park) where they live. In the drawing, they were asked to color-code information as follows:

- Black Ink would indicate functioning infrastructure such as roads and buildings.
- Blue ink would indicate resources such as groundwater wells and lagoons.
- Red ink would indicate challenges and issues.

The groups were given the appropriate materials and asked to draw their communities. Once drawings were completed, a representative from each group gave a presentation of their drawing. Below is a summary of each drawing as presented by meeting attendees:

#### 1. Corkill Park, Mobile Home Park

- Map shows that septic tanks (overflowing) are the biggest issue in this community.
- This is a large park, with approximately 150 units
- Septic tanks in the middle of the park overflow into the streets and into houses.
- There are basic issues associated with water and electricity: at times water pressure is very low, and there is no electricity.

## Draft Notes

### Western Workshop – June 20, 2013

- The entire park has issues with pine trees – the roots push into the pipes and break them. The pine needles get caught in ditches and cause flood problems.
- This mobile home park has lack of basic infrastructure, and residents do not feel that it is safe. There are particular safety issues associated with the lack of electricity – it is not safe for children to play at night.

#### 2. Palm Drive Mobile Estates, Mobile Home Park

- This is a large park, with approximately 100 units
- The park has many infrastructure issues, and is not well-kept.
- There are issues with trees that push up the concrete and break pipes. Residents were told (by mobile home park owner) that they would need to pay to remove them.
- The power lines in the park are loose, and can break. It is also not safe for children to play here at night.
- There are other issues associated with animals – dogs and cats. There are cats everywhere, and they are dirty. There are dogs that people do not pick up after, and it is not pleasant to residents.
- Many people have issues associated with septic system overflows into the yards, or backing up into the homes.
- When it rains, water gathers and pools on the property and there are mosquitoes.
- The residents have expensive water bills, and wonder if the water is safe to drink. The community experienced un-notified water shut-offs, sometimes for days.
- Residents believe that this park is located within the City of Desert Hot Springs.

#### 3. El Sol

- The El Sol organization provided a presentation on West Valley issues and potential solutions.
- They noted that one major concern is education regarding what can go down the drain – especially cooking oil. Many residents are not aware that this will destroy their septic systems.
- They also noted that there are many resources available, and El Sol is here to work with residents to resolve issues!

Kathy Caldwell thanked each group for their input, and explained that the next step of the exercise would be to discuss potential solutions to each of the issues that were raised by the groups. Ms. Caldwell explained that part of the DAC Outreach Program includes limited funding to complete design and engineering for a few projects. The design and engineering work will develop projects to the necessary level to be competitive for IRWM funding or other funding sources. On this topic, Ms. Caldwell noted that the meeting packet included a form for stakeholders to fill out to further articulate potential projects to be considered for funding.

Below is a summary of the potential solutions that were discussed for issues brought up during the meeting.

- For the issue of septic systems:
  - Residents would like regular maintenance and inspections to determine the issues. They do not know why there are regular overflows. Is it roots? Behavior? Unmaintained systems? Under capacity?

## Draft Notes

Western Workshop – June 20, 2013

- For the issue of flooding:
  - Residents note that detention infrastructure is necessary. Some noted that there are detention basins on-site, but in bad locations (such as at the park entrance).
  - There is an issue with mosquitoes in the detention basins, so residents do not always like this option.
- For the issue of drinking water:
  - Residents do not believe that their water is safe to drink, and do not know if they are served water from a municipal provider. Residents want their water tested by the government.
  - MSWD noted that there are some concerns with testing. MSWD assures that water going into the park (at the master meter) is clean. The mobile home parks have internal infrastructure (piping) that may be compromised and could be contaminated.
  - It was also noted that mobile home park owners must agree to the testing before the agencies can do this work.

## Questions and Comments

Kathy Caldwell thanked each group for their input, and invited all meeting attendees to ask any questions or make any comments. Below is an overview of the questions and comments received and answers (*in italics*).

- In general it seems like government agencies should be able to help. These are permitted mobile home parks – if there is wastewater leaking in the streets and the water is not clean, then there are code violations that should be addressed.
  - *The projects could include educational materials about who to contact and how to contact the proper government officials.*
- Who can residents go to? Who would be enforcing these codes?
  - *Likely the City of Desert Hot Springs and the County of Riverside, depending upon where you live.*
- There is some concern about this code violation reporting. Must recognize that some of the municipalities simply come in and shut down parks once violations are reported – then residents lose their homes! Also, there is concern that the mobile home park owners will illegally try to push off costs for operations and maintenance to the residents.
  - *We can include all of this in the educational materials – thank you.*
- Why doesn't someone check up on this? Why do we have to go to them to report?
  - *We cannot answer the specifics of code enforcement for the municipalities, but in general they are experiencing staffing issues.*

## Next Steps

Kathy Caldwell thanked everyone for attending the meeting. She noted that there will be another meeting on September 12<sup>th</sup> (location TBD) – please give us your contact information, and we will send you the details. Any questions, please contact Kathy Caldwell: [kcaldwell@rmcwater.com](mailto:kcaldwell@rmcwater.com) or (310) 566-6460.

# Coachella Valley Integrated Regional Water Management Program

## Disadvantaged Communities Workshop #5

Wednesday, November 6, 2013  
10:00 AM – 12:00 PM

Coachella Valley Water District  
Training Room  
75-515 Hovley Lane East  
Palm Desert, CA 92211

### DRAFT NOTES

*Italics denote action items.*

#### Attendees:

##### Stakeholders

Melissa Sparks, DWR  
Evon Willhoff, DWR  
Jim Schmitt, Coachella Valley Engineers  
Jacky Gonzales, Cabazon Band of Mission Indians  
Margaret Park, Agua-Caliente Band of Cahuilla Indians  
Mike Gialdini, Supervisor Benoit  
Leticia DeLara, Supervisor Benoit  
Dale Schafer, Imperial DAC CCOP  
Sergio Carranza, Pueblo Unido CDC  
Rodolfo Piñon, Pueblo Unido CDC  
Carrie McLeod, USDA Rural Development  
Michele Hassen, Leadership Counsel  
Phoebe Seaton, Leadership Counsel  
Laura Massie, California Rural Legal Assistance  
Frank Kopcinski, California Rural Legal Assistance  
Tim Roberts, SCSD  
Jerry Rowling, Borrego Water District  
Cynthia Manna, Imperial Valley Economic Development Corporation (IVEDC)  
Robert Wilkinson, La Quinta Rotary  
Jennifer Henke, Coachella Valley Mosquito and Vector Control District (CVMVCD)  
Ryan Sinclair, Loma Linda University  
Jaime Lopez, Loma Linda University  
Susie del Toro, El Sol Neighborhood Educational Center  
Maria Elena Kennedy, DAC Representative  
Jim Sullivan, Coachella Valley Association of Governments

##### CVRWMG

Berlinda Blackburn, CWA  
Castulo R. Estrada, CWA  
Sara Toyoda, IWA  
Mark Johnson, CVWD  
Patti Reyes, CVWD  
Mark Krause, DWA  
David Tate, DWA  
John Soulliere, MSWD  
Rosalyn Prickett, RMC  
Kathy Caldwell, RMC  
Leslie Dumas, RMC  
Crystal Mohr, RMC  
Sally Johnson, RMC  
Daniel Cozad, IPM  
Diana Cozad, IPM

## **Meeting Objectives:**

- A. Provide an overview of the DAC Outreach Program and IRWM Program
- B. Describe DAC outreach, surveying, and issue identification
- C. Review four projects developed through program
- D. Review accomplishments

## **Meeting Notes:**

### **Welcome and Introductions**

Patti Reyes, Coachella Valley Water District (CVWD), welcomed workshop attendees on behalf of the Coachella Valley Regional Water Management Group (CVRWWMG), the five regional water suppliers in the Coachella Valley who are responsible for overseeing the Coachella Valley Integrated Regional Water Management (IRWM) Program. The group did self-introductions.

### **General Background on IRWM Planning**

Kathy Caldwell, RMC, provided an overview of Integrated Regional Water Management (IRWM) Planning and the Coachella Valley IRWM Program. Ms. Caldwell also provided a brief overview of the workshop agenda and objectives, noting that the focus of this workshop was the Disadvantaged Communities (DAC) Outreach Program.

### **Coachella Valley DAC Outreach Program Efforts**

Kathy Caldwell provided a brief overview of the Coachella Valley DAC Outreach Program. Ms. Caldwell explained that this was a sister program to the Coachella Valley IRWM Program, and funded through a separate grant from the California Department of Water Resources (DWR). The goals of the program were to expand upon previous DAC outreach conducted by the region, identify DACs that were overlooked by previous methods (such as small pockets of areas that are DAC) and to engage DACs to help identify priority water management issues and develop projects to address critical needs. She noted that two workshops were held in June 2013, with the support of local non-profits with existing relationships with area DACs, proved to be very successful.

Daniel Cozad, IPM, presented the DAC Outreach Program by reviewing past DAC outreach in the Coachella Valley IRWM region, noting that DAC outreach has been occurring in the region since before the formal foundation of the Coachella Valley IRWM program. He explained that the DAC Outreach Program sought to expand on these efforts, and used new techniques such as a “marketing style” database, bilingual outreach materials and door hangers distributed directly to residences to reach a greater number of stakeholders. Ms. Caldwell highlighted the important role of the CVRWWMG’s partnership with local non-profits in successfully reaching DACs in the region.

Ryan Sinclair, Loma Linda University, presented the DAC Survey and Mapping project. He explained that the surveying process used trained students and “promotores” to conduct surveys in areas that were identified as DACs, as well as areas selected by El Sol Neighborhood Educational Center (El Sol) and Pueblo Unido Community Development Corporation (PUCDC), two local non-profits that work regularly with DACs in the region. Mr. Sinclair introduced Susie del Toro, from El Sol, and Sergio Carranza, from PUCDC.

Ms. Del Toro explained that the survey efforts were successful because the promotores were trusted by the community because of past work of the promotores. She stated that they received a lot of feedback and were happy and surprised to find that people wanted to help find solutions for their water issues. Ms. del Toro also expressed surprise over the findings of which people do

not drink their tap water, even if it was safe to drink. She noted that some communities are far from cities and services, making it difficult to provide services to them, and to be aware of their existence and needs. She noted that the communities really opened up to the surveyors, and that a number of people contacted El Sol for assistance following the survey efforts.

### Questions/Comments

- What are promotores?
  - Promotores are community health workers who are recruited from the communities in which they work. Promotores are trained for specific programs and education efforts. El Sol recruits and trains these promotores, and provides services in homes, schools, and churches, among other community areas, but primarily provides services to people where they are, rather than having people come to them for El Sol's services.
  - Ms. Reyes added that the promotores model is used by many non-profits (especially Latino non-profits) and that the Coachella Valley IRWM program benefitted from using the existing system and promotores program.
  - Ms. del Toro noted that the promotores program is expanding.
  - Mr. Sinclair added that Loma Linda University has a training program with El Sol.

Mr. Carranza explained that PUCDC works primarily in the East Valley. He said that the DAC Outreach Program was the first opportunity to expose the reality of the needs of the East Valley. Mr. Carranza stressed that this was only possible because of the non-profits' existing relationships with communities. PUCDC's community base is Polanco parks, approximately 30 parks with a total of 3,000 to 5,000 residents. Mr. Carranza said that the residents of these communities have a good understanding of their critical issues, and stated that the Short-Term Arsenic Treatment Program (funded under a Proposition 84 Round 1 Implementation grant) has been successful because the residents PUCDC serves identified arsenic as an issue. Mr. Carranza continued by explaining that efforts to find solutions began with feedback from the community, followed by interactive exchanges of ideas and information, which leads to the formulation of potential and viable solutions. Information was documented by the survey, and accessible. The workshops held in June were successful and allowed communities to identify their top issues and priorities. Overall, Mr. Carranza noted that communities were optimistic. He said that this was the largest outreach program and that the survey was very comprehensive. Some of the challenges to past outreach are that Polanco parks are dispersed and not well documented, and residents may perceive surveys as a threat to their community due to history of problems associated with having identified park issues. Agencies need to use the networks and relationships that local non-profits have with these parks just to find them and to let them know that surveyors will be visiting and do not pose a threat to their continued residence in the parks or a threat to the park's existence. Mr. Carranza explained that the combination of promotores with Polanco park leadership led to the success of the survey process and explaining the purpose of the survey to residents. Promotores and Polanco park leaders were able to utilize the strong community networks to let people know about the survey quickly and effectively. The combined efforts of these two groups also promoted cultural fluency for surveyors, which is important for effective outreach and awareness. Mr. Carranza finished by announcing that the first Institute of Community Training will be launched in the spring, and will include training on how to sustain mobile home park infrastructure. He emphasized that Polanco park communities love to learn and desire to have their communities be in compliance with regulations.

## Questions/Comments

- John Soulliere, Mission Springs Water District (MSWD) said that there is a difference between data for the sake of data and using the survey process as an introduction to communities, and then leveraging it to build relationships. Mr. Soulliere congratulated the DAC Outreach Program team for going beyond the State's requirements and building these relationships.
  - Mr. Sinclair emphasized that the surveys were a true collaboration with the partner non-profits
- How long was the outreach/survey conducted?
  - Three months
- Was every household surveyed?
  - Households to be surveyed were selected based on appropriate statistical methods. Households represented 20-30 parks, with a random selection of addresses based on existing DAC maps, and an extra 100 households (50 from the East Valley and 50 from the West Valley) surveyed based on the non-profits' networks and knowledge of DACs.
- Many DAC communities are not on any maps. Identifying these communities is a huge asset for the region.
- What was the consideration for defining DACs? What is DWR's definition?
  - DACs are defined as communities with 80% or less of the Statewide MHI. Communities with 60% or less of Statewide MHI are considered severely disadvantaged.
- Did you only survey severely disadvantaged communities?
  - No, the randomly selected ones were chosen from severely DAC areas, but the additional 100 households selected by EI Sol and PUCDC were not necessarily in severely DAC areas on the map.
- The next state water bond is concerned about leaving out DACs. However, there is concern over gaps from the census data.
  - This study first looked at data from the census block level, then tried assessing for severely DAC areas using affordability index. However, income is really the only metric that we currently have or are able to use unless there are people in the region who can help identify where DACs exist (such as NGOs like EI Sol and PUCDC). Poverty areas can be helpful in identifying DACs, but it all depends on scale. Some DACs are located immediately adjacent to wealthy areas, and this detail can get lost.
- What kind of language should be considered for the bond in order not to lose DACs? What income level?
  - DWR guidelines say 80% of MHI qualifies as a DAC or a more detailed study can be used to identify DACs.
  - There is no uniformity across state agencies on how to identify DACs or what qualifies as a DAC.
  - Clear legislative intent would be helpful.
- The problem with identifying DACs is that communities don't even show up in surveys or the census. There needs to be a way to document them.



- Census does not visit everywhere
- This challenge will be discussed in the final survey report
- Polanco parks have fewer than 13 homes, and permitting is faster for them. They are only in the East Valley. The West Valley doesn't have Polanco parks.

Following this discussion, Mr. Sinclair presented the findings of the survey results. He presented maps of the results and discussed some of the major findings. He noted that because the data came from surveys and was not independently confirmed, it represents only the perceived situation by residents, and cannot be assumed to be the actual situation. Mr. Sinclair explained that residents in the East Valley were more aware of their water sources than residents of the West Valley, and that the East Valley had a poorer perception of the quality of their tap water. Though the East Valley seemed have more on-site wastewater treatment systems (such as septic systems), people were often unaware of what type of wastewater systems they used. West Valley residents were frequently unaware of what wastewater system they had. Generally, residents were aware of flood problems, and reported flood issues in areas within mapped flood zones or near the Whitewater River Stormwater Channel.

#### Questions/Comments

- Did the team survey only the park owners or did it survey residents?
  - Surveys were conducted with residents – not all park owners were notified in advance of the survey.
  - Park owners were used as a link to the communities, but the survey focus was on the residents.
  - *This will be clarified in the DAC chapter of the 2014 Coachella Valley IRWM Plan and other areas of the 2014 Plan that discuss the survey results.*

#### **DAC Project Overview**

Kathy Caldwell introduced the DAC Project by explaining that the DAC workshops validated the results of the survey when workshop participants identified key issues and where these were located. Ms. Caldwell explained that DAC Workshops were another way to get information about issues and locations. She stated that the workshops generally reinforced the known issues, and that the issues were (1) wastewater, (2) drinking water, and (3) flood.

DAC projects had to meet the following criteria to be considered by the DAC Outreach Program:

- Does the project address an identified issue?
- Does the project have an implementing agency?
- Is the project consistent with the 2009 IRWM Plan objectives?
- Will the project either leverage other funding or be able to leverage other funding in the future?
- Is the project cost effective?

#### Questions/Comments

- Future meetings should consider including non-water/sewer parties because attendees at the DAC Workshops brought up a wide variety of issues. Other agencies could have leveraged those meetings.
  - Many of the issues brought up during the workshop are problems communities could solve themselves but did not know that they could or how to do so.

### ***DAC Project 1: Educational Materials***

Mr. Daniel Cozad presented the first DAC Project, Educational Materials. He noted that El Sol is currently translated the materials from English to Spanish, and that the Spanish version would be available for public review by December 1, 2013. The educational materials contain basic information regarding sewer and septic systems, system maintenance, which agencies are in charge of which systems or issues, and contact information by type of issue that will enable communities to get the help they need for their issues.

#### Questions/Comments

- Comments are still being accepted on the handouts, the English versions are available as Appendix G in the Public Draft 2014 Coachella Valley IRWM Plan, and some copies are available as workshop handouts.
  - Many of the contact numbers are not local. Can local numbers be provided?
  - *The County will provide local numbers for as many of the listed agencies as possible.*
- This handout was designed as a resource for the Coachella Valley, but also as a template for other areas, which could replace all the contact information with the appropriate information for their regions.

### ***DAC Project 2: Connection Opportunities***

Leslie Dumas, RMC, presented the second DAC Project, Connection Opportunities. This project was designed to help identify water and wastewater connection opportunities for DACs in the region. Through the use of multiple mapped data, DACs that appeared to be near service areas were sorted into connection feasibility classes based on distance to existing water and wastewater mains. Next steps are to clarify the data, starting with high feasibility sites. We will also need to learn more about the feasibility are each sites. Periodically the sites will need to be reprioritized and continued outreach should be conducted.

#### Questions/Comments

- How was the “Multiple sites to one pipeline” classification scored for feasibility? Some sites may be in a different distance classification than other sites within a single “multiple sites to one pipeline” site.
  - This was mainly a judgment call. For any of these sites, a further investigation of feasibility must be conducted.
- Can we use a cost per dwelling unit when assessing projects?
  - Part of the recommended next steps for assessing feasibility includes costs and willingness, etc.
- Did the analysis consider pressure zone, pump stations, or lifting?
  - No, that was beyond the scope of the project
  - The East Valley is flat, so any projects in that area would need pump stations and lifts.
- Was the analysis done Valley-wide or only in the survey areas?
  - Valley-wide.
- Do we need to look at the permanence of the communities? Don't some of these parks move or only have seasonal residents?

- Not all parks move.
- Need to determine the feasibility criteria
- Some communities may have other, non-physical, circumstances that would exclude or affect their feasibility (example: are they up to code?)
  - Despite the feasibility analysis, there is a chance that we may encounter other issues when implementing connections.
  - Parks are working to be in compliance, and trying to address all code violations or issues as a package. For example, projects to bring parks into fire code compliance could provide an opportunity to add a municipal connection.

### ***DAC Project 3: Polanco Park Septic Upgrades***

Rich Bichette, RMC, presented the third DAC Project, Polanco Park Septic Upgrades. This project was designed to help assist local DACs in addressing public health issues and potential groundwater contamination, as well as provide guidance for implementing such a project. It will also serve to prepare these communities for future funding opportunities. Mr. Bichette gave an overview of the project and the process for designing septic upgrades for Polanco Park. Using four demonstration sites, the project has developed a roadmap for similar projects. Steps include soils testing, assessing wastewater treatment alternatives - conventional septic systems, nitrogen removal (for areas with high nitrogen or nutrient issues, not applicable to the Coachella Valley), emerging technology, and centralized and decentralized options. Mr. Bichette explained that for the region's Polanco Parks used in this project, a decentralized conventional system was best, with one system serving 2-3 homes. Mr. Bichette explained that the framework created by this project outlines the steps required to determine the type of system as well as potential permits that may be required. The project also prepared design plans, which have positioned the sites for future permitting.

#### Questions/Comments

- Did this project consider the steps and costs required to clean up the results of failed systems?
  - No. Typically cleaning would be done when installing the new system, but Mr. Bichette was not certain of the regulations or potential regulatory penalties.
- Motivation for this project is the fund regional projects in the future. The framework will allow regional projects to be developed for Proposition 84 Round 3 Implementation grants. This will allow the Region to get money that can be used to solve wastewater and septic problems and implement the framework. This project does not implement the framework or design.
- Funding was for design only?
  - There was no funding for implementation. It is difficult to get large amounts of money for sewer project serving small populations. Septic provides a near-term, cheaper, solution until funding and opportunity are available for conversion to sewer.
  - Grants are small but will still be able to implement these designs.
- What are the average construction budgets for these designs?
  - It costs \$10,000 - \$15,000 per system. Each system serves 2-3 homes. Approximately 6 systems per park. Construction costs would be between \$60,000 and \$90,000 per park. Engineering only costs about \$5,000 per park.

#### **DAC Project 4: DAC Groundwater Quality Treatment**

Leslie Dumas, presented the fourth DAC Project, DAC Groundwater Quality Treatment. Ms. Dumas explained that this project was designed to be used as a template for bringing safe drinking water to communities. It is a model project that can easily be implemented by local DAC organizations. In the region, five constituents of concern may be present in groundwater, of which the greatest concern is arsenic. Of the different treatment systems considered by the project, only reverse osmosis was effective as treating all five constituents, including arsenic. The project identified key challenges to providing clean drinking water to DACs. These challenges included regulatory requirements, the ability of point-of-use (POU) systems address multiple contaminants, the cost of units and unit maintenance, sustainability of treatment system programs, obstacles to installation, and brine disposal (for point-of-entry systems). Ms. Dumas explained that the project team coordinated with local non-profits and other organizations working with DACs and working on drinking water concerns. The project developed a guide for buying, installing, and testing under the counter reverse osmosis systems. It also developed an operations and maintenance (O&M) manual for monitoring and maintain systems. For smaller system (those with fewer than 15 connections), the Rotary Club's POU treatment system program is a good model. The project also recommended that for larger systems (those with over 15 connections), the Short-Term Arsenic Treatment Program be used as a guide for an effective DAC drinking water treatment program.

#### Questions/Comments

- Does the county regulate communities with 25 units?
  - The county regulates all permitted mobile home parks, no matter their size.
- Are the data used for this project going to be shared?
  - Yes, and the draft report for this project will be available for public review and comment by December 1, 2013.

#### **Program Deliverables**

Kathy Caldwell presented the outcomes of the DAC Outreach Program and the deliverables that will be completed as part of the DAC Outreach Program. Ms. Caldwell described how the DAC Outreach Program led to the development of a new chapter in the 2014 Coachella Valley IRWM Plan on DACs that was mad available for review with the Public Draft of the 2014 Plan on November 4, 2013 (available on the CVRWGMG website, [www.cvrwmg.org](http://www.cvrwmg.org)). She noted that the appendices for the DAC chapter will be available (online and sent out via email) for review and comment by December 1, 2013. These appendices will contain the deliverables from each of the four DAC projects. Ms. Caldwell also explained that local organizations also wrote a memorandum on DAC participation in the IRWM Program, with a focus on challenges to DAC participation. The primary deliverable for the DAC Outreach Program, in addition to the individual DAC project deliverables, is a DAC Outreach Program Model that can be used in other areas of the State that face similar DAC issues.

#### **Review of Accomplishments**

Kathy Caldwell reviewed the accomplishments of the Coachella Valley DAC Outreach Program, including the outreach meetings and workshops, Promotores and student training, survey results, DAC proejcts, the region's contribution to Statewide DAC efforts, and an increased DWR commitment to the region.

## **Next Steps**

Kathy Caldwell presented the next steps for the DAC Outreach Program. These steps include the timeline for deliverables presented below, as well as identification of opportunities to continue DAC engagement and coordination, addressing challenges to outreach, applying for Proposition 84 Round 3 Implementation Grant funding, and completion and implementation of the 2014 Coachella Valley IRWM Plan.

- Program deliverables available for public comments and review – December 1, 2013
- Program deliverables submitted to DWR – December 2013
- Completion of the 4 DAC projects – December 2013

## **Question and Answer Session**

Workshop attendees were encouraged to stay for the 2014 Coachella Valley IRWM Plan Public Workshop to be held that afternoon (1:00 – 3:00 pm) in the same room.

**Coachella Valley Regional Water Management Group  
Public Workshop  
Draft 2014 IRWM Plan Update**

**Wednesday November 6, 2013  
1:00 – 3:00 pm**

**Coachella Valley Water District  
Training Room  
75-515 Hovley Lane East  
Palm Desert, CA 92211**

**DRAFT NOTES**

*Action items in italics*

**Attendees:**

**Planning Partners**

Dale Schafer, Imperial IRWM  
Evon Willhoff, DWR  
Frank Kopcinski, CRLA  
Jennifer Henke, Coachella Valley Mosquito & Vector Control District  
Jim Schmitt, Coachella Valley Engineering  
Jim Sullivan, CVAG  
Jon Rokke, RWQCB  
Laura Massie, CRLA  
Margaret Park, Agua Caliente Band of Cahuilla Indians  
Melissa Sparks, DWR  
Michele Hasson, Leadership Counsel  
Mike Gialdini, Supervisor Benoit  
Octavio Gonzalez, Rep for Raul Ruiz MD  
Phoebe Seaton, Leadership Counsel  
Ron Buchwald, Valley Sanitary District  
Tim Roberts, SCSD

**CVRWVG**

Berlinda Blackburn, CWA  
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Mark Krause, DWA  
Katie Ruark, DWA  
David Tate, DWA  
Patti Reyes, CVWD  
Ivory Reyburn, CVWD  
John Soulliere, MSWD  
Roselyn Prickett, RMC  
Crystal Mohr, RMC  
Sally Johnson, RMC  
Daniel Cozad, IPM  
Diana Cozad, IPM

**Meeting Objectives:**

- A. Keep participants up-to-date on the Coachella Valley IRWM Program, including schedule and key milestones
- B. Present Draft IRWM Plan and solicit feedback
- C. Share/capture other relevant thoughts and ideas for future discussion

## **Meeting Notes:**

### **Welcome and Introductions**

Ms. Patti Reyes, Coachella Valley Water District (CVWD), welcomed everyone to the meeting. Introductions were made around the room.

### **IRWM Program Overview and Planning Activities**

Ms. Rosalyn Prickett, RMC Water and Environment, provided an overview of the IRWM Program. Ms. Prickett explained that IRWM planning is a regional planning strategy that involves stakeholder input and coordination between local agencies. In the Coachella Valley IRWM region, the program is headed by the Coachella Valley Regional Water Management Group (CVRWVG) consisting of five local water supply agencies (Coachella Water Authority, CVWD, Desert Water Agency, Indio Water Authority, and Mission Springs Water District). Ms. Prickett presented the IRWM grant funding the Region has been awarded, including a \$4 million Proposition 84 Round 1 Implementation Grant, and the preliminarily awarded \$5.24 million Proposition 84 Round 2 Implementation Grant. Ms. Reyes added that the region has been successful when asking for smaller amounts of money. For DAC projects, this means funding short-term solutions that keep project moving. Ms. Reyes noted that projects with lower costs and high number of beneficiaries are more successful in funding applications. Ms. Reyes told attendees that projects are selected for inclusion in funding applications because they met the needs and objectives of the 2010 IRWM Plan. She asked attendees to consider if the 2014 Draft IRWM Plan addressed their agency's goals when reviewing the draft plan. Ms. Reyes added that compared to the 2010 IRWM Plan, the 2014 Plan has had more time to gather detailed information for the Region, and therefore is more comprehensive than the 2010 Plan.

Ms. Prickett presented the role of the IRWM Plan in making the region eligible for Proposition 84 grant funds, and then presented the key components of the 2014 IRWM Plan Update process:

- Stakeholder Outreach
- Disadvantaged Community (DAC) Groundwater Quality Evaluation
- Salt and Nutrient Management
- Integrated Flood Management
- Groundwater Monitoring Assessment, and
- IRWM Plan Update

### ***Salt and Nutrient Management Program (SNMP) Strategy***

Ms. Prickett presented the Salt and Nutrient Management Strategy developed as part of the 2014 IRWM planning process. She explained that it was developed with the CVRWVG and included three stakeholder workshops to discuss local groundwater and key concerns and receive feedback on the draft SNMP workplan, which was presented to the Regional Water Quality Control Board. Ms. Prickett added that this was just one phase of a multiphase process, and presented the steps that had already been undertaken as well as where the SNMP was expected to go from here.

### ***Disadvantaged Community (DAC) Groundwater Quality Study***

The DAC Groundwater Quality Study sought to determine where poor groundwater quality was reported within DACs. Ms. Prickett explained that the study used local, State, and federal data, along with constituents of concern (arsenic, fluoride, nitrate, uranium, and hexavalent chromium), areas of concern, and existing groundwater plans to analyze groundwater quality

issues and potential solutions in DACs. The study found that many DACs are in rural or outlying areas, though some are within or adjacent to water agency services areas. Reverse osmosis systems were determined to be the best treatment option for DACs not on municipal supply. The study recommended expanding the existing Short-Term Arsenic Treatment program.

#### Questions/Comments

- How is adjacent to service area defined?
  - Adjacent to service area were areas near portions of an agency service area with pipelines (not all of a service area necessarily has pipelines). The focus was on outlying areas, and there is not a specific distance that led to an area being considered “adjacent”. Did look at the other groundwater study completed as part of the DAC Outreach Program (and presented at the Nov. 6, 2013 morning workshop) to help determine this.
- Hexavalent chromium does not have an MCL yet, so how was it evaluated?
  - Originally hexavalent chromium was not included, but after the draft MCL was released it was added because it was a good opportunity to reassess our data so we did so in anticipation of future regulation using the draft MCL as our standard.

#### ***Integrated Flood Management Study***

Ms. Prickett reviewed the Integrated Flood Management (IFM) study that was conducted for the 2014 IRWM Plan. She explained that the study created a mapping tool that incorporates IFM opportunity mapping (based on various features of an area) to identify which IFM approaches are applicable for a given area in the region. She also explained that IFM strategies were screened for use in the desert, that the study created a detailed fact sheet for IFM techniques, and that it defined priorities for implementation of IFM based on flood exposure.

#### Questions/Comments

- Where are the IFM fact sheets?
  - The fact sheet can be found in the IFM appendix to the 2014 IRWM Plan, but most of the information from the study and fact sheets has been synthesized and incorporated into the plan itself.
- What data sources were used?
  - This will also be in the IFM appendix to the Plan (appendix to be released by December 1, 2013).

#### ***Groundwater Monitoring Assessment***

The Groundwater Monitoring Assessment compiled existing programs and program evaluations, and evaluated monitoring programs and the existing recommendations in the context of new work. It identified additional improvements and recommendations for basin-wide groundwater evaluation and quality monitoring.

#### Questions/Comments

- Using this process can we pinpoint what needs funding, and how to make them an IRWM project?
  - The draft 2014 IRWM Plan is available for review and can be downloaded from the CVRWGM website. *See the flyer for directions on how to access the plan.*

#### ***Stakeholder Outreach***

Ms. Prickett presented a brief overview of the region’s stakeholder outreach, including Planning Partners meetings and Issues Groups for DACs, Tribal Nations, SNMP, and IFM.



## **Draft IRWM Plan Update**

Ms. Crystal Mohr, RMC, presented the 2014 Draft Coachella Valley IRWM Plan. Ms. Mohr presented the purpose and general and key changes for each chapter of the Plan to inform attendees of potential items they may want to focus on during their review of the draft 2014 Plan. The ten Plan chapters Ms. Mohr presented were Region Description, Issues and Needs, Disadvantaged Communities, Tribal Water Resources, Objectives, Stakeholder Involvement, Resource Management Strategies, Project Evaluation and Prioritization, Agency Coordination, and Framework for Implementation. The two chapters that were not presented were Introduction and References.

Mr. Daniel Cozad, IPM, presented the Disadvantaged Communities chapter. He explained that this chapter was developed as a result of the DAC Outreach Program and to highlight the importance of DAC participation in the Coachella Valley IRWM Program.

Ms. Mohr presented the Tribal Water Resources chapter as a new chapter for the 2014 IRWM Plan, and how this chapter was developed with input from five of the area tribes that chose to participate in the IRWM Program.

Other key changes that were presented included that the Water Supply section in the Region Description was fleshed out, and included discussion of DACs, people not on municipal supplies, and non-potable supplies. These changes were included because the Water Supply section from the 2010 Plan did not contain enough detail to fully describe the region's water supplies and water supply issues and needs. The Issues Group discussion included the four Issues Groups used during development of the 2014 IRWM Plan, but also a fifth "Ad-Hoc" Issues Group which provides the region flexibility to add Issues Groups as needed without amending the Plan. The Project Selection process description was updated to reflect the process used for the Proposition 84 Round 2 Implementation Grant (e.g., added interview step). It was noted that project scoring is tied to the project database, so project sponsors should enter information into each field in the database to maximize the points they receive.

### Questions and Comments

- The plan is a valuable resource even for non-water organizations. It can answer a number of types of questions about water management in the Coachella Valley. Stakeholders are encouraged to comment on anything in the plan; comments are welcome through December 31, 2013.
- Can we get an update on next funding cycle?
  - The tentative schedule from DWR is a draft solicitation will be released in Summer 2014, so it likely a Final solicitation will be released in Fall 2014. This means applications will be due in early 2015.
  - When the draft solicitation is released, the Region will begin preparing for project selection by reassessing the project database and preparing for the project selection process.
  - Project selection is expected in late 2014.
- What if funding runs out?
  - DWR is trying to figure this out with IRWM strategic planning and the Water Board.
- How do you continue programs from the planning process if funds run out?
  - See Plan implementation section of the 2014 IRWM Plan. The CVRWGMG has not made a commitment to fund the program if IRWM funding runs out, but it is committed to look for other sources of funding.

- Other funding sources may be contingent on IRWM Plans. The State has the ability to keep the region involved in IRWM planning through regulations or limiting funding opportunities to regions with IRWM Plans.
- Agencies had been skeptical about the amount of funding spent on outreach and communication but have found it to be invaluable; the agencies want to maintain these communications and relationships.

### **Next Steps**

- Public review period of the 2014 Draft IRWM Plan is November 4th through December 31, 2013.
- Final appendices for the 2014 Draft IRWM Plan will be available: December 1st, 2013
- Submit comments:
  - Electronically: [cvirwm@rmcwater.com](mailto:cvirwm@rmcwater.com)
  - Hard Copy: Rosalyn Prickett, 10509 Vista Sorrento Parkway, Ste 205, San Diego, CA 92121

Flyers distributed at the meeting provide direction on how to download the 2014 Draft Coachella Valley IRWM Plan. It can be found on Library page of the CVRWGM website ([www.cvrwmg.org](http://www.cvrwmg.org)), if visitors scroll down to the IRWM Plan. Let Ms. Prickett, know if you would like a copy of the Plan on a CD.

# Coachella Valley Integrated Regional Water Management Tribal Outreach Meeting

August 14, 2012  
11:00 am – 12:00 pm

Agua Caliente  
5401 Dinah Shore Drive  
Palm Springs 92264

**DRAFT NOTES**  
*Action items in italics*

## Attendance

Margaret Park, Agua Caliente  
Band of Cahuilla Indians

Daniel Cozad, IPM  
Rosalyn Prickett, RMC  
Crystal Mohr, RMC

## Meeting Objectives

- Provide Updates on the IRWM Program
- Discuss Upcoming Grant Opportunity
- Define Characterization to be Included in Plan Update

## Agenda

### Updates on Coachella Valley IRWM Program

- Rosalyn Prickett provided an overview of the IRWM Program, noting that the Coachella Valley IRWM Region is currently updating the existing IRWM Plan. Updates will include a series of technical evaluations and workgroups to receive input from stakeholders throughout the Plan Update process.
- Daniel Cozad provided an overview of the DAC Outreach Program that is being conducted in parallel with the IRWM Plan Update through a separate grant from DWR.

### Proposition 84-Round 2 Grant Opportunity

- Rosalyn Prickett provided an overview of the Proposition 84 Round 2 Implementation Grant opportunity, including an estimate timeline based on the approximate due date for grant applications provided by DWR (March 2013).
- Margaret Park indicated that the Agua Caliente tribal group may be interested in submitting a project for Round 2 funding, and indicated that DWR requirements associated with CEQA, permitting, grant administration, and other items would not be a deterrent to the tribe.

## Tribal Characterization in IRWM Plan Update

- Rosalyn Prickett provided an overview of the tribal characterization included in the existing IRWM Plan, noting that the RWMG received feedback that tribes would like to be characterized separately and not lumped together as one “tribal” group.
- Margaret Park indicated that in general, the tribes are not a unified group, and do not like to be referenced as such. It would be helpful in the IRWM Plan Update to include specific descriptions of each tribal group and their issues. This is especially important because the tribes vary geographically and socio-economically, and therefore have different issues.
- Margaret Park suggested that if the IRWM Plan needs to contain information that generalizes tribal issues, the CVRWGM should contact the state-level BIA representative (Doug Garcia) located in Sacramento, who has general knowledge of tribal issues in Coachella Valley. She noted that the Palm Desert BIA office only handles issues associated with the Agua Caliente tribal group, and that the Riverside BIA office manages tribal groups throughout Southern California.
- Margaret Park noted that most tribes have environmental staff that conduct groundwater quality and groundwater level monitoring. Much of this data is submitted to the United States Environmental Protection Agency (USEPA), and could possibly be collected through the USEPA.
- Margaret Park noted that most of the Agua Caliente tribal area is served by either DWA or CVWD for water and wastewater services. Further, she noted that information regarding the Agua Caliente’s development plans is easily accessible. Agua Caliente has agreements with the cities of Rancho Mirage, Cathedral City, and Palm Springs, such that the general planning documents for these cities include land use and zoning projections for the Agua Caliente tribal areas. Because this information about the tribe is made publically available, Urban Water Management Plans, planning documents, and CEQA documents contain population and land use projections that are accurate, and provided directly to municipalities from the tribe.
  - Margaret Park noted that she believes the Torres-Martinez tribal group is working on a similar agreement with the County of Riverside.
- Margaret Park indicated that it would help to have a template that provides an overview of the type of information the CVRWGM is looking to include in the IRWM Plan Update pertaining to the Agua Caliente tribe.
  - *RMC to create and send a template that outlines information that would be helpful to include in the IRWM Plan Update.*
- Major issues for the Agua Caliente tribal group have remained relatively constant, and include three primary points:
  - Agencies need to recognize the tribe’s water rights.
  - Concerns about TDS levels in Colorado River water, which is being pumped into ‘pristine’ water in the Coachella Valley Groundwater Basin.

- Concerns about a lack of transparency on behalf of local water agencies. It has been the tribe's experience that agencies request substantial tribal data, but will not provide their own data or information about modeling and model projections.
- Rosalyn Prickett noted that issues pertaining to the tribe's water rights – or any water rights –are not appropriate for the IRWM Plan Update, and will not be included in the IRWM Plan Update.
- Daniel Cozad noted that concerns pertaining to TDS in imported water supplies will be discussed in the Salt and Nutrient Management Planning (SNMP) Technical Evaluation for the IRWM Plan Update. Mr. Cozad encouraged Ms. Park to come to the SNMP workgroup meeting prepared to discuss potential policy drivers that would allow the tribe to request that TDS restrictions in the Coachella Valley Groundwater Basin are less than those required by the Basin Plan (set by the MCL for TDS). Further, he requested that Ms. Park consider what impacts are felt by the tribe pertaining to increased salt loading into the Coachella Valley Groundwater Basin. These topics will be of importance to discuss at the workgroup meeting.
- Rosalyn Prickett asked if there are any specific water supply or water quality concerns pertaining to disadvantaged communities within the Agua Caliente tribal area. Ms. Park noted that much of the Agua Caliente area is not considered economically disadvantaged, and because most of the area is served by CVWD and DWA, the issues are not necessarily critical. Ms. Park noted that she has heard of issues associated with economic hardship in connecting to the sewer system within the Cathedral Cove area of Cathedral City.

### **Next Steps**

- The Salt and Nutrient Management Plan Workgroup will meet on August 22<sup>nd</sup>, and Margaret Park plans to attend.
- The next Planning Partners meeting will be held on September 13<sup>th</sup>, and Rosalyn encouraged Margaret Park to attend.

# Coachella Valley Integrated Regional Water Management Tribal Outreach Meeting

August 22, 2012  
10:00 – 11:00 am

29 Palms Tribal EPA  
47-250 Dillon Road  
Coachella, CA 92236

**DRAFT NOTES**  
*Action items in italics*

## Attendance

Marshall Cheung, PhD, Tribal EPA	Daniel Cozad, IPM
Alison Millar, Environmental Scientist	Rosalyn Prickett, RMC

## Meeting Objectives

- Provide Updates on the IRWM Program
- Discuss Upcoming Grant Opportunity
- Define Characterization to be Included in Plan Update

## Agenda

### Updates on Coachella Valley IRWM Program

- Rosalyn Prickett provided an overview of the IRWM Program, noting that the Coachella Valley IRWM Region is currently updating the existing IRWM Plan. Updates will include a series of technical evaluations and workgroups to receive input from stakeholders throughout the Plan Update process.
- Daniel Cozad provided an overview of the DAC Outreach Program that is being conducted in parallel with the IRWM Plan Update through a separate grant from DWR.

### Proposition 84-Round 2 Grant Opportunity

- Rosalyn Prickett provided an overview of the Proposition 84 Round 2 Implementation Grant opportunity, including an estimate timeline based on the approximate due date for grant applications provided by DWR (March 2013).
- Why are no tribes on the CVRWGM?
  - Tribes are invited to participate on the Planning Partners, but the CVRWGM is currently comprised of water managers in accordance with DWR standards.

- Attendance at Planning Partners meetings does not mean that tribes necessarily agree with the outcomes of the IRWM Program. Suggest meeting with the 29 Palms tribal council.
  - *Marshall to coordinate meeting with tribal council to gauge their interest.*
- Can you add tribal participation in the Planning Partners in the grant application? Tribes need funding/stipend for tribal participation.
  - Any funding for tribal participation would be project specific.

### **Tribal Characterization in IRWM Plan Update**

- Rosalyn Prickett provided an overview of the tribal characterization included in the existing IRWM Plan, noting that the RWMG received feedback that tribes would like to be characterized separately and not lumped together as one “tribal” group.
- Marshall Cheung indicated that a major issue is groundwater quality – the tribes want CVWD to treat Colorado River water before it is used to recharge the groundwater basin. The other major issue is groundwater quantity.
- 29 Palms tribe uses City of Coachella water and sewer services, but also monitors local groundwater wells. Willing to share groundwater data if CVWD does first.
- Tribal EPA has full surface water quality regulatory authority.
- Should the Salt and Nutrient Management Plan be incorporated into tribal documents as Tribal EPA authority?
  - No, Tribal EPA only has jurisdiction over surface water, not groundwater.
- Stakeholder is a bad word to the tribes due to past experience. The tribes tried to exert pressure during the Coachella Valley Water Management Plan, but were “just stakeholders.” They sent comment letters, which were not considered. The 2002 Plan was not fully implemented.
- Water quality is a right to the tribes – water needs to be good quality to be drinkable. Marshall Cheung is interested in the Salt and Nutrient Management Planning process.
  - *RMC to add Marshall Cheung to Salt and Nutrient Management Planning Workgroup list.*
- May need to go through formal government-to-government consultation process to engage the tribal council, possible through CVWD.
- *RMC to send template for tribal characterization to Marshall Cheung.*

### **Next Steps**

- The Salt and Nutrient Management Plan Workgroup will meet on August 22<sup>nd</sup>, notes will be sent to Marshall, who will try to attend future meetings.
- The next Planning Partners meeting will be held on September 13<sup>th</sup>, and Rosalyn encouraged Marshall to attend.

# Coachella Valley Integrated Regional Water Management Tribal Outreach Meeting

September 11, 2012  
10:00 – 11:00 am

Cabazon Band of Mission Indians  
84-245 Indio Springs Drive  
Indio, CA 92203

## DRAFT NOTES

*Action items in italics*

### Attendance

Becky Ross, Cabazon Band of  
Mission Indians  
Jacquelyn Gonzales, Cabazon  
Band of Mission Indians

Daniel Cozad, IPM  
Rosalyn Prickett, RMC  
Crystal Mohr, RMC

### Meeting Objectives

- Provide Updates on the IRWM Program
- Discuss Upcoming Grant Opportunity
- Define Characterization to be Included in Plan Update

### Agenda

#### Updates on Coachella Valley IRWM Program

- Rosalyn Prickett provided an overview of the IRWM Program, noting that the Coachella Valley IRWM Region is currently updating the existing IRWM Plan. Updates will include a series of technical evaluations and workgroups to receive input from stakeholders throughout the Plan Update process.
- Daniel Cozad provided an overview of the DAC Outreach Program that is being conducted in parallel with the IRWM Plan Update through a separate grant from DWR.
- Becky Ross indicated that it would be beneficial to have a meeting with all of the tribes together. Also, she noted that there is a coalition of tribal interests – the Four Winds Coalition –that may be helpful to meet with.
  - *RMC to follow-up with Becky Ross on the Four Winds Coalition*
- Jacquelyn Gonzales indicated that she is going to the California Water Plan (CWP) Tribal Meeting.
  - *RMC to follow-up with Jacquelyn Gonzales regarding the CWP meeting.*



## Proposition 84-Round 2 Grant Opportunity

- Rosalyn Prickett provided an overview of the Proposition 84 Round 2 Implementation Grant opportunity, including an estimate timeline based on the approximate due date for grant applications provided by DWR (March 2013).

## Tribal Characterization in IRWM Plan Update

- Rosalyn Prickett provided an overview of the tribal characterization included in the existing IRWM Plan, noting that the RWMG received feedback that tribes would like to be characterized separately and not lumped together as one “tribal” group.
- Becky Ross indicated that the tribes see water as a resource, not as something that is somebody’s property. This makes water-related issues difficult to address.
- Becky Ross indicated that groundwater quality is the key issue of concern throughout the Coachella Valley, and in particular recharge with Colorado River water and subsequent ammonium perchlorate issues. In addition, arsenic is of particular concern in the East Valley.
- Flooding is also a major issue for the tribe, particularly within the East Valley.
- The Cabazon resort has the ability to connect to Indio Water Authority or the Coachella Valley Water District for water services. Tribes are not subject to wastewater and water treatment standards applicable to California, which makes permitting for water and wastewater activities difficult for the tribes.
- A major current concern of the tribe is the issue in Mecca regarding the Cabazon Resource Recovery Park. Air Quality Control Board reports have shown no impact from tribal facilities, yet the tribes are still under fire by the media and the public. Are IRWM funds able to pay for public outreach efforts?
  - *Yes, IRWM funding can be used for public outreach efforts associated with water management. We would recommend that public outreach be completed as part of a larger project – public outreach alone is likely not substantial enough to be competitive for Proposition 84 funding.*
  - The East Valley population needs education regarding groundwater quality issues – many people are not aware that the groundwater is not safe to drink.
- Agriculture uses are a concern due to the agricultural community’s use of Coachella Canal water (ammonium perchlorate) and the addition of other pollutants to the soil and therefore the groundwater. This is of particular concern in the East Valley where many groundwater wells are less than 800 feet deep, and therefore pump contaminated water. Finally, arsenic is of a concern due to potential anthropogenic causes – grapes grown in the Coachella Valley historically used arsenic for pest control.
- Jacquelyn Gonzales noted that the IRWM Plan should acknowledge the tribe’s traditional ecological knowledge (TEK) and the value this provides to the Region. TEK can dictate tribes’ interest and investment in certain issues. For example, protection of native plant populations.

- Other groups that were suggested to contact (particularly for DAC Outreach) include: Mecca (ICUC) and East Coachella Valley Coalition (EVC-IVAN).
- *Jacquelyn Gonzales to provide a write-up of TEK to include within the IRWM Plan Update.*
- *Becky Ross to ask Business Committee for groundwater data for IRWM Program.*
- *RMC to send tribal template for tribal excerpts to Becky Ross and Jacqueline Gonzales.*
- *RMC to send a “mission statement” and summary of the salt and nutrient management planning effort and its nexus with the IRWM Program to Becky Ross and Jacqueline Gonzales, for distribution to tribal council.*
- *RMC to send the Call-for-Projects email and website link to Becky Ross and Jacqueline Gonzales.*

### **Next Steps**

- The Salt and Nutrient Management Plan Workgroup will meet on August 22<sup>nd</sup>; Rosalyn encouraged the Cabazon tribal group to send a representative.
- The next Planning Partners meeting will be held on September 13<sup>th</sup>; Rosalyn encouraged the Cabazon tribal group to send a representative.

# Coachella Valley Integrated Regional Water Management Tribal Outreach Meeting

September 13, 2012  
9:00-10:00 am

Torres-Martinez  
Coachella Valley Water District  
Training Facility  
75-515 Hovley Lane East  
Palm Desert, CA 92260

## DRAFT NOTES

*Action items in italics*

### Attendance

Debi Livesay, Torres-Martinez	Daniel Cozad, IPM
Roland Ferrer, Torres-Martinez	Diana Cozad, IPM
	Rosalyn Prickett, RMC
	Crystal Mohr, RMC

### Meeting Objectives

- Provide Updates on the IRWM Program
- Discuss Upcoming Grant Opportunity
- Define Characterization to be Included in Plan Update

### Agenda

#### Updates on Coachella Valley IRWM Program

- Daniel Cozad provided an overview of the IRWM Program, noting that the Coachella Valley IRWM Region is currently updating the existing IRWM Plan. Updates will include a series of technical evaluations and workgroups to receive input from stakeholders throughout the Plan Update process.
- Daniel Cozad provided an overview of the DAC Outreach Program that is being conducted in parallel with the IRWM Plan Update through a separate grant from DWR.

#### Proposition 84-Round 2 Grant Opportunity

- Daniel Cozad provided an overview of the Proposition 84-Round 2 Implementation Grant opportunity, including an estimate timeline based on the approximate due date for grant applications provided by DWR (March 2013).
- Debi Livesay indicated that the Torres-Martinez tribal group plans to submit a project for grant funding. The project would include water and sewer connections to the CVWD system from Avenue 62 to Avenue 64. This project would provide

services to the main community within the Torres-Martinez tribal lands, which is also a mapped disadvantaged community.

- Torres-Martinez reports that there are water quality issues associated with ammonium perchlorate from Colorado River water. According to the tribe, the groundwater wells that are being used on the tribal lands are very close to recharge points, and are therefore highly impacted by ammonium perchlorate. This issue is a priority for the Regional Water Quality Control Board.
  - This project would shift tribal members to municipal supplies from groundwater wells.
  - *Debi Livesay will send sampling reports indicating levels of ammonium perchlorate to RMC.*
- Torres-Martinez has a will-serve letter from CVWD to connect to the sewer system. Need to clarify how tribal members will pay for connection fees – potentially set up a payment plan with CVWD.
- The timing of the projects needs to be worked out to ensure that it aligns with the Round 2 grant cycle. For timing purposes it may be appropriate to pursue the sewer project during Round 2, and the water supply project during Round 3.
- *Debi Livesay will follow-up with Jonathan Rash of Indian Health Services next week regarding additional engineering information for the water supply component, and will follow-up with RMC to determine if additional support is needed.*
- *Debi Livesay will determine if appropriate matching funds are available for the proposed Torres-Martinez projects.*
- *RMC will have internal discussions to determine the appropriate engineer that could provide DAC technical support to the Torres-Martinez group for their proposed projects.*
- Debi Livesay also expressed concern for stormwater and sewer capacity issues within Salton City, which could potentially be addressed with the assistance of Proposition 84 grant funding. She indicated that any project in this area would need engineering support.

### **Tribal Characterization in IRWM Plan Update**

- Rosalyn Prickett provided an overview of the tribal characterization included in the existing IRWM Plan, noting that it is important to characterize the issues faced by the Region because that helps to lay the groundwork for the Region's needs – this process helps to determine which projects within the IRWM Plan can fulfill the Region's most pressing needs.
- Debi Livesay noted that flooding and stormwater are key issues, and the Torres-Martinez tribe has no money to address these issues. CVWD intends to review issues associated with flooding from what is referred to as the "Oasis Slope," in

order to better understand this flooding issue. The tribe is working with the Army Corps of Engineers, who is able to provide modeling support, but still needs additional funding to address flooding.

- Rosalyn Prickett suggested that the Torres-Martinez consider Proposition 1E funding, which provides grant funding for stormwater and flood projects.
- *Debi Livesay to provide an overview of flooding locations and issues within the Torres-Martinez tribal lands; this information will be provided after it is reviewed by the tribal council.*
- Water quality data compiled by Tribal EPA is collected on the national EPA website. The contact person for this information is Helen McKinley.
- *RMC to create a template that outlines information that would be helpful to include in the IRWM Plan Update. RMC will send the template to Debi Livesay.*

### **Next Steps**

- The next Salt and Nutrient Management Plan Workgroup will meet on September 26<sup>th</sup>, and Torres-Martinez representatives are encouraged to attend.

# Coachella Valley Integrated Regional Water Management Tribal Outreach Meeting

September 13, 2012  
3:00-4:00 pm

Augustine  
Coachella Valley Water District  
Training Facility  
75-515 Hovley Lane East  
Palm Desert, CA 92260

## AGENDA

### Attendance

Les Ramirez, Augustine Band of Cahuilla Indians	Daniel Cozad, IPM Diana Cozad, IPM Rosalyn Prickett, RMC Crystal Mohr, RMC
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### Meeting Objectives

- Provide Updates on the IRWM Program
- Discuss Upcoming Grant Opportunity
- Define Characterization to be Included in Plan Update

### Agenda

#### Updates on Coachella Valley IRWM Program

- Rosalyn Prickett provided an overview of the IRWM Program, noting that the Coachella Valley IRWM Region is currently updating the existing IRWM Plan. Updates will include a series of technical evaluations and workgroups to receive input from stakeholders throughout the Plan Update process.
- Daniel Cozad provided an overview of the DAC Outreach Program that is being conducted in parallel with the IRWM Plan Update through a separate grant from DWR.
- Les Ramirez noted that from the Augustine tribe's point of view, the value of IRWM is participating in a larger discussion of water issues in the Coachella Valley.
- Les Ramirez indicated interest in the salt and nutrient management planning effort, and would be particularly interested if meetings were available via webcast/teleconference. The tribe is concerned with 3 key issues related to water quality:
  - the salts in agricultural tail water,
  - the water quality of Colorado River water being used for recharge, and

- the fact that the Region's high-quality aquifer is being degraded by TDS.
- *RMC to add Les Ramirez to the Salt and Nutrient Management Workgroup meeting invitation.*

### **Proposition 84-Round 2 Grant Opportunity**

- Rosalyn Prickett provided an overview of the Proposition 84 Round 2 Implementation Grant opportunity, including an estimate timeline based on the approximate due date for grant applications provided by DWR (March 2013).
- Les Ramirez indicated that the Augustine tribe is not interested in applying for Proposition 84 funding – tribal issues can be addressed with the tribe's own resources. He also indicated that the tribe could potentially be interested in providing support to DACs – in general, the tribe sees the importance and value of being a good neighbor to those in Coachella Valley.

### **Tribal Characterization in IRWM Plan Update**

- Rosalyn Prickett provided an overview of the tribal characterization included in the existing IRWM Plan, noting that the RWMG received feedback that tribes would like to be characterized separately and not lumped together as one "tribal" group.
- Les Ramirez provided his thanks for the separate tribal meetings, indicating that it is important for the tribes to individually provide their own information.
- Les Ramirez explained the tribe's perspective on the salt and nutrient issue, noting that any litigation would not be fruitful because it would focus on groundwater quantity not quality. There needs to be an operational solution to the issue, which needs to be established with the CVRWMG agencies to better manage the basin and preserve water quality.
  - Why should the region pay to address the issue (treating TDS and ammonium perchlorate from Colorado River water) when it is only a few agencies that are causing the issue?
  - In addition, it seems more logical to treat water before it is pumped into the groundwater, rather than requiring all individual users to treat the water before it is used.
- As far as the tribe's water supply, the tribe has its own water supply through groundwater wells. Wastewater is sent to CVWD's system.
- The Whitewater River is adjudicated – Augustine has rights that are not quantified. However, groundwater is not adjudicated, so there is a need to find ways to address mutual issues together, for all users. From the tribe's perspective, they want to find a way to maintain the reservation as a homeland for their people in perpetuity – this requires usable groundwater (quality and quantity).
- The tribe is concerned with how salts that accumulate in soils are flushed for agricultural purposes. Flushing is necessary to maintain some crops, but may exacerbate issues in the Salton Sea. The tribe's focus is being fair with respect to these issues, and understanding how they may contribute to any resolution.

- The tribe is also concerned with discharges to the Salton Sea. Discharges are required to maintain levels in the Salton Sea, however agricultural water discharges continue to impact the sea's water quality. With regards to the Salton Sea, the main issue is how to permit discharges of salts to the Salton Sea.
- There is an inherent conflict between the Winter's Doctrine and California water law. The Winter's Doctrine states that tribes do not have to use their water rights, these rights are in reserve. However, California has a "use it or lose it" water law system.
- The tribe is not able to share data – this information is held in the tribal trust.
- In general, Augustine is interested in seeking a rational approach to Coachella Valley water management, and would like to be proactive instead of reactive.
- The tribe is concerned with flooding issues along Avenue 54 and Harrison Avenue. Need to identify appropriate structural improvements.
- The tribe is also concerned with the quality of stormwater runoff; will work with the City of Coachella to address safety, roadway improvements, and the intersection of roadway/runoff stormwater collection and CVWD's regional stormwater system.

#### **Next Steps**

- The Salt and Nutrient Management Plan Workgroup will meet on September 26<sup>th</sup>, and Les Ramirez is interested in attending if available via webinar.



# Coachella Valley Integrated Regional Water Management Tribal Outreach Meeting

October 22, 2013  
9:00 – 11:00 am

Coachella Valley Water District  
75-515 Hovley Lane East  
Palm Desert, CA

## DRAFT NOTES

*Action items in italics*

### Attendance

Margaret Park, Agua Caliente  
Band of Cahuilla Indians  
John Soulliere, MSWD  
Katie Ruark, DWA  
David Tate, DWA

Mark Krause, DWA  
Sara Toyoda, IWA  
Castulo Estrada, CWA  
Daniel Cozad, IPM  
Crystal Mohr, RMC

### Meeting Objectives

- Provide Updates on the IRWM Program
- Discuss Draft Tribal Water Resources Chapter
- Announce Upcoming Meetings and Opportunities to Comment on the IRWM Plan

### Agenda

#### Updates on Coachella Valley IRWM Program

- Daniel Cozad provided an overview of the IRWM Program, noting that the Coachella Valley IRWM Region is currently wrapping up the update to the existing IRWM Plan.
- Mr. Cozad provided a brief overview of the series of technical evaluations and workgroups that were conducted to receive input from stakeholders throughout the Plan Update process. Mr. Cozad also provided an overview of the DAC Outreach Program that is being conducted in parallel with the IRWM Plan Update through a separate grant from DWR. The DAC Outreach Program will be complete by the end of 2013, and the final 2014 IRWM Plan Update will be finalized in early 2014.
- Mr. Cozad also noted that in their draft Proposition 84-Round 2 Implementation Grant awards, DWR recommended that the Coachella Valley IRWM Region receive 100% of their funding request. If the Region is awarded this full grant amount, a portion of the grant will go to the Torres-Martinez Tribe to extend a water pipeline to a housing subdivision within their Reservation.

## Discuss Draft Tribal Water Resources Chapter

- Crystal Mohr provided an overview of the draft Tribal Water Resources Chapter that was sent out to the Region's Tribal Nations for pre-review. The purpose of the chapter is to include a synthesis of information pertaining to Tribal Water Resources. This chapter, in essence, includes a synthesis of the Tribal-related information in the Region Description and Issues and Needs Chapters, but at a greater level of detail than in the 2010 IRWM Plan. This approach was also taken for the Disadvantaged Communities, and there will also be a stand-alone chapter in the 2014 IRWM Plan Update to discuss disadvantaged communities and their issues and needs.
- Ms. Mohr then went through the chapter, explaining the various sections and their purpose as well as how they correspond to other chapters of the IRWM Plan.
- Katie Ruark noted that she thinks the Tribal Water Resources Chapter needs to explain the nexus that Tribes have to land use planning. If this information is not in the Tribal Water Resources Chapter, it should be in the Agency Coordination Chapter.
- Margaret Park asked why Table 5-1 specifically calls out ethnology and language.
  - The Twenty-Nine Palms Band of Indians had specifically noted that they are often mistaken as being ethnically Cahuilla, when in fact they are Chemehuevi. We called this information out in the table to highlight the different Tribes' ethnicities.
- Katie Ruark asked if Section 5.3.5 regarding the Torres-Martinez Tribe could include more information about the Tribe's wetlands along the Salton Sea. It is unclear who is responsible for the wetlands, what other agencies are involved, and what the water rights are associated with the wetlands.
  - *RMC will contact Debi Livesay of the Torres-Martinez Tribe for input on this question.*
- Margaret Park asked if the Tribal Water Resources Chapter could clarify that the one-on-one meetings held in 2012 with the Tribal Nations were with tribal staff and not with Tribal Council.
- Margaret Park asked why the Tribal Water Resources Chapter had a specific call-out for the California Water Plan Update.
  - This information was included, because it is an adopted water-related planning document that has information about tribal water resources, and therefore was used as a reference document. In addition, because the IRWM Plan will be ultimately sent to DWR (and is funded through a DWR grant), it seemed appropriate to acknowledge DWR's planning efforts related to tribal water resources.
- Margaret Park noted that she will be sending new information for Section 5.3.1 regarding the Agua Caliente Tribe.
- Mark Krause asked Ms. Park if she will send information about the Tribe's management or plans to manage surface water resources.
  - Ms. Park stated that the content for Section 5.3.1 is still in development, and she did not speak to the precise content.
- David Tate asked if the asterisks on Page 5-1 of the chapter could be reversed to only highlight the Tribe who is not involved in the IRWM planning process.

## Next Steps

- Mr. Cozad thanked Ms. Park and the rest of the meeting attendees for participating, and noted that there are several upcoming items to be aware of:
  - a. Public Comment Period for 2014 IRWM Plan Update: Nov. 4<sup>th</sup> – Dec. 31<sup>st</sup>
  - b. Final Disadvantaged Communities Workshop:
    - i. November 6<sup>th</sup> 10:00 am – 12:00 pm
    - ii. Please RSVP to [cmohr@rmcwater.com](mailto:cmohr@rmcwater.com) or (858) 875-7421
  - c. Public Workshop on the IRWM Plan: November 6<sup>th</sup> (1-3 pm)

## Coachella Valley IRWM Outreach – Fall 2013/Winter 2014

During Fall 2013 and early Winter 2014, CVRWMG representatives made presentations on the IRWM Program to a number of stakeholder groups in the Coachella Valley and surrounding region. To improve attendance and reduce meeting fatigue, these presentations were included as an agenda item at regular meetings held by the stakeholder groups, and were not separate meetings hosted by the CVRWMG.

	Date	Meeting Title	Time	Location	Presenter
2013	November 5	Coachella Valley Irrigated Lands Coalition	1:30pm – 2:30pm	Peter Rabbit Farms 85810 Peter Rabbit Lane, Coachella, CA 92236	Patti Reyes, CVWD
	November 7	Desert Valley Builders Association – Legislative Affairs Forum	7:30 a.m.	City of Rancho Mirage 69-825 Highway 111, Rancho Mirage, CA	John Soulliere, MSWD
	November 13	MS4 Desert Task Force	9:00 a.m.	Palm Desert Administrative Conference Room 73-510 Fred Waring Drive, Palm Desert, CA	Berlinda Blackburn, CWA; Sara Toyoda, IWA
	November 14	Regional Water Quality Control Board	9:00a.m., after hearing items	RWQCB Offices 73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260	Katie Ruark, DWA
	November 14	CVAG Energy/Environmental Resources Workgroup	12 p.m.	CVAG Offices 73-710 Fred Waring Drive, Suite 119, Palm Desert, CA 92260	Katie Ruark, DWA
	November 19	CVAG Technical Advisory Committee	11:30 a.m.	CVAG Offices 73-710 Fred Waring Drive, Suite 119, Palm Desert, CA 92260	Sara Toyoda, IWA
	December 4	County Planning Commission	9 a.m. – 1 p.m.	County Administration Center 4080 Lemon Street, 1 <sup>st</sup> Floor Board Chambers Riverside, CA 92501	Patti Reyes, CVWD
2014	January 13	Coachella Valley Housing Review Committee	3 p.m. – 5 p.m.	45-701 Monroe Street, Suite G Indio, CA 92201	Patti Reyes, CVWD

## **Appendix VI-E: Public Outreach and Communications Plan and Disadvantaged Communities Outreach Plan**

This appendix contains the Public Outreach and Communications Plan that was created for the Coachella Valley Integrated Regional Water Management Program. It also includes the DAC Outreach Plan as a subsection of the Public Outreach and Communications Plan.



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# Public Outreach and Communications Plan

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## Coachella Valley Integrated Regional Water Management Program

**Prepared for:** Coachella Valley Regional Water Management Group  
Coachella Valley Planning Partners

**Prepared by:** Rosalyn Prickett (RMC)  
Daniel Cozad (IPM)

**Reviewed by:** Crystal Mohr (RMC)

**Date:** Updated January 24, 2014

**Reference:** 0574-002.00

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## 1 Introduction

The Coachella Water Authority (CWA), Coachella Valley Water District (CVWD), Desert Water Agency (DWA), Indio Water Authority (IWA), and Mission Springs Water District (MSWD) – collectively referred to as the Coachella Valley Regional Water Management Group (CVRWMG) – have undertaken an Integrated Regional Water Management (IRWM) program consistent with guidelines established by the California Department of Water Resources (DWR). The IRWM planning process is intended “to coordinate and share information concerning water supply planning programs and projects, and to improve and maintain overall communication among the partners involved” (from Section 3.1.1 of September 2008 MOU). This effort addresses the Coachella Valley IRWM Region boundaries initially identified through DWR’s Region Acceptance Process and updated through the 2010 IRWM Plan.

The CVRWMG is continuing a stakeholder outreach process to help support development and adoption of the 2014 IRWM Plan Update, an update to the 2010 IRWM Plan. The IRWM Plan Update provides a mechanism for:

- 1) Coordinating, refining, and integrating existing water resources planning efforts within a comprehensive, regional context;
- 2) Identifying specific regional priorities for implementation projects; and
- 3) Generating funding support for the plans, programs, projects, and priorities of existing agencies and stakeholders.

In addition to supporting the integrated management of water resources in the region, the IRWM Plan meets the IRWM Program Guidelines established by DWR and maintains the Coachella Valley IRWM Region’s ability to receive grant funding through Propositions 84, 1E, and other sources.

Building understanding and support for the IRWM program and grant application processes among key stakeholders, as well as the general public, is critical to the success of the ongoing program. A proactive approach to implementing public outreach and information dissemination will assist the CVRWMG in generating broad-based support for the effort. This document identifies a variety of outreach mechanisms to improve general awareness of the Coachella Valley IRWM program and provide means for all interested parties to stay engaged during the planning process and plan implementation.

This Public Outreach and Communications Plan is organized into the following components:

- Stakeholder Coordination and Public Involvement
- Disadvantaged Communities (DAC) Outreach
- Tribal Outreach and Coordination

This Plan will be updated as needed throughout the IRWM planning process as stakeholder outreach and communication methods are refined.

## 2 Stakeholder Coordination and Public Involvement

### 2.1 Purpose

The goal of the stakeholder coordination effort is to provide a means for the region's various entities with interests and/or authority over water management in the region to maintain an active level of involvement in the IRWM program and implementation of the IRWM Plan. These entities have a vested interest in local water resources and can assist in articulating the needs of the Region during the planning phase, as well as implementing projects during implementation phases. These are also the entities with the greatest potential to oppose the IRWM planning effort if not engaged. Opposition to the IRWM Plan by entities with water management authority could present a significant obstacle to IRWM Plan implementation if these groups are not given ample opportunity to participate and engage in the planning effort.

The goal of public involvement is to increase awareness, understanding, and support for the Coachella Valley IRWM planning effort among the general public. The benefits of keeping the general public informed of the IRWM program and subsequent IRWM Plan implementation include educating constituents and politicians about the importance and interrelation of water management strategies, increasing regional as well as local support for projects, and generating broad-based support for continued regional coordination.

### 2.2 Participants

All interested stakeholders and members of the general public are invited to maintain coordination with the CVRWMG and the subsequent long-term institutional structure.

Individuals representing the following groups have been identified as potential stakeholders:

- State, county and municipal governments
- Community councils
- Environmental conservation and natural resources organizations
- Resource agencies and special interest groups
- Flood control districts
- Farm Bureau and agricultural interests
- Academic institutions
- Regional planning organization
- Stormwater management agencies
- Wastewater and water agencies
- School districts
- Private pumpers and large landscape irrigators
- Disadvantaged and environmental justice communities
- Elected officials
- Native American Tribes
- Recreational interests
- Regulatory agencies
- Development community

Interested members of the general public may include:

- Private homeowners or landowners
- Landscape architects and contractors
- Chambers of Commerce
- Commercial, industrial, and residential developers
- Home owners associations
- Garden clubs and organizations
- Rotary clubs and other service clubs

Table 4 (at the end of this Plan) lists of all Coachella Valley IRWM region stakeholders. All stakeholders identified by the CVRWMG and Planning Partners (discussed below) have been contacted and invited to participate in the program.



## 2.2.1 Planning Partners

One of the first steps in soliciting public involvement was to establish a list of key stakeholders that can serve in an advisory capacity. This advisory group, otherwise referred to as the Planning Partners, were established early in the IRWM planning process to help the CVRWGMG identify the preliminary list of critical water resources issues that should be the focus of early stakeholder meetings. The Planning Partners consist of CVRWGMG partners and other stakeholders in the region, including the County of Riverside, Coachella Valley cities, special districts, public agencies, non-governmental organizations, and Tribal Nations.

The Planning Partners played a valuable role in shaping key elements of the 2010 IRWM Plan, such as helping to establish goals and objectives, developing prioritization criteria for projects, reviewing and weighing in on draft IRWM Plan chapters, and implementing Plan activities. The Planning Partners continued to provide input on major decisions to the CVRWGMG during development of the 2014 IRWM Plan Update. An advisory group's membership may be changed from time to time CVRWGMG, as appropriate for ongoing management of the IRWM program. The goal of the Planning Partners is balanced membership and participation from representatives of all significant water resource issue areas in the Valley. **Table 1** below provides a current list of the Planning Partners; however, additional Partners may be added as the IRWM program evolves.

Planning Partners meetings have generally occurred on a quarterly basis. The agenda for these meetings will be set by the content for the development of the relevant stage of the IRWM Program and the needed materials, information, feedback and recommendations from the Planning Partners and Issue Group leaders (see below for more information). Meetings will be held regularly, and will be focused on discussing key program milestones, including project solicitation and prioritization and development of the IRWM Plan Update. Meetings may be held at variable times of day as needed and in different geographic locations within the Region. As appropriate, meetings may be located in disadvantaged areas to facilitate attendance by members of the local public. Moving forward, the CVRWGMG will strive to conduct future Planning Partners meetings on a quarterly basis and is committed to holding Planning Partners meetings semi-annually; however, these meetings may be held more or less frequently depending upon the status of the IRWM Program. The priority of future Planning Partners meetings will be to keep Planning Partners informed about important milestones and provide a venue for the CVRWGMG to vet major decisions and discuss time-sensitive issues with the Planning Partners.

The Planning Partners are the primary advisory group for development of the IRWM Plan Update and other phases of the IRWM Program. They are involved with all facets of Plan development and implementation. They comprise many of the project submissions and are therefore essential to implementation of the Plan. Planning Partners also provide support for public outreach efforts. The public who may wish to participate in the IRWM planning process may contact their city and district representatives of the Planning Partners, and may interact with any member of the Planning Partners that they wish.

**Table 1. Coachella Valley Planning Partners**

<b>No.</b>	<b>Agency / Organization</b>
<b>CVRWMG</b>	
1	City of Coachella/Coachella Water Authority
2	City of Indio/Indio Water Authority
3	Coachella Valley Water District
4	Desert Water Agency
5	Mission Springs Water District
<b>Planning Partners</b>	
1	Agua Caliente Band of Cahuilla Indians
2	Augustine Band of Cahuilla Indians
3	Cabazon Band of Mission Indians
4	California Department of Water Resources
5	California Rural Legal Assistance, Inc.
6	City of Cathedral City
7	City of Desert Hot Springs
8	City of Indian Wells
9	City of La Quinta
10	City of Palm Desert
11	City of Palm Springs
12	City of Rancho Mirage
13	Coachella Valley Association of Governments
14	Coachella Valley Economic Partnership
15	Coachella Valley Mosquito and Vector Control District
16	Colorado River Regional Water Quality Control Board
17	Council of Mexican Federations in North America
18	County of Riverside
19	Desert Alliance for Community Empowerment
20	El Sol Neighborhood Educational Center
21	Friends of the Desert Mountains
22	Leadership Counsel for Justice and Accountability
23	Loma Linda University
24	Morongo Band of Mission Indians
25	Myoma Dunes Mutual Water Company
26	Poder Popular
27	Pueblo Unido Community Development Corporation
28	Representative from Assemblymember Perez
29	Representative from Supervisor Ashley
30	Representative from Supervisor Benoit
31	Riverside County Flood Control and Water Conservation District
32	Salton Community Services District
33	Torres-Martinez Desert Cahuilla Indians
34	Twenty-Nine Palms Band of Mission Indians
35	U.S. Bureau of Indian Affairs
36	Valley Sanitary District

## 2.2.2 Issues Groups

The Coachella Valley IRWM RAP presented many issue areas which may be important to the stakeholders in the Coachella Valley and envisioned establishing separate, formal Issues Groups to address them. The format of these Issues Groups was originally envisioned as formal workgroups with specific leadership, terms, meeting, and other governance requirements. Instead, key planning issues have been addressed in an informal manner through ad-hoc Issues Groups – where a specific planning topic is addressed through 2-3 meetings and then the group is disbanded. This revised format was implemented due to low stakeholder turnout at Issues Groups meetings and was revised to increase meeting attendance and effectiveness.

To date, four Issues Groups have formed: Disadvantaged Communities (DAC), Native American Tribes, Salt and Nutrient Management Planning, and Integrated Flood Management.

### DAC Issues Group

DAC needs and issues were identified as special and different than other groups at the initiation of planning efforts. The DAC Issues Group and meetings began in May 2010. **Table 2** indicates the principal organizations that are represented in meetings as of January 2014.

**Table 2: DAC Issues Group Participants**

Organization
California Rural Legal Assistance, Inc.
Clean Water Action
Community Water Center
Desert Alliance for Community Empowerment
Desert Edge Community Council
El Sol Neighborhood Educational Center
Environmental Justice Coalition for Water
Loma Linda University
Pueblo Unido Community Development Corporation
Poder Popular
Representative from Assemblymember Perez

### Native American Tribes Issues Group

The Native American Tribes Issues Group that was active during development of the 2010 IRWM Plan brought specific issues of cultural water use and special needs related to sovereign tribes in the Region. Like other Valley users, the tribes are also concerned about regional water issues such as groundwater supply and quality. Tribal principals, as well as representatives the U.S. Bureau of Indian Affairs, were included in this Issues Group. **Table 3** indicates the organizations that participated in the Native American Tribes Issues Group.

The Native American Tribes Issues Group met several times in 2010, and was re-contacted in 2012 as part of the 2014 IRWM Plan Update process. While tribal members met together as an Issues Group during development of the 2010 IRWM Plan, tribal members requested that the CVRWGM hold separate meetings with each tribe to discuss the 2014 Plan Update. One meeting was held with each tribe during development of the 2014 IRWM Plan Update to gain feedback and information for the Plan. In the future, the Native American Tribes Issues Group may meet to discuss tribal-related water resources issues or as future items arise such as Proposition 84-Round 3 Implementation Grant funding.

**Table 3: Native American Tribes Issues Group Participants**

Organization
Agua Caliente Band of Cahuilla Indians
Augustine Band of Mission Indians
Cabazon Band of Mission Indians
Morongo Band of Mission Indians
Torres-Martinez Desert Cahuilla Indians
Twenty-Nine Palms Band of Mission Indians
Bureau of Indian Affairs
Indian Health Services
Tribal Environmental Protection Agency

## 2.3 Outreach Activities

CVRWMG believes that public access is critical to the success of the IRWM process. The CVRWMG has taken a strategic approach to public outreach using the following tactics:

- A. Develop an initial public outreach plan that can be executed by any combination of agency staff or consultants.
- B. Determine best management practices for the dissemination of information for public review and for public input (e.g. print media, agency public information personnel, email and website).
- C. Make suggestions for establishing public meetings or reformatting of current meeting schedules to allow for public participation.
- D. Refine the timeline for the IRWM process in such a way that appropriate dates for notification of public meetings, workshops, sub-committee meeting, etc. can be documented and addressed in a logical and orderly manner.
- E. Apprise the members at each meeting, and sooner if necessary, as to the issues and needs for supporting public outreach.

The public is notified of meetings and given specific contact information, and participants are given sufficient time to prepare. The first opportunity for the public to attend IRWM program meetings was concurrent with the RAP application in October 2009. Since 2009 regular Planning Partners, Issues Groups, and public meetings have been held at various times and in conjunction with various milestones and phases of the IRWM Program.

Workshops are the core of stakeholder and public participation. Initial stakeholder workshops were aimed at formulation of interest groups for more specific development of concepts and funding proposals. The public workshops and Issues Groups are organized to help guide the actions and policies of the CVRWMG and support continuous development of the proposed IRWM Plan. The CVRWMG recognizes the need and importance of public participation and will work diligently to make sure that not only the public is listened to, but that it's valuable advice helps create the best IRWM process possible for the region.

### 2.3.1 Public Workshops

Public Workshops have, and will continue to be, conducted to enable stakeholders and the general public to help guide the actions and policies of the CVRWMG, as well as support the development of future phases of the IRWM Program. An initial goal of the Public Workshops was to break out into Issues Groups for more specific identification and confirmation of the critical water resources issues in the Valley.

## **Coachella Valley Integrated Regional Water Management Program**

### **Public Outreach and Communications Plan**

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Public workshops may be held at variable times of day as needed and in different geographic locations within the Region. As appropriate, meetings will be located in disadvantaged areas to facilitate attendance by members of the local public.

Workshop preparation will include public meeting notices and invitations, development and distribution of Issues Group presentations, meeting handouts and notes, distribution of comment/feedback questionnaires, and compilation and summarization of public responses obtained during the workshops.

### **Website**

A Coachella Valley IRWM website (<http://www.cvrwmg.org/>) was developed as a key component of the regional outreach program. The website contains a wealth of information about the IRWM program, including: explanation of the IRWM program and funding opportunities; issues identification, goals and objectives, and other planning materials; the adopted 2010 IRWM Plan; the 2014 IRWM Plan Update (once final); information about potential IRWM projects to be included in Proposition 84 and 1E grant applications; information about the CVRWGMG; Planning Partners and Issues Group meeting agendas, summaries, and presentations; and other helpful links. The website will continue to be added to and amended as the IRWM program continues.

### **Newsletters**

Information regarding upcoming meetings may be relayed to the general public via fliers posted at community facilities, city and county office buildings, and announcements published in local newspapers and organizational newsletters. An electronic newsletter may be produced quarterly and at major milestones of the IRWM program, as needed to ensure stakeholders are being engaged.

### **Press Releases**

Local newspapers will be encouraged to provide coverage of meetings or to provide updates on the progress of IRWM planning efforts. Media relations provide a credible and economic approach to achieving widespread dissemination of key project information. Studies show that information presented to the public through a third party, such as the media, is more readily believed by the public, as opposed to advertising or other methods of information coming directly from the source. As such, press releases may be released quarterly and in conjunction with major milestones of the IRWM program, including an open call for projects and IRWM Plan Update approval, as well as other important junctures.

### **On-Line Project Database**

To facilitate communications among planners and project proponents, the CVRWGMG has developed an on-line project database that provides universal access to information about IRWM projects in the Coachella Valley region. The project database allows project proponents and other interested parties to add, edit, and review project proposals throughout the region. This tool, coupled with the Public Workshops, is intended to connect stakeholders with one another to identify and enhance synergies among projects, hopefully leading to better integration and stronger partnerships. The on-line project database will also enhance CVRWGMG efforts to inform the general public about “what is IRWM” through concrete project examples.

### **Correspondence**

An electronic distribution list of stakeholders and interested parties, and any special subgroups, will be maintained and updated throughout the IRWM Plan Update process. E-mail notices, the primary method of communication, will be sent to announce the availability of new materials on the Coachella Valley IRWM website, meeting notes, and upcoming meetings.

## **3 Disadvantaged Communities Outreach**

### **3.1 Purpose**

The goal of disadvantaged communities (DAC) outreach is to identify and obtain input from groups that may be otherwise restricted from participating in the IRWM planning and implementation efforts due to financial constraints. Through targeted outreach, the CVRWGM has sought to learn more about the major water-related concerns facing these groups such that long-term implementation of the IRWM Plan is responsive to those needs. Further, this effort was coordinated with the DAC Outreach Demonstration Program that was conducted in the Coachella Valley through a separately-funded grant from DWR (the DAC Outreach Contract), which is described in detail below. Appendix 1 to this Public Outreach and Communication Plan includes the Work Plan that was developed for the DAC Outreach Program in 2012.

### **3.2 Participants**

Numerous local and State-wide DAC and environmental justice organizations were targeted during outreach for the Coachella Valley IRWM program:

- A. California Rural Legal Assistance Inc. (CRLA)
- B. Clean Water Action
- C. Community Water Center
- D. Desert Alliance for Community Empowerment
- E. Desert Edge Community Council
- F. El Sol Neighborhood Educational Center
- G. Environmental Justice Coalition for Water (EJCW)
- H. Loma Linda University
- I. Pueblo Unido CDC
- J. Poder Popular
- K. Inland Congregation United for Change (ICUC)
- L. Representative from Assemblymember Perez

Environmental justice (EJ) is defined by the USEPA as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws.” Outreach to organizations also involved with EJ issues ensures that water management activities implemented under the Coachella Valley IRWM program do not unduly burden DACs (e.g., through plant siting decisions).

Communities targeted as part of the DAC and EJ outreach are groups that have historically been disproportionately impacted with respect to the development, implementation, or enforcement of environmental laws, regulations, and policies due to race, culture, or income. The CVRWGM has conducted work through the DAC Outreach Demonstration Program to tailor a more regionally-specific definition of DACs and identify representatives of those communities. Table 2 above provides a list of participants in the DAC Issues Group.

### **3.3 Outreach Activities**

#### **DAC/EJ Outreach Meetings**

After completion of the DAC Outreach Contract, the CVRWGM will continue to facilitate meetings with DAC members to better understand their critical water supply and water quality needs and to identify potential solutions. Initial meetings, conducted under the DAC Outreach Contract, focused on bringing

any groups that were not involved in the earlier efforts up to speed and informing all groups about recent activities and opportunities. Subsequent meetings expanded the methods of outreach in DAC/EJ communities, updated those groups which may not be able to attend or participate in broader Planning Partner meetings, and developed IRWM planning efforts to meet the needs of each community. The DAC outreach meetings aimed to facilitate the integration of disparate project needs into meaningful programs to better manage water supply and water quality in underserved areas.

Some of the outreach meetings were held at times convenient for DAC representatives (in the evening) and in different geographic locations within the Region. Meeting preparation included public meeting notices and invitations; development and distribution of presentations, meeting handouts and notes; and coordination of speakers/presenters.

### **Notices and Newsletters**

Upon completion of the DAC Outreach Contract, the CVRWMG will continue to notify members of DACs of the current state of the Coachella Valley's water-related resources, the IRWM program, and solutions being generated to address their needs. The focus of these efforts will be to continue to identify the critical needs of the targeted communities.

### **Technical Support for DACs**

Through the work recently completed for the IRWM Plan Update, critical DAC issues and conflicts have been relatively well defined. However, DAC representatives often do lack the resources or technical capacity to develop project submittals that address those critical needs. The CVRWMG will work with those project sponsors to develop project scopes, budgets, and cost estimates to help ensure that DAC projects are developed in sufficient detail to be included in the IRWM Plan Update and future funding applications.

### **CVRWMG Coordination and Correspondence**

If the CVRWMG and Planning Partners determine that a permanent advisory group is appropriate and desired, at least one DAC/EJ representative should be designated to serve on the advisory group.

## **4 Tribal Outreach and Coordination**

### **4.1 Purpose**

The goal of engaging the Valley's tribal governments is to better understand their critical water resources issues and needs. Through targeted outreach, the CVRWMG seeks to learn more about the major water-related concerns facing the tribes such that long-term implementation of the IRWM Plan is responsive to those needs.

### **4.2 Participants**

Tribal participants were contacted based on input from currently identified tribal representatives and the Planning Partners. The following six Native American tribes in the region were targeted during outreach for the IRWM program:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Mission Indians
- Cabazon Band of Mission Indians
- Morongo Band of Mission Indians
- Torres-Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians

Additionally, meetings may include the Bureau of Indian Affairs or other tribal coordinating agencies or groups as appropriate.

## **4.3 Outreach Activities**

### **Tribal Outreach Meetings**

The CVRWGM hosted one-on-one meetings with five of the aforementioned tribal representatives and one Issues Group meeting open to all tribal representatives to better understand their critical water supply and water quality needs and to identify potential solutions as part of the IRWM Plan Update. Tribal outreach meetings aimed to inform the tribes about the IRWM program and its purpose, the local IRWM planning process, and upcoming funding opportunities. These meetings also focused on clarifying the tribe's water resources issues and needs, and identifying integrated project concepts that address those needs.

### **Notices and Newsletters**

CVRWGM staff will work with community leaders to identify appropriate methods for notifying members of the tribes of the current state of the IRWM program and timing of project submittals. These methods may include techniques such as notices at community gathering sites, newsletters, or mailings. The focus of these efforts will be to identify the tribes' critical water resources needs and how those are represented in the IRWM Plan. In addition, one-on-one communication between tribal representatives and the CVRWGM will be used to encourage participation in IRWM public meetings.

### **CVRWGM Coordination and Correspondence**

If the CVRWGM and Planning Partners determine that a permanent advisory group is appropriate and desired, at least one tribal representative should be designated to serve on the advisory group.



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**Table 4: Coachella Valley IRWM Stakeholder List**

Agency	Contacted	Stakeholder List	Planning Partner
<b>CVRWMG</b>			
Coachella Valley Water District		✓	✓
Coachella Water Authority		✓	✓
Desert Water Agency		✓	✓
Indio Water Authority		✓	✓
Mission Springs Water District		✓	✓
<b>Cities</b>			
City of Cathedral City	✓	✓	✓
City of Coachella	✓	✓	✓
City of Desert Hot Springs	✓	✓	✓
City of Indian Wells	✓	✓	✓
City of Indio	✓	✓	✓
City of La Quinta	✓	✓	✓
City of Rancho Mirage	✓	✓	✓
City of Palm Desert	✓	✓	✓
City of Palm Springs	✓	✓	✓
<b>County of Riverside</b>			
Coachella Valley Economic Partnership	✓	✓	✓
Riverside County Transportation and Land Management Agency	✓	✓	
Riverside County Department of Health	✓	✓	✓
Riverside County Regional Park District	✓	✓	
Riverside County Economic Development Agency	✓	✓	
Riverside County Flood Control and Water Conservation District	✓	✓	✓
Supervisor Benoit's office	✓	✓	✓
Supervisor Ashley's office	✓	✓	✓
<b>Community Councils</b>			
Bermuda Dunes Community Council	✓	✓	
Desert Edge Community Council	✓	✓	✓
Desert Palms Community Council	✓	✓	
Indio Hills Community Council	✓	✓	
Mecca Community Council	✓	✓	
North Shore Community Council	✓	✓	
Oasis Community Council	✓	✓	
Sky Valley Community Council	✓	✓	
Thermal Community Council	✓	✓	
Thousand Palms Community Council	✓	✓	
Vista Santa Rosa Community Council	✓	✓	
<b>Elected Officials</b>			
Congresswoman Mary Bono Mack	✓		
Senator John Benoit	✓	✓	
Senator Denise Moreno Ducheny	✓		
Assemblyman Brian Nestande (64th Dist.)	✓		
Assemblyman Manuel Perez (80th Dist.)	✓	✓	✓
<b>Resource Agencies</b>			
California Department of Fish and Wildlife	✓	✓	
California Department of Water Resources	✓	✓	✓
Colorado River Regional Water Quality Control Board	✓	✓	✓
Indian Health Services	✓	✓	✓
U.S. Bureau of Indian Affairs	✓	✓	✓
U.S. Bureau of Land Management	✓	✓	
U.S. Department of Agriculture	✓	✓	
<b>Special Interests</b>			
Big Morongo Preserve	✓		
Bighorn Research Institute	✓	✓	
Building Industry Association	✓	✓	

**Table 4: Coachella Valley IRWM Stakeholder List**

Agency	Contacted	Stakeholder List	Planning Partner
Center for Natural Land Management (fringed toed lizard preserve)	✓	✓	
Clean Water Action	✓	✓	
Coachella Valley Archaeological Society	✓	✓	
Coachella Valley Association of Governments	✓	✓	✓
Coachella Valley Conservation Commission	✓	✓	
Coachella Valley Mosquito and Vector Control	✓	✓	✓
Coachella Valley Mountains Conservancy	✓	✓	
Coachella Valley Parks and Recreation District	✓	✓	
Coachella Valley Resource Conservation District	✓	✓	
Council of Mexican Federations in North America	✓	✓	✓
Deep Canyon Desert Research	✓	✓	
Desert Alliance for Community Empowerment	✓	✓	✓
Desert Recreation District	✓	✓	
Friends of the Desert Mountains	✓	✓	✓
Groundwater Guardians	✓	✓	
Hi-Lo Golf Course Superintendents Association	✓	✓	
Inland Congregations United for Change	✓	✓	
Leadership Counsel for Justice & Accountability	✓	✓	
League of Women Voters	✓	✓	
Sierra Club	✓	✓	
Wildlands Conservancy	✓	✓	
<b>Tribes</b>			
Agua Caliente Band of Cahuilla Indians	✓	✓	✓
Augustine Band of Mission Indians	✓	✓	✓
Cabazon Band of Mission Indians	✓	✓	✓
Morongo Band of Mission Indians	✓	✓	✓
Torres-Martinez Desert Cahuilla Indians	✓	✓	✓
Twenty-Nine Palms Band of Mission Indians	✓	✓	✓
Inter-tribal Council	✓	✓	
<b>School Districts</b>			
Coachella Valley Unified School District	✓	✓	
Desert Sands Unified School District	✓	✓	
Palm Springs Unified School District	✓	✓	
<b>Academia</b>			
California State University San Bernardino	✓	✓	
Loma Linda University	✓	✓	✓
<b>Other Water/Wastewater Companies</b>			
Borrego Water District	✓	✓	
Imperial Irrigation District	✓	✓	
Mojave Water Agency	✓	✓	
Myoma Dunes Mutual Water Company	✓	✓	✓
Salton Community Services District	✓	✓	✓
San Geronio Pass Water Agency	✓	✓	
Valley Sanitary District	✓	✓	✓
<b>Private Pumpers and Large Irrigators</b>			
Agricultural pumpers	✓	✓	
Home Owners' Associations	✓	✓	
Golf courses	✓	✓	
Nurseries	✓	✓	
<b>Disadvantaged Community Organizations</b>			
California Rural Legal Assistance, Inc.	✓	✓	✓
Clean Water Action	✓	✓	✓
Community Water Center	✓	✓	
Desert Alliance for Community Empowerment	✓	✓	✓

**Table 4: Coachella Valley IRWM Stakeholder List**

Agency	Contacted	Stakeholder List	Planning Partner
El Sol Neighborhood Educational Center			✓
Environmental Justice Coalition for Water	✓	✓	✓
Leadership Counsel for Justice and Accountability	✓	✓	✓
Poder Popular	✓	✓	✓
Pueblo Unido CDC	✓	✓	✓
Rural Community Assistance Corporation	✓	✓	✓



# **Coachella Valley Disadvantaged Community Program Work Plan**

**Prepared by:**



In Association with:



**May 2012**

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## **List of Abbreviations**

CVRWVG	Coachella Valley Regional Water Management Group
CWC	California Water Code
DAC	Disadvantaged Community
DAC Program	Coachella Valley DAC Outreach Program
DWR	California Department of Water Resources
IRWM	Integrated Regional Water Management
Region	Coachella Valley Integrated Regional Water Management Region
FEMA	Federal Emergency Management Agency
CVAC	Coachella Valley Advisory Committee (now part of the Planning Partners)
Riverside Flood	Riverside County Flood Control and Water Conservation District
CPG	DAC Community Planning Group (consists of 29 groups, agencies, and departments in the CV Region and is now part of the Planning Partners).
Planning Partners	The CVAC and CPG are now known as the Planning Partners

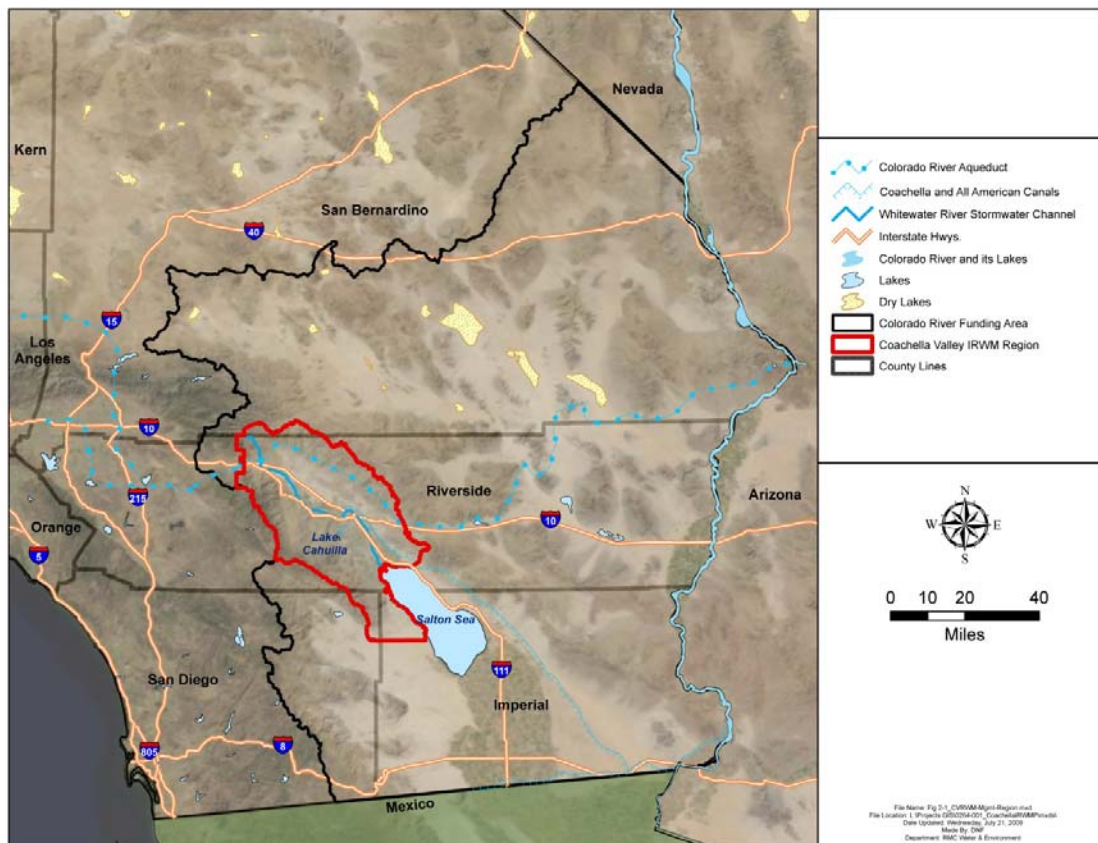


## Executive Summary

The Coachella Valley Water District (CVWD), representing the Coachella Valley Regional Water Management Group (CVRWMG), has entered into a contract with the Department of Water Resources (DWR) to develop a Disadvantaged Community (DAC) Outreach Demonstration Program (DAC Program) for the Coachella Valley Integrated Regional Water Management Region (Region). The DAC Program will develop and implement methods to improve DAC participation in the IRWM Plan. The DAC Program will coordinate with and complement the update of the CVIRWM Plan. The data and experience gained from the DAC Program will assist DWR in developing a model DAC Program for other similar areas in California. The Region, shown in Figure ES-1 below, is managed by the CVRWMG, which is comprised of the five Coachella Valley water purveyors: Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, Indio Water Authority, and Mission Springs Water District.

The DAC Program methods will include expanded outreach efforts, the development and use of spatial data to characterize smaller DAC areas and flood control needs within DAC areas, a needs assessment for DACs in the Region, identification of existing or proposed projects intended to benefit DACs, development of in-depth engineering and project management plans for priority DAC projects, and work items to ensure that information and outcomes from the DAC Program are included within the Coachella Valley IRWM Plan Update. The work included within the DAC Program is described in detail in the following sections.

**Figure ES - 1: Coachella Valley IRWM Region**



## **Section 1 Outreach Work Plan**

### **1.1 The Outreach Work Plan**

The Outreach Work Plan lays out the approach to implementing the DAC Program. The DAC Program will accomplish the following: develop and implement methods to improve DAC participation in the IRWM Plan; coordinate with and complement the update of the CVIRWM Plan; and develop a model DAC Program for other similar areas in California. The DAC Outreach Work Plan focuses on expanding outreach efforts, developing and using spatial data to characterize smaller DAC areas and flood control needs within DAC areas, developing a needs assessment for DACs in the Region, identifying existing or proposed projects intended to benefit DACs, developing in-depth engineering and project management plans for priority DAC projects, and identifying work items to ensure that information and outcomes from the DAC Program are included within the Coachella Valley IRWM Plan Update.

### **1.2 Review and Approval**

The DAC Program will streamline the DWR review and approval process by obtaining pre-approval from DWR of templates for materials such as the stakeholder profile form, DAC group form, meeting and workshop agendas, presentation templates, handouts, meeting notes, notices and flyers. With the high number of public meetings and supplemental materials required, it is imperative that the project team be able to streamline the review process by pre-approvals in order to keep to the project schedule.

DWR will receive monthly progress reports that include meeting notes, outreach materials, stakeholder tracking sheets, and plans to implement the work plan for the coming month. Progress reports shall provide a brief description of the work performed, CVWD activities, milestones achieved, accomplishments during the reporting period, and any problems encountered.

### **1.3 Modifications**

Modifications to the contract that substantially affect the scope, budget, or work performed shall be made in writing. No substantial change shall be undertaken without written approval of such change. Minimal modifications shall be communicated to the DWR regional representative via email. All modifications shall be referenced in the monthly progress report.

## Section 2 Outreach Activities

### 2.1 DAC Outreach Contact Management and Profiles

The purpose of the work described below is to expand upon the previous DAC outreach efforts that have been undertaken by the Region's DAC Community Planning Group and Coachella Valley Advisory Committee, now known as the Planning Partners. Specific work items to be conducted include identifying and encouraging additional DAC parties to participate in the Region's IRWM planning process. These work items are described in detail below.

#### 2.1.1 Methodology and Development

The methodology to be used for contact management and profile development will be to expand the existing DAC participation effort and identify additional organizations and groups that are working with the DACs in the Region on water-related issues. Increasing DAC participation provides these communities with an opportunity to identify any needs and issues they have relating to water management, and suggest possible projects that may be included in the IRWM process.

The first step of this process involves reviewing the existing list of groups, agencies and departments that comprise the Region's existing DAC Community Planning Group, and identifying possible new groups and organizations that should be contacted.

Once identified, the second step involves outreach to these groups via e-mail, letter, phone calls, and/or in-person meetings to discuss the DAC Program, identify issues and needs, and identify any current projects that are underway and any necessary projects. Other groups will be identified through these interactions and followed up on. All interactions will be documented in a comprehensive DAC Program database.

A DAC Program database will be developed in order to efficiently track the progress and status of all interactions taking place from various team members. Developing this database includes identifying the appropriate software, setting up the fields and information to be tracked, security, website utilization features, and report-writing capabilities.

Profiles will be developed by utilizing a Stakeholder Profile Form (see Appendix A). During discussions and interviews with groups and individuals, the Stakeholder Profile form will be completed by the individual or group, or in some instances, the interviewee. These completed forms will be compiled in the database and reports will be generated for DWR.

#### 2.1.2 Implementation

Once the DAC Program database is developed and a Work Plan is approved, implementation will begin. The first steps of implementation include initial outreach and contact with the groups identified in efforts described in Section 2.1.1. All contacts will be updated on an on-going basis in the database. All parties will use the same database to log information so all are kept current on contacts made and follow-up needed.

#### 2.1.3 Stakeholder Profile Format

In order to gather information including DAC contact information, brief organizational histories of DAC organizations, descriptions of the status of existing water resources projects pertaining to DACs, and assess DAC knowledge and understanding of water resource issues in the Region, a Stakeholder Profile form and a DAC group form will be created and distributed to identified

stakeholders. The Equifax database will provide preliminary information with additional information added as outreach expands to service providers. Appendix A shows a draft generic profile format, and Appendix B shows a DAC group form to be completed by or on behalf of the various DAC organizations.

#### **2.1.4 Outreach Status Reporting**

The deliverables associated with the Coachella Valley DAC Outreach Program involve detailed record keeping of all discussions with meeting participants and outreach conversations, submission of DAC Stakeholder Profiles, report tracking and summarizing outreach efforts including meetings, key findings, action items and identification of DACs not yet engaged in the IRWM planning process. Using the database outlined in Section 2.1.1 will enable team members to compile reports summarizing outreach activities occurring over designated time periods. In addition, DWR and all project members will have access to review the database at all times to review work in progress and status of outcomes.

## **2.2 Outreach and Meetings**

The purpose of the work described below is to engage members of the DAC Community Planning Group in order to frame and articulate the water management issues facing DAC communities in the Region. Specific work items associated with these efforts are described in detail below.

### **2.2.1 Existing DAC Groups Update**

The existing DAC groups will be contacted by email, letters and/or phone calls. The purpose of contacting each group is to solicit possible leads of new groups and organizations that may be interested in participating in the DAC Outreach Program process, and receive information regarding new projects or status updates on existing projects. All information will be entered in the DAC Program database including contact information changes for existing groups and any new contacts received.

### **2.2.2 Expansion Planning**

The DAC Program database will be expanded by contacting various organizations who would have knowledge of DAC groups that primarily perform work not involving water issues, including but not limited to:

- Riverside County Public Health
- The Community Foundation
- Catholic Charities of Coachella Valley
- United Way
- Coachella Valley Association of Governments
- League of CA Cities, Riverside County Division
- Community Councils

Calls and/or emails will be made to the Planning Partners to see if they have any referrals on any new organizations or groups that should be contacted.

### 2.2.3 Process of Outreach

Outreach processes are continuous and will include phone calls, emails, letters, flyers, etc. describing the context of the DAC Outreach Program and the Coachella Valley IRWM Program, and determining whether additional organizations that are contacted are familiar with or are dealing with water issues relating to DAC needs. Furthermore, each additional organization that is contacted will be asked if they know of other organizations that may be involved in DAC-related water issues so that those additional organizations may be contacted for similar information.

### 2.2.4 Methods of Outreach

Outreach to the disadvantaged communities is a critical component of the DAC Outreach Program. Public outreach provides an opportunity for interested and affected parties to learn about the DAC Outreach Program and its goals, and supports the exchange of ideas and information about various communities, issues, and needs as they pertain to water resources.

Public outreach activities for the disadvantaged communities have a number of goals, including:

- Increase awareness for the DAC Outreach Program and how community members and organizations can participate in the process.
- Involve stakeholders, agencies, tribes and other interested DAC communities in identifying needs and issues as they relate to water resources in their communities.
- Encourage additional DAC parties to participate in the Region's IRWM planning process.
- Identify current projects in progress and needs for future projects.

### 2.2.5 Group Profiles and Contact Updates

Appendix B is a form to be filled out by the DAC that will be used to capture stakeholder profile information including: DAC contact information, brief organizational history, description and status of existing water resources projects, assessment of understanding of water issues in Region, list prioritized water issues to each DAC, and list of potential IRWM-related project concepts. Profiles will be entered in to the DAC Program database and reports will be generated for DWR.

### 2.2.6 Coordination with Community Leaders

Meetings with the leaders of the DACs and Environmental Justice groups in the Region will be conducted for the purpose of identifying and documenting water management related issues and needs. Meeting dates will be identified, locations, dates and times set and agendas developed for each meeting. Sign-in sheets will be used to capture updated contact information for mailing list and database changes will be made. Notes will be taken and summarized for each of the meetings.

### 2.2.7 Coordination with Planning Partners/Issues Groups

Meetings range from formal face-to-face meetings to telephone conferences, as appropriate to reach various groups. Planning Partners meetings will be attended if DAC issues are on the agenda. The DAC Issues Group meetings will be organized or attended as appropriate. Separate meetings to prepare for or follow-up will also be conducted and documented.

### Agenda Template

In order to provide consistency in the agenda format and messages being sent out, an agenda template was developed and is shown as Appendix C (Sample). Specific dates, time, locations changes will be made for each meeting along with any changes in content.

### Presentation Template

Appendix D is a draft of the presentation that will be used at the meetings.

### Handout Template

Appendix E is the format that will be used for meeting handouts and materials.

### Meeting Notes Template

Appendix F contains an example of the format that will be used for meeting notes.

## **2.2.8 Coordination with RWMG and IRWM**

While the DAC Program will begin earlier in 2012 than the CVIRWM Plan Update, both planning projects will be closely coordinated. It is anticipated that the CVIRWM Plan Update will commence around June 2012. Both projects will share planning strategies, tasks, and schedules and keep in close communication with conference calls and emails on a weekly, if not daily, basis. There will be significant overlap in work plan tasks (e.g. DAC outreach) so close coordination will avoid duplication of effort and lead to efficiencies regarding time, effort, and funding.

## **2.2.9 Coordination Meetings with DWR**

The DAC Program team will meet with DWR no fewer than two times throughout the project.

### Meeting One

The first meeting with DWR will occur on April 23, 2012 following the kick-off meeting for the Proposition 84 Implementation projects. The DAC Program project team will review the work plan, work plan appendices (templates), and contract and project management procedures.

### Meeting Two

The second meeting will occur mid-way through the project. Agenda items for that meeting will be determined at that time.

## **2.3 DAC Workshops**

The DAC Program will include no fewer than five DAC workshops that are aimed at addressing specific IRWM topics at key milestones during the IRWM Plan Update process.

Each of the workshops will be facilitated by an experienced facilitator. For this time it is assumed that the facilitator will be Daniel Cozad; however, as appropriate, another experienced facilitator may be selected to facilitate the DAC Workshops.

The goals for each DAC Workshop are as follows:

1. Introduce workshop attendees to IRWM planning in general and within the Region. Describe the Region and hold an open discussion of water resource issues and challenges.
2. Define the mission and water management objectives of the IRWM Plan.

3. Discuss project integration and solicit for integrated projects.
4. Present and rank regional projects and alternatives.
5. Present and solicit feedback on a draft version of the Coachella Valley IRWM Plan Update to workshop attendees.

### **2.3.1 Topics and Draft Schedule**

As indicated in the above list, there are pre-established goals for each DAC Workshop. Topics associated with each workshop will include information to ensure that each of the aforementioned goals is achieved. It is anticipated that each workshop will include a combination of presentations, breakout groups, and question and answer sessions as necessary and dependent upon the information that needs to be presented during each workshop.

It is anticipated that the first DAC Workshop will be held in May or June of 2012, which coincides approximately with the initiation of the Coachella Valley IRWM Plan Update. The second workshop will occur approximately five months later, in October of 2012. The date of the second workshop will coincide with planning activities associated with the IRWM Plan Update, which includes potential refinement of the Coachella Valley IRWM Plan goals, objectives, and priorities. The final three workshops will occur approximately once per month, and are anticipated to occur in early 2013.

### **2.3.2 Draft Agendas for Milestones**

Appendix G to this Work Plan includes draft agendas for each DAC Workshop. Please note that these agendas are in draft form only, and are subject to change as necessary.

### **2.3.3 Workshop Reporting System**

During each Workshop, detailed meeting summaries including records of discussions with workshop participants will be kept. These meeting summaries will be formalized in writing, and will be posted on the website and submitted to DWR in the monthly report.

Further, records of formal comments received from workshop attendees via telephone, in writing, and via electronic mail will be compiled and input into the DAC Program database as appropriate.

## **2.4 Outreach Mechanisms and Materials**

The purpose of the work described below is to develop and maintain data management and outreach processes designed to disseminate water management-related information to the Region's DAC stakeholders. Specific work items associated with these efforts are described in detail below; these work items will be sure to take into consideration that some DAC stakeholders may not have computer access or may not use English as their primary language.

### **2.4.1 CVIRWM Website**

A website for the DAC Outreach Program will be established and updated regularly. This site will provide both general and technical information, benefitting the public, project team, and DWR. The internet will be used as an essential but not exclusive means of providing information to the public as well as to team members. Information available on the website will be provided in print form at meetings as appropriate in order to ensure that those without computer access have access to information that is available online.

### **Website Contents**

The website will provide access to publications, program and project information, and a master calendar of meetings and activities. The site will be an interactive tool, used to gather comments about the DAC projects and activities.

### **Calendar of Events**

The calendar of events will be updated on a regular basis to reflect the ongoing meetings scheduled along with workshops and agendas for meetings.

### **Links and Information Sources**

Links and information sources will include agendas, meeting notes, comments and feedback and will be updated on a regular basis.

### **Administration**

Website is maintained by CVWD and administered by Desert Water Agency Website will be modified to add an additional tab to support DAC programs. The team will provide content and materials for the site.

#### **2.4.2 Notices and Flyers**

Development of notices and flyers is another tool that will be used to communicate the goals and background of the DAC Outreach Program, upcoming meetings and workshops, how interested parties can get involved, where more information is available, and contact information.

### **Notice and Flyer Template**

Appendix H to this work plan includes a template for notices and flyers that will be used in the DAC Outreach Program.

### **Location and Delivery**

Flyers can be emailed to the contact list, mailed to organizations to post, and handed out at relevant meetings and workshops.

### **Feedback**

It is critical to capture feedback from email or postal mail campaigns and then update the database to capture issues or project needs. Determining which means of communications worked will help in future outreach efforts and reduce barriers to DAC IRWM participation.

#### **2.4.3 Press Releases**

The press and media strategy will provide information to help inform the public.

### **Press Release Template**

Appendix I is the template of the format that will be used for press releases.

### **Translations**

Project team will need to evaluate the languages most used in the DAC areas to determine the most effective means to communicate to these communities. Spanish is an assumed second language but others may be needed. Standard letters, flyers or other materials will be translated, as needed, to ensure the most effective outreach efforts and results are achieved. Results of the translated materials will be reviewed.



### Usage and Frequency

Press release strategy entails providing important information to the various newspapers at various times throughout the project including:

- To introduce and provide background of the project
- Advise of upcoming meetings, location, dates and times
- Key milestones press advisory

### Feedback

Press releases or press advisories will be tracked and feedback identified where possible to provide an indication of effectiveness and value.

#### **2.4.4 Mailers and Newsletters**

Mailers and or newsletters may be used to introduce the project and inform stakeholders of upcoming meetings and ways the community can participate in the IRWM process. The DAC Project Team and CVRWGMG will determine if mailers or newsletters are an effective method to reach stakeholders.

### Newsletter and Letter Templates

Appendix H of this work plan includes a template for mailers and newsletters that will be used in the DAC Outreach Program. Appendix J includes a template for letters that will be sent to DACs through electronic and/or postal mail to solicit participation in the DAC Program.

### Translations

Project team will need to evaluate the languages most used in the DAC areas to determine the most effective means to communicate to these communities. Spanish is an assumed second language but others may be needed. Standard letters, flyers or other materials will be translated, as needed, to ensure the most effective outreach efforts and results are achieved. Results of the translated materials will be reviewed.

### Tracking

Monthly progress reports submitted to DWR by CVWD will include a matrix that outlines the mailers, newsletters, and other communication items sent to DAC-related entities and organizations as part of the DAC Program.

#### **2.4.5 Outreach and Contact Reporting System**

### Contact Lists

Accurate mailing lists are essential to successfully inform and involve the public. They can be used to deliver announcements of upcoming meetings or events, newsletters, fact sheets, reports, and other printed material about program-level activities. Specific mailing lists are needed for the general public, disadvantaged communities, stakeholders, and other interested individuals who have an interest in the DAC Outreach Program. The mailing list will be part of the DAC Outreach database and will be maintained and updated regularly.

### **Electronic Mail**

Electronic media is fast becoming the preferred means of obtaining and providing information to certain segments of the population. Along with printed materials, e-mails can be used to quickly

disseminate information to the public about upcoming meetings, sending out flyers to post, and other communication materials. However, some may lack computer access and postal mail will be needed to fill such gaps. E-mail contact information will be gathered and updated on a regular basis.

### **Postal Mail**

Postal mail will be used when requested by a participant and for critical issues or meetings. The Project Team and RWMG should determine what issues or meetings will need postal contacts.

### **Monthly Reporting**

Progress reports will occur on a monthly basis and will include a summary of outreach efforts, number of meetings held, key issues and findings from various outreach mechanisms, new DAC contacts and profiles and other pertinent information. Team will send monthly summaries of all formal meetings on a monthly basis rather than five business days after.

#### *Outreach Efforts*

Outreach efforts will be tracked in through a Customer Relationship Management (CRM) system or other database and will include all contacts with any groups and individuals, follow-up actions needed, issues presented and any possible projects discussed. Contact information will be obtained and updated in the database for inclusion on future meetings and IRWM planning meetings. These efforts will be summarized and be included in the monthly report. The CRM will initially be set up as a test site to provide the opportunity to determine the suitability of the database.

#### *Meetings*

Reports on the meetings will include sign-in sheets, feedback from participants, meeting evaluations, notes of the meetings and summary of issues, findings and possible projects. Level of attendance at the various meetings is one way to evaluate the level of interest and if the outreach mechanisms are useful. A summary of meetings will be generated and included in the monthly report and final project report.

#### *Key Issues and Findings*

Identifying key issues and findings from the disadvantaged communities and assigning follow-up discussions is a key component in tracking the success of this program. These findings may lead to qualified projects being identified for the IRWM planning process and will need to be communicated in a timely manner to the CVRWMG.

#### *Action Items*

Action items will be posted in the CRM system or other database and will be assigned to project team members, the CVRWMG or other identified person for follow-up or actions needed.

#### *New DAC Contacts*

New DAC contacts will be updated in the CRM system or other database. The monthly reports will quantify the number of new DAC contacts added to the list and identify other pertinent details.

#### *Tracking Reports*

Tracking reports will be generated by the CRM system or other database as needed.

## Section 3 DAC Focused Characterization and Mapping

The purpose of the work described in this section is to address mapping of DACs in the Region in order to develop spatial data relevant to identifying water management problems. A portion of this work will be completed by RMC Water and Environment, and a portion will be completed by local non-profit organizations that are officially designated as a 501(c)(3).

### 3.1 DAC Community Mapping

#### 3.1.1 Background and Scoping

Existing DAC mapping within the Coachella Valley IRWM Plan was completed at a Census-block group level using data adapted from the United States Census. This mapping indicated that four (4) of the Region's nine (9) cities qualify as DACs, meaning that their income was less than 80% of the Statewide Median Household Income. Input received from stakeholders suggests that mapping at the Census-block group level is not sufficient to identify all DACs within the Region, and that further mapping is necessary.

#### 3.1.2 Location Selection Process

Local non-profit organizations will be responsible for conducting research necessary to identify communities that qualify as DACs. Once this data is gathered, RMC will be responsible for translating DAC community data into formal maps that identify smaller pockets of DACs in the Region. Gathered data will include, to the extent practical, mapping associated with seasonal variations, agricultural (seasonal) variations, service and construction industries, retired populations, and urban conservation.

#### 3.1.3 Non-Profit Coordination and Selection

Interviews will be conducted with local non-profit organizations to determine their suitability for conducting the location selection process and mapping activities described in Section 3.1.2. Once interviews are completed, no more than five non-profits will be selected to carry out the work. They will be selected based on diversity of organization and geography as well as experience and competence to complete the required scope of work.

#### 3.1.4 Non-Profit Deliverables and Schedule

Ultimate deliverables expected by the non-profits include spatial identification of communities in which DACs are located throughout the Region. Furthermore, as available, the DAC data should include information regarding the presence of DACs in the Region in relation to seasonal variations, agricultural (seasonal) variations, service and construction industries, retired populations, and urban conservation.

The DAC Community Mapping process is anticipated to begin in June of 2012, at which point interviews will be structured and initiated. The DAC Community Mapping process will be finalized by May 2013, and data deliverables from non-profit organizations will be expected by January of 2013 so that the data may be translated into draft maps by March 2013 and finalized by May 2013.

#### 3.1.5 Community Mapping Report

Draft maps will be presented at relevant Planning Partners or DAC meetings in order to receive input. Input received by stakeholders will be taken into consideration during final production.

## **3.2 Flood Control Needs Mapping in DAC Areas**

### **3.2.1 Background and Scope**

Due to flood risks in the Region, which potentially impart public health and safety issues and raise water management concerns for DACs, mapping is needed for the Region that identifies areas of local flooding, current flood control efforts, and planned flood control-related projects as they relate to other water management issues facing DACs.

The scope of this work will include the following:

- Identify local areas that are subject to the risk of flooding, current flood control efforts, and planned flood-related projects in the Region.
- Update DAC Stakeholder Profiles (refer to Section 2.2.5) to include flood mapping information.
- Submit DAC Stakeholder Profiles once they are updated to DWR for review and comment.

### **3.2.2 Process and Development**

Data will be gathered from existing Geographic Information System (GIS)-based databases, including those from DWR, the Federal Emergency Management Agency, the Coachella Valley of Association of Governments, the CVRWGM agencies, the Riverside County Flood Control and Water Conservation District, and other sources of information as appropriate. This existing data will be used to identify local areas that are subject to flood risks, and current flood control efforts and planned flood-related projects. Additional information will be solicited from local stakeholders regarding flood risks, current flood control efforts, and planned flood-related projects, to expand upon mapping gathered from existing sources. Further, projects entered within the Coachella Valley IRWM database will be reviewed to determine any additional planned flood-related projects that may be relevant to this process.

Once the flood mapping is completed, this information will be merged with the DAC Stakeholder Profiles such that these profiles are updated to include robust information regarding flooding as it relates to water management concerns for DACs.

### **3.2.3 Reporting**

Flood mapping and updated DAC Stakeholder Profiles will be submitted to DWR for review and comment.

## Section 4 DAC Project Development

### 4.1 Project Identification and Selection Process

A preliminary list of DAC water management issues and projects was developed during 2007 and early 2008 by a coalition of over 50 participants representing public agencies, DACs, and local communities. This list of issues and projects will serve as a starting point for this task and will be reviewed and updated with contemporary information. Only water-related issues will be included in the updated list. Outdated projects and project concepts will be removed from the list and new, more important projects and project concepts will be added to the list. The project summaries include grant amounts requested exclusive of matching or other funding sources. Each of these projects has multiple partners and benefits, but the primary beneficiaries are the DACs. The projects include:

### 4.2 Preliminary List of DAC Issues

Those issues identified by the coalition referenced above include:

1. Septic conversion to combined/advanced treatment or sewer, with the focus on low income and significant DAC communities in both urban and rural areas.
2. Basic provision of quality water supply and wastewater service supporting basic quality of life and health and safety needs to support related services and facilities.
3. Conservation of water resources including storm water to minimize reliance on imported water (may include rate assessment/assistance, leak testing and repair).
4. Accurate DAC Stakeholder Profiles and accurate data.
5. Flood plain and alluvial fan mapping and planning to identify for funding the storm water management facilities in DAC areas.
6. Water reuse and recycling and related technology for DAC areas.
7. Policy coordination with cities, tribes, county, and water agencies to ensure effectiveness.
8. Affordable housing, community and economic development.

### 4.3 Preliminary List of DAC Project Concepts

A preliminary list of DAC projects and project concepts was identified by the coalition (referenced above). This list of projects will serve as a starting point for this task and will be reviewed and updated with contemporary information. The project summaries include grant amounts requested exclusive of matching or other funding sources. Each of these projects has multiple partners and benefits, but the primary beneficiaries are the DACs. The projects include:

**1. Bacterial Indicators TMDL:** By implementing projects to eliminate sources of dry weather runoff, improvements are made to water quality by specific DACs who do not have access to other water supplies. These biological impacts come from a variety of potential sources including recreational and domestic use by DACs. Program implementation request is \$125,000.

**2. Integrated Resource Development and Protection Project:** Septic to sewer conversion that provides alternatives to failing septic tanks and generates additional effluent treatment to tertiary

and recycling and to protect groundwater supplies. This funding would be matched with Army Corps of Engineers; \$180,000 is needed to move forward on the project. The entire area served by this project qualifies as a DAC and would improve sewer service to over 1,800 families.

**3. Verbena Channel Flood Control Improvement:** Addresses safety and flood control issues for the DACs in the lower Desert Hot Springs area (in the county's 5 year plan, opportunity for multiuse project). Program implementation request is \$1.5 million.

**4. Water-related Health and Safety Improvement - Riverside County:** This project would work with existing groups to provide improvements to water and sewer systems as the County closes hazardous housing areas. Program implementation request \$160,000. These funds will be matched from County and other sources.

**5. Integrated Regional Groundwater Quality Protection Project:** Septic to sewer conversion that complies with a State mandate to eliminate septic tanks, generate recycled water, reduce dependence on imported water, and protect regional groundwater supplies. Federal funding and a community assessment district will be used as matching funds: \$300,000 is needed to move forward on this \$15 million project. The entire area served by this project qualifies as a DAC and would improve sewer service to over 1,000 families.

**6. Eagle Canyon Dam Integrated Flood Control and Regional Watershed Project:** Addresses safety, flood control and economic development issues for the DACs in Cathedral City, Palm Springs, Riverside County, and Tribal lands. This is the priority project for Riverside County Flood Control and Water Conservation District - Zone 6. Federal funding through the Army Corps of Engineers and in-kind participation from collaborating agencies will be used as matching funds; \$400,000 is needed to move forward on this \$26 million project.

**7. DAC Conservation and Water Testing Pilot Project:** DACs frequently pay significant costs for water that is wasted due to leaks they cannot afford to fix, or do not drink tap water due to worries about quality. This project would utilize existing non-profits and agencies to test and help significantly disadvantaged community members make repairs, conserve and use the water they pay for. The total cost of this pilot is dependent on grants and other participation. \$150,000 is sought from DWR and will be matched with other funding and agency in-kind participation.

#### 4.4 Project Selection Process

The RMC team will develop a project prioritization process characterized by its transparency, objectivity, and stakeholder participation. The process will contain selection criteria that will assist in addressing DAC issues and meeting the CVIRWM Plan objectives, as outlined in the existing CVIRWM Plan (2010). The CVIRWM Plan Objectives are listed in Appendix K.

- Initial project screening that includes evaluating whether the project addresses identified DAC issues and enjoys DAC stakeholder support in the affected community.
- Plan scoring and ranking process that will include evaluation of how well a project meets selection criteria. Projects will be entered in the data base.
- The criteria list may include:

- Addresses multiple IRWM Plan objectives
- Uses multiple resource management strategies
- Optimizes water supply reliability
- Protects or improves water quality
- Manages flood risks
- Optimizes conjunctive use of surface and groundwater supplies
- Technical analysis and feasibility
- Cost-effectiveness
- Analysis of benefits (quantitative and qualitative)
- Involves more than one partners
- Project status
- Ability to monitor performance
- Certainty of funding match, implementation, and O & M
- Addresses a Statewide Priority

#### **4.5 Project Planning and Engineering Support**

The project selection process shall result in the selection of up to six project concepts that are top candidates for additional engineering and program management development. These candidate projects shall be reviewed by the Project Partners and approved by the CVRWGM. The candidate projects will be approved by DWR.

The final DAC Program projects will be further developed and result in concept-level drawings, schematics, and cost estimates. RMC will identify any additional study or actions required to make the project competitive for future IRWM and other grant funding. The detailed plans and schematics will be submitted to DWR along with a summary of project development findings.

## Section 5 DAC IRWM Plan Element Preparation

The purpose of the work described in this section is to prepare preliminary and final drafts of a DAC IRWM Plan Element (DAC Element). The goal of the DAC Element is to provide information on DACs in the Region and their needs and priorities for the Coachella Valley IRWM Plan Update. The DAC Element will be designed to characterize DAC needs and will build on the DAC-related outreach and projects identified in the IRWM Plan, where possible. The Roundtable of Region's Guidelines for Incorporating DACs into IRWM Planning will be used as a guide for development of the DAC Element.

### 5.1 Schedule and Deliverables

The DAC IRWM Plan Element will be created in draft form and undergo several review and comment periods prior to incorporation into the CV Plan.

Deliverables associated with the DAC IRWM Plan Element include the following:

- Prepare and submit the Preliminary Draft of the DAC IRWM Plan Element to DWR and to the DAC Issues Group and CVRWMG for review and comment.
- Resubmit a revised draft, based on review comments received, to DWR and to the DAC Issues Group and CVRWMG for review and comment.
- Incorporate comments and release a final draft approved by DWR to the general public.
- Prior to completion of the DAC Outreach Program, prepare and submit a revised DAC IRWM Plan Element with updated information and public comments considered to DWR and to the CVRWMG and DAC Issues Group for review and comment.
- Resubmit a revised Plan Element based on review comments received from DWR and the CVRWMG and DAC Issues Group for review and comment.
- Recommend the final version approved by DWR to the CVRWMG's governing bodies for adoption as an Addendum to the Coachella Valley IRWM Plan Update.



## Section 6 DAC Participation in Regional IRWM

The RMC team and CVWD will develop a list of challenges that have historically prevented or discouraged DAC involvement in IRWM planning activities. Outreach techniques will be recommended to overcome those challenges and promote DAC involvement in IRWM planning. Background information that informs this list will be gathered throughout the execution of the DAC Program outreach process that will include multiple meetings with and communications to DAC stakeholders. The team with the RWMG will refine the criteria for selecting the groups.

The process for selecting groups will include:

1. Identify under-represented groups who could assist in improvements to the IRWM Plan process.
2. Identify if any group would be unable to participate without financial support.
3. Determine if the group has a structure conducive to participation and financial management of reimbursements
4. Submit list to CVRWMG, DAC stakeholders, and then Planning Partners.

A preliminary list of groups meeting these criteria will be developed. The list of groups will be submitted for review to the CVRWMG, DAC stakeholders, and then Planning Partners.

A revised list based on review comments will be submitted to DWR, the CVRWMG, and the Project Partners for additional review and comment. A final draft approved by DWR shall be released to the public for review and incorporation into the DAC Outreach Plan.

The CVIRWM Plan Update project will coordinate with and inform the DAC Program. The CVIRWM Plan Update will conduct various outreach activities aligned with the DAC Program such as DAC/EJ outreach meetings, notices and newsletters, and correspondence. The new outreach techniques developed through the DAC Program to overcome the challenges of DAC's IRWM planning involvement (identified in this task) will be utilized by the IRWM Plan update process. The outreach section of the IRWM Plan will incorporate the outcomes of implementing the DAC Program outreach techniques.

## Section 7 DAC Outreach Demonstration Project Report/White Paper

Experience gained throughout implementation of the DAC Program will be used to propose to DWR a DAC Outreach Program Model for use in other areas of California that face similar water resources issues. This model will be conveyed to DWR through compilation of a Project Report/White Paper that contains the sections outlined below.

### 7.1 Executive Summary

The Executive Summary will include an overview of the contents of the Project Report/White Paper in a concise, user-friendly manner.

### 7.2 Report

#### 7.2.1 Contents

General contents of the Project Report/White Paper will include a background and purpose, goals, objectives, and results, planned and executed work, recommendations, and deliverables.

#### 7.2.2 Background and Purpose

The background and purpose component of the Project Report/White Paper will provide an overview of the DAC Program, including information regarding background associated with the Coachella Valley IRWM planning process as it relates to the need to carry out the DAC Program.

#### 7.2.3 Goals, Objectives, and Results

The goals, objectives, and results component of the Project Report/White Paper will include an overview of the goals and objectives of the DAC Program. Further, this component will include a discussion of the major problems that occurred in meeting the proposed goals and objectives of the DAC Program, and how such problems were resolved.

#### 7.2.4 Planned and Executed Work

The planned and executed work component of the Project Report/White Paper will include a comparison of the actual work performed under the DAC Program to the work and tasks detailed within Grant Agreement No. 4600009468, *Integrated Regional Water Management Planning (Disadvantaged Community Outreach)*. Any notable differences between these items will be explained.

This component will also contain a summary of the costs incurred and disposition of funds that were disbursed, including a table showing actual costs in comparison to the costs determined within Grant Agreement No. 4600009468, *Integrated Regional Water Management Planning (Disadvantaged Community Outreach)*. Any notable differences between actual and projected costs will be explained.

#### 7.2.5 Recommendations

The recommendations component of the Project Report/White Paper will include a synthesis of the preceding sections into a set of recommendations for how results of the DAC Program could be utilized in other areas of California that face similar water resources issues to the Coachella Valley.

### **7.2.6 Deliverables**

Deliverables associated with the Project Report/White Paper include the following:

- Prepare an administrative draft of the Final Project Report/White Paper for internal review and comment among the CVRWGMG agencies.
- Submit a revised draft of the Final Project Report/White Paper based on review comments to DWR for review and approval.
- Release to the general public an electronic copy of the Final Project Report/White Paper upon approval and acceptance by DWR.

### **7.3 Report Approval**

The Final Project Report/White Paper will be released to the general public after it has been approved of and accepted by DWR.



## Appendix VI-F: Public Comments

This appendix includes all of the comments received during the public comment period for the draft 2014 Coachella Valley IRWM Plan (November 4, 2013 through December 31, 2013) as well as an additional comment letter that was received prior to the public comment period (October 25, 2013).

In addition to the comment letters, this appendix includes a comment matrix that includes notes regarding if, how, and/or why comments received during the public comment period were incorporated into the final 2014 IRWM Plan.

Comment letters were received from the Agua Caliente Band of Cahuilla Indians, California Rural Legal Assistance, Inc. and Leadership Counsel for Justice and Accountability, and Riverside County Flood Control and Water Conservation District.



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CVIRWMP Comment Matrix - Public Draft of the 2014 Coachella Valley IRWM Plan

Written Comments from Stakeholders

\*The page and location references are to those from the originally received comments (from the Public Draft IRWM Plan).

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
1	RCFCWCD	3-20	Last sentence of 1st paragraph in 3.1.6; Last sentence of 1st paragraph under "Stormwater"	Edit to reflect that the Whitewater River Region is an ephemeral portion of the watershed; in the urbanized areas, flow in the Whitewater River and all of its tributaries are very rare	Added "The WRSC follows the natural Whitewater River, and flows in the WRSC are ephemeral, while the CVSC is the channelized portion of the Whitewater River, and generally contains flow year-round from agricultural drains, permitted discharges, and stormwater runoff from occasional storm events." to the end of the first paragraph under Section 3.1.4 on Stormwater.
2	RCFCWCD	3-24	Last sentence of 1st paragraph in Section 3.1.6; 1st sentence under "Wetlands"	Edit to reflect that due to natural conditions, low urban density, and Permittee-implemented BMPs, discharges from urbanized areas to Receiving Waters are also rare	Added "Implementation of BMPs, along with low annual rainfall and low urban density, have led to runoff from urban areas into the stormwater channel being rare, except in cases of major storm events." to end of first paragraph of 3.1.6 Flood Management. For edits to "Wetlands", see response to Comment #3
3	RCFCWCD	3-24	1st sentence under "Wetlands"	Edit to reflect it is very rare that flows in the CVSC consist of storm flows	Modified text to indicate storm flows in CVSC following major storm events
4	RCFCWCD	1-2; 2-45; 6-4	2nd paragraph under Sec. 1.1; last sentence of 1st paragraph under "Stormwater Quality Concerns"; Objective F	Edit to reflect that with the exception of the lower 17-mile reach of CVSC, surface water quality in the Whitewater River Region has been identified as good. Additionally, where surface water quality issues might exist, storm water is not identified as a source	In Section 1.1, clarified surface water quality issues primarily in last 17 miles of stormwater channel; Added "A TMDL has been established for indicator bacteria (E. coli) in the lower 17 miles of the CVSC portion of the stormwater channel, though its source is currently described as "unknown" by the USEPA (SWRCB 2010)." to end of the Stormwater Quality Concerns section in the Region Description.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
5	RCFCWCD	3-33; 6-4; 8-24; 11-9	Table 3-2 ("Justification" column for "Ecosystem and Habitat" vulnerabilities); 2nd sentence under "Objective F"; Last sentence of 1st paragraph under "Urban Runoff Management"; 3rd bullet under "Ecosystem Improvement"	Edit to reflect that low annual rainfall, low urban density, minimal vegetative cover, development predominantly located on alluvial fans, constructed flood control improvements and Permittee New Development requirements have all combined to limit potential impacts on the Region's drainage system. Additionally, all Receiving Waters which compose the drainage system within the urbanized area are engineered and maintained channels; therefore, watershed erosion and sediment management are not issues which need to be addressed within the Region	Re: Objective F, see response to Comment #4; Added " Implementation of, and compliance with, the BMPs of the region's 2013 MS4 permit are anticipated to reduce urban runoff from normal rain events. Additionally, much of the runoff from urbanized areas of the region flows into the engineered portion of the stormwater channel (the CVSC), reducing the concerns of sedimentation and erosion." to end of first paragraph under "Urban Runoff Management";
6	RCFCWCD	Throughout; 3-13; 3-20; 3-28; 3-21	Throughout; end of 2nd paragraph; last sentence of second-to-last paragraph; Table 3-1 ("Key issues" associated with "Flood Risks"); 1st and 2nd paragraphs of Sec. 3.1.6	Distinguish between CVSC and WRSC throughout document to reflect their marked differences (i.e., one features perennial flows, the other is dry/ephemeral, ones has TMDL and multiple 303(d) listings, the other has none, etc.)	Incorporated change throughout all chapters of Plan.
7	RCFCWCD	2-44 to 2-45; 3-27; 6-4	Section 2.5.5; Table 3-1 under "Surface Water Quality"; 2nd to last sentence under Objective F	Update 303(d) listings with 2010 list	Updated language in Objective F (pg. 6-4) and Table 3-1 to include all five pollutants (DDT, dieldrin, PCBs, pathogens, and toxaphene). Also updated language in Section 2.5.5 to include all 5 pollutants
8	RCFCWCD	3-27	Table 3-1	Incorrect sources are named for 303(d) listings	Removed reference to sources - 2010 303(d) list says sources are unknown.
9	RCFCWCD	2-44 to 2-45; 3-20 and 3-21; 6-1	Section 2.5.5; "Coachella Valley Stormwater Channel"; Table 6-1	Several IRWMP sections feature outdated and/or incorrect CVSC Bacterial Indicator TMDL information. The TMDL received final approval from EPA on 4/27/2012 and City of Coachella is implementing Phase 1 of TMDL implementation. For more information, see Findings 36-50 of 2013 Whitewater River Region MS4 Permit	Corrected language to include all 5 pollutants and note that the sources are officially listed as unknown in Sec. 2.5.5 and in Table 6-1. Updated TMDL completion date in Table 6-1 to be consistent with the 303(d) listing.
10	RCFCWCD	2-24;3-13; 3-21 throughout	Pg. 2-24; 2nd paragraph; pg. 3-21; Throughout	We prefer that the IRWMP not use the terms "divert" or "discharge" when referring to stormwater or floodwaters. "Convey stormwater" is a preferred term.	Changed to convey where appropriate - but have left "divert" in instances where diversions take place (such as diversions so recharge facilities).
11	RCFCWCD		General	Flows are conveyed to the Salton Sea during major and significant storm events.	Have included this information in the Region Description and Issues and Needs Chapters.



#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
12	RCFCWCD	2-26	"Existing Flood Hazards" 1st paragraph	Suggest revision to 1st paragraph to reflect flooding occurs periodically during significant storms, and is not ongoing. We do not feel that flooding occurs through "mechanisms". Capacity of infrastructure is not always exceeded; some areas do not contain infrastructure and located within the flood risk areas.	Revised the paragraph to say: "Despite the existing flood control infrastructure and measures, there is ongoing flooding and potential hazards associated with <u>periodic</u> flooding in the Region <u>following storm events</u> .- Existing flooding can occur <del>through</del> <u>in two different mechanisms that ways</u> , including."
13	RCFCWCD	2-26	"Existing Flood Hazards"	Please use standard industry definitions for the NFIP, flood risk reduction and terms such as the 100-year flood. Flood hazard areas identified on the Flood Insurance Rate Map are identified as Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any give year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood.	Included standard definitions of the NFIP, flood risk reduction, 100-year flood, and SFHA in Chapter 2 (Region Description).
14	RCFCWCD	2-26	"Existing Flood Hazards"	Communities are not required to identify areas. They are required to regulate SFHA.	Changed "identify" to "regulate"
15	RCFCWCD	2-44	Section 2.5.5 Stormwater Quality "Regional Stormwater Permit"	Suggest deletion of 1st sentence of 2nd paragraph under "Regional Stormwater Permit". Although Permittees do have a CMP, it is not a requirement of the Whitewater River Region MS4 Permit.	Changed sentence to indicate that the permittees created a CMP, and removed reference to it being a requirement of the permit
16	RCFCWCD	2-45	Section 2.5.5 Stormwater Quality "Regional Stormwater Permit"	Suggest deletion of the last paragraph regarding CMP; the updates were not required by the Colorado River Regional Board and did not affect the Whitewater River Region section of the CMP	Removed the paragraph in question. Added language to the section indicating that an update for the Whitewater River section of the CMP was not required as part of the 2013 MS4 permit.
17	RCFCWCD	2-45	Section 2.5.5 Stormwater Quality "Stormwater Quality Concerns"	The Regional Board has recognized there currently are no storm water quality "concerns" in the Whitewater Region, except for the TMDL at CVSC; therefore it is our recommendation that the "Stormwater Quality Concerns" should focus on the TMDL, not one year of monitoring data	Have modified the section on Stormwater Quality Concerns to focus on the TMDL - but have also included information about the CMPs, because this information is still relevant, but has been caveated as less important.
18	RCFCWCD	2-45	Section 2.5.5 Stormwater Quality "Stormwater Quality Concerns"	The last two bullets of "Stormwater Quality Concerns", which cite monitoring data obtained from Ramsey Street and Whitewater River Canyon Road should not be included in the IRWMP, as Ramsey Street is not within the IRWM boundary, and Whitewater River Canyon Road monitoring site is a non-urban site chosen to measure background levels of contaminants in the watershed	Have deleted these bullets as the information is not relevant to the Coachella Valley IRWM Region.
19	RCFCWCD	3-13	Section 3.1.4 Stormwater	Suggest revision of 2nd paragraph to reflect that flows are conveyed to Salton Sea during major and significant storm events.	Added language to in indicate "major" storm events, and stated explicitly that WRSC/CVSC flows are conveyed to the Salton Sea.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
20	RCFCWCD	3-21	Section 3.1.6 Flood Management	"Flood Management Section" is awkwardly written, we suggest proofing, editing, and addition of a narrative about non-structural protection, flood risk reduction, and residual risk	Revised language to improve readability
21	RCFCWCD	4-3	Section 4.1.3 Previously Identified Projects, No. 3	The Verbena Channel and Basin concept is no longer a proposed project. Suggest deleting.	Deleted Verbena Channel project as requested
22	RCFCWCD	4-41	Table 4-4	In the "Flood Control" Project Concept, suggest deletion of 2nd sentence of Background/Issue Statement. Vector control issues need to be addressed as part of any basin design, independent of whether the basin will be located within a DAC. It is our experience that if a basin cannot meet the standard drawdown time to address vector control requirements, it is typically due to soil type or drainage slope	Added language to clarify vector control issues are a problem in E. Valley and in areas with soils that do not lend themselves to infiltration or where retention basins are poorly designed.
23	RCFCWCD	6-4	Objective F	Suggest changing last portion of language of Objective F to "and preventing pollution in storm water runoff"	Have not modified the language of Objective F - this was vetted by stakeholders and would not be appropriate to edit at this time.
24	RCFCWCD	6-5	Objective H	Suggest deletion of 4th sentence of 1st paragraph. It is believed that the tremendous effort which has been, and is currently being put forth through Permittee New Development requirements, on-site retention ordinances and master planning will assist with mitigating flood risks as populations increase	Have modified the section to clarify that without the substantial mitigation measures that are being implemented (development requirements, on-site retention, and master planning) this could be a risk, but that regional efforts have mitigated risks and prevented flood risks from occurring.
25	RCFCWCD	6-11	Table 6-1 "Expand stormwater capture and infiltration over current levels"	The narrative regarding infiltration measurement is awkwardly written, suggest proofing and editing	Revised text for clarity and readability
26	RCFCWCD	6-17	Table 6-1	The measurements text appears to run on, and should be clarified. If possible, recommend adding a measurable target for non-structural flood risk reduction solutions. Minimize development in high flood risk areas when possible.	Revised text for clarity and readability. Added "Projects can include structural and non-structural strategies to reduce flood risks." to the end of the Measurements entry for this Target. Did not add anything about minimizing development in flood risk areas as development is not within the purview of the IRWM Program.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
27	RCFCWCD	7-15	Table 7-7	District staff received invites to the IFM Issues Group; however, we are fairly certain we were not able to attend. Does CVRWGMG have record of us attending?	Incorporated into text. Changed language to reflect the table is identified interested parties and not necessarily attendees
28	RCFCWCD	9-14	Table 9-4	In the "Use and Reuse Water More Efficiently" section of Table 9-4, suggest deletion of "capture and reuse" language regarding LID BMPs. It has been determined by Regional Board staff, the cities, and the County that capture and reuse BMPs are not feasible considering 3.6 inches of annual rainfall.	Have revised all instances when LID BMPs are discussed to clarify that in the Coachella Valley IRWM Region these only apply to detention basins that help to capture mountain runoff.
29	RCFCWCD	9-15	Table 9-4	We do not believe LID is a significant practice related to IFM. LID is a practice that has certain benefits; IFM is performed on a greater scale	See response to Comment #28
30	RCFCWCD	10-10	Section 10.2 Relation to Local Water Planning, 2nd bullet	Recommend deleting "CVWD and RCFCWCD each have included the impacts of these flows in the design capacities of their regional facilities and each utilizes their own permit approval processes for accepting local drainage". Alternatively, this statement may be explained in detail	Have clarified the language of the text to state that CVWD and RCFCWCD use their own permit processes for accepting additional flood flows.
31	RCFCWCD	10-15	Section 10.2.3 Additional Water Planning Efforts	Suggest revision of the 1st sentence of the 2nd paragraph. The District does not regulate drainage and development in floodplains, Riverside County does.	Have conferred with CVWD and verified that CVWD does regulate drainage and development in portions of the floodplain. This comment has not been incorporated.
32	CRLA; Leadership Counsel for Justice & Accountability		General	We remind CVRWGMG of AB 685...CVRWGMG and its members are some of the agencies with a duty to further the human right to water	N/A
33	CRLA; Leadership Counsel for Justice & Accountability		General	CVRWGMG should promote more equitable and effective engagement of DACs in both the IRWM planning process and future IRWM-related grant opportunities by adopting the recommendations made by the DAC Outreach Demonstration project, with some exceptions and/or clarifications, as noted [in other CRLA/Leadership Counsel comments]	Have listed all of the recommendations and indicated the responsible parties in Table 4-2 and 4-3.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
34	CRLA; Leadership Counsel for Justice & Accountability		Chapter 9, general	Note that the IRWM Plan Update...does not articulate a cohesive plan for soliciting or developing project proposals that will achieve Plan's objectives with maximum efficiency. Plan relies on initiative of individual project proponents. Recommend that the Plan adopt a more robust approach to integrated regional water planning, allowing for the identification and development of priority projects - including collaborative or clustered projects - in order to maximize effectiveness and efficiency.	Have clarified in Chapter 9 all of the efforts to encourage collaboration and develop projects that have been implemented by the CVRWMG.
35	CRLA; Leadership Counsel for Justice & Accountability	4-35 to 4-38	Section 4.3.6 DAC Needs	Relegating discussion [of water and wastewater needs of DACs] to DAC-specific materials may create the impression that needs of DACs are not a central component of IRWM, when in fact they are key to integration.	Have cross-referenced the DAC section of the Issues and Needs chapter and also modified the Issues and Needs chapter to include all of the DAC issues outlined in Chapter 4.
36	CRLA; Leadership Counsel for Justice & Accountability	2-17 to 2-18	Section 2.2.3 Wastewater "Wastewater Treatment"	Should describe, number, and map the residents relying on septic systems for wastewater treatment	We do not have this information - have included as a data gap in Chapter 11.
37	CRLA; Leadership Counsel for Justice & Accountability	2-34 to 2-35	Section 2.4.1 Water Supply; Section 2.4.2 Water Demand	Should acknowledge that water supply and demand associated with private wells are a significant but currently unquantified component of Region's water supply and demand. Inclusion of this would better fulfill IRWM guidelines requirements (see Guidelines, pp. 19, 39-40)	Have updated this section to include projections for private pumping.
38	CRLA; Leadership Counsel for Justice & Accountability	2-34 to 2-39	Section 2.4.2 Water Demand	Should include discussion of Regional Housing Needs Assessment (RHNA) numbers projected for the region by the Southern California Association of Governments (SCAG) for use in housing and land use planning. Inclusion of RHNA numbers would promote IRWM Guidelines' goal of "effective [] integrat [tion of] water management with land use planning" (see e.g., Guidelines at 12, 18, 22, 39)	Have clarified in the text where the UWMP numbers come from (SCAG).

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
39	CRLA; Leadership Counsel for Justice & Accountability	2-40 to 2-41	Section 2.5.1 Groundwater Quality	Should include quantification, to the extent possible, of private wells in the Region known to exceed state MCLs for drinking water. Many private wells supplying water to small mobile home parks in the Eastern Coachella Valley do not test or report on drinking water quality and that data on MCL exceedance are almost certainly an undercounted. This section minimizes severity of drinking water quality concerns in DACs in Eastern Coachella Valley, e.g., it emphasizes residents' perception of water quality rather than known data, and states "some private wells in the East Valley contain low levels of arsenic". Redrafting to emphasize known drinking water hazards would better fulfill IRWM Guidelines' requirements regarding description of water quality	Have updated information in Section 2.5.1 to clarify the issue for private wells, especially in the East Valley.
40	CRLA; Leadership Counsel for Justice & Accountability	2-48 to 2-49	Section 2.6 Social and Cultural Make-Up	Should include more data on population characteristics of DACs in the Coachella Valley, such as a summary of the data presented in Section 4.3.3 "Economic Stratigraphy" and should more directly refer to the reader to Chapter 4 for additional detail	Added a DAC subsection to Section 2.6 Social and Cultural Make-up, provided brief overview of DACs and referred readers to Chapter 4 and the reorganized DAC Volume Appendix (Volume II).
41	CRLA; Leadership Counsel for Justice & Accountability	2-48 to 2-49	Section 2.6 Social and Cultural Make-Up	Recommend discussion of concern that U.S. Census figures may not accurately reflect population characteristics of DACs, particularly in rural Eastern Coachella Valley. Concern is noted in DAC chapter but bears mention in Region Description as well	See response to comment #40.
42	CRLA; Leadership Counsel for Justice & Accountability	3-3 to 3-8	3.1.2 Water Supply "Groundwater"	Discussion of groundwater related issues should note that the areas of E. Coachella Valley most vulnerable to negative impacts of groundwater overdraft are DACs. This concern applies to intrusion of Salton Sea waters, and waters from the semi-perched aquifer, subsidence, wells running dry, and diminution in groundwater storage capacity	Included information in Section 3.1.2 that the cost of addressing groundwater issues is substantial and that DACs may be disproportionately impacted by economic issues.
43	CRLA; Leadership Counsel for Justice & Accountability	3-19	Section 3.1.5 Water Quality "Wastewater - Septic Failure"	Description of septic failure issues should note that this concern particularly impacts DACs throughout the IRWM region.	Have included information in Section 3.1.2 consistent with response to comment #42.
44	CRLA; Leadership Counsel for Justice & Accountability	3-24 to 3-25	Section 3.1.8 Issues Groups "Disadvantaged Communities"	Discussion of DAC-related issues should place more emphasis on wastewater treatment needs.	Added information about inadequate wastewater treatment in DACs to the end of the Water and Sewer Infrastructure section under Disadvantaged Communities in Section 3.1.8.

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45	CRLA; Leadership Counsel for Justice & Accountability	3-25	"Rural Access to Water"	Should note that many small mobile home parks in E. Coachella Valley are served by small private wells that are not subject to regular monitoring, and that many such private wells likely exceed MCLs for arsenic and potentially other contaminants	Added "Water quality issues are of particular concern in the Eastern Coachella Valley, where many small mobile home parks are dependent on small private wells. These wells are not monitored, and may be at risk of high levels of arsenic or potentially other pollutants, which have been found in localized areas of the groundwater basin." to <i>Rural Access to Water</i> section in Section 3.1.8.
46	CRLA; Leadership Counsel for Justice & Accountability	3-27	Table 3-1	Table 3-1 minimizes the extent of arsenic contamination of drinking water in E. Coachella Valley private wells and should instead state "[m]any of the small private water systems in mobile home parks in East Valley exceed the MCLs for arsenic."	See response to Comment #39.
47	CRLA; Leadership Counsel for Justice & Accountability		General	Some data included in the IRWMP Update and its Appendices are inadequate and/or are not presented with sufficient clarity. (Refer to other CRLA/Leadership Counsel comments)	N/A
48	CRLA; Leadership Counsel for Justice & Accountability	4-14 and 4-15	Fig. 4-5 and Fig. 4-6	Figures do not indicate their level of granularity.	Added text to Figure 4-5 to reflect data is census tract level and Figure 4-6 to reflect data is census block-group level. Also added this information to description of figure in Chapter 4.
49	CRLA; Leadership Counsel for Justice & Accountability		Appendix C Tapestry Maps	Figures in this appendix do not indicate their level of granularity. Also should note the year of the data from which they are drawn	Added text to Appendix VII-A cover page to indicate 2010 Census data at tract level.
50	CRLA; Leadership Counsel for Justice & Accountability	4-22	Table 4-3	Figure offers statistics about type of tenure for households in the IRWM region, but does not explain whether mobile home owners who rent a mobile home space are categorized as owners or renters. For purposes of assessing water-related infrastructure needs, mobile home owners who rent mobile home spaces face unique challenges that have some characteristics of home ownership and other characteristics of renter status. It would be appropriate to include separate category for these households in recognition of the specialized analysis they require	See response to Comment #39. Have recognized as a data gap in Chapter 11, because we do not have this data.

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51	CRLA; Leadership Counsel for Justice & Accountability	4-23, throughout	Section 4.3.4 DAC Outreach Survey and Mapping	Sec. 4.3.4 notes survey assessed residents' opinions or perceptions of their water quality and wastewater needs but fails to address the relevance of such perception-related data, existing verified data on water quality and wastewater needs, or the need for more thorough monitoring of DACs' water quality and wastewater needs, particularly in unpermitted mobile home parks, other unregulated water systems and private wells in E. Coachella Valley and a plan to undertake said monitoring	We have added text to clarify that the words opinions and perceptions are used, because this data is from an unverified opinion survey. Have also added the issue of monitoring as a data need in Chapter 11.
52	CRLA; Leadership Counsel for Justice & Accountability	4-32	Section 4.3.5 DAC Water Quality Evaluation and Fig. 4-15; Appendix S	Sec. 4.3.5 and Fig. 4-15 are based on existing data and therefore do not include data on water quality in many unpermitted mobile home parks, other unregulated water systems, and private wells in the E. Coachella Valley. This deficit of data should be acknowledged, with recognition that mapped Areas of Concern probably do not include all DACs who receive water from private wells with contaminant levels that exceed MCLs. This concern also applies to Appendix S and a plan to address that data gap.	Added example of data gaps identified in the DAC Water Quality Evaluation appendix "such as information on the location of private wells and their water quality," to final sentence of first paragraph in Section 4.3.5. Note that the DAC Water Quality Evaluation did not mention unpermitted mobile home parks specifically, so we have added this information.
53	CRLA; Leadership Counsel for Justice & Accountability		Chapter 5 Tribal Water Resources	Data reported in Ch. 5 seem to be based almost entirely on self-reporting by the tribes. Lack of regular or centralized third-party monitoring can complicate and undermine the assessment of water-related needs and the development of appropriate actions.	No changes made to the Plan.
54	CRLA; Leadership Counsel for Justice & Accountability	5-2	Table 5-1	Does not reflect the existence of several large mobile home parks on Torres-Martinez tribal lands (see, e.g., <a href="http://yosemite.epa.gov/opa/admpress.nsf/0/9F93C60CB9F2250B85257BE20065A786">http://yosemite.epa.gov/opa/admpress.nsf/0/9F93C60CB9F2250B85257BE20065A786</a> )	Unable to confirm population of the mobile home parks on Torres-Martinez land. Added footnote to table to indicate that the population listed in the "On Reservation" column does not include non-Tribal residents of mobile home parks on Tribal lands.
55	CRLA; Leadership Counsel for Justice & Accountability	5-9	Section 5.4.2 Tribal Water Quality Monitoring Activities	Mentions that "most tribes" submit water quality data to USEPA, but does not note which areas of the Coachella Valley are not covered by this self-reporting and does not discuss the potential conflicts of interest faced by the tribes in this self-reporting system.	STORET has data from Morongo and 29 Palms. Includes monitoring station latitude and longitude. We have included this information in Chapter 5.
56	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 5 Tribal Water Resources	It is unclear whether CVIRWM accessed STORET data or relied entirely on information self-reported by tribal representatives in their meetings with CVIRWM members	See response to Comment #55
57	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 5 Tribal Water Resources	To resolve data gaps and uncertainties related to tribal water resources, recommend that CVRWGM work more closely with tribes to obtain and validate the data in question, and establish relationships with BIA and other federal agencies tasked with regulating environmental quality on tribal lands (e.g., the USEPA)	No change made to Plan.

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58	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix U Evaluation of Valley-Wide Groundwater Monitoring Programs	It is unclear whether any assessment was done of the semi-perched aquifer in the E. Coachella Valley or whether any consideration was given to shallow private wells that might be drawing from this semi-perched aquifer.	Have clarified in the text that the assessment covered the deeper aquifer for which there is publically available data.
59	CRLA; Leadership Counsel for Justice & Accountability	Appendix U - pg. 5	Appendix U - Section 2.1.1 Arsenic	It is unclear whether the data presented in this section are drawn only from municipal wells or also from primary wells and/or private wells	Have clarified the sources of information used in the assessment.
60	CRLA; Leadership Counsel for Justice & Accountability	Appendix U - pp. 19-20	Appendix U - Section 3 Identified Data Gaps	It is unclear whether wells on tribal lands are currently being monitoring by any of the entities named in Section 2 or how frequent or thorough any such monitoring might be. Given the widespread concern about lack of regulation of drinking water on tribal lands in the Coachella Valley, it would be appropriate to clarify this question and if monitoring is not currently occurring, to mention this data gap.	The analysis did not include this information, because the TM only pertained to the monitoring activities of the CVRWGM agencies.
61	CRLA; Leadership Counsel for Justice & Accountability	General; 2-51; 3-24; 4-11; 4-35; 4-41	General; Section 2.7 Major Water-Related Objectives and Conflicts; Section 3.1.8 Issues Groups; Section 4.2.5 Coordination with Community Leaders; Section 4.3.6 DAC Needs; Section 4.4.3 Project Descriptions; Chapter 5 Tribal Water Resources; Chapter 6 Objectives; Chapter 7 Stakeholder Involvement; Appendix O DAC Outreach;	The current Draft of the 2014 IRWM Plan fails to note several significant conflicts impacting the CVIRWM region, including conflicts between landowners and residents and conflicts between DACs' infrastructure needs and municipal providers' reluctance to participate in state loan programs designed to extend municipal water and wastewater services to DACs. Plan should be revised to describe these conflicts and, as required by IRWM Guidelines, should address these conflicts in its Objectives (see Guidelines, pg. 20)	Have included conflicts between landowners and residents into DAC Issues and Needs. Information about development in the East Valley and permitting is already discussed.
62	CRLA; Leadership Counsel for Justice & Accountability	General; 2-51; 3-24; 4-11; 4-35; 4-41	General; Section 2.7 Major Water-Related Objectives and Conflicts; Section 3.1.8 Issues Groups; Section 4.2.5 Coordination with Community Leaders; Section 4.3.6 DAC Needs; Section 4.4.3 Project Descriptions; Chapter 5 Tribal Water Resources; Chapter 6 Objectives; Chapter 7 Stakeholder Involvement; Appendix O DAC Outreach;	...discussion of outreach to DACs in the E. Coachella Valley focuses on communication with owners of small mobile home parks who live on-site and whose...water-related needs may be ...similar to the needs of residents. Many residents of E. Coachella Valley DACs live in mobile home parks whose owners live off-site and whose interests (profit) may conflict with interests of DAC residents (safe drinking water and adequate wastewater treatment)... An outreach plan premised on a continuity of interest between landowners and residents will not be adequate to address the water-related needs of DAC residents whose interest conflicts with the interest of their landlords. A separate, well-tailored outreach plan would educate landlords about IRWM process and might [help] them to develop or ...support projects.	Have included this as a next step in the Appendix H report for Volume II.



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63	CRLA; Leadership Counsel for Justice & Accountability	General; 2-51; 3-24; 4-11; 4-35; 4-41	General; Section 2.7 Major Water-Related Objectives and Conflicts; Section 3.1.8 Issues Groups; Section 4.2.5 Coordination with Community Leaders; Section 4.3.6 DAC Needs; Section 4.4.3 Project Descriptions; Chapter 5 Tribal Water Resources; Chapter 6 Objectives; Chapter 7 Stakeholder Involvement; Appendix O DAC Outreach;	Partnership with enforcement agencies...could be beneficial to convince landowners of benefits of improving water-related infrastructure, provided that such enforcement is limited to citations and does not create risk of displacement for low-income residents.	Have included information in the DAC chapter that the projects we implemented included a partnership with enforcement agencies (i.e. Riverside County).
64	CRLA; Leadership Counsel for Justice & Accountability	General; 2-51; 3-24; 4-11; 4-35; 4-41	General; Section 2.7 Major Water-Related Objectives and Conflicts; Section 3.1.8 Issues Groups; Section 4.2.5 Coordination with Community Leaders; Section 4.3.6 DAC Needs; Section 4.4.3 Project Descriptions; Chapter 5 Tribal Water Resources; Chapter 6 Objectives; Chapter 7 Stakeholder Involvement; Appendix O DAC Outreach;	A manifestation of this conflict occurs on tribal lands, particularly when non-tribal members rent mobile home spaces on tribal lands...[they] are not protected by CA law regarding drinking water quality or adequacy or wastewater treatments and tribes may have little incentive to offer relevant data...or to agree to regulated themselves...A possible solution to these concerns might be a requirement that tribe, to access IRWM-related benefits, enter into an MOU agreeing to monitor and report water-related data to third parties and agree to adopt and enforce drinking water and wastewater provisions that are at least as protective as those available to residents of the State of California. (see example of such an MOU: <a href="http://www.aqmd.gov/news1/2012/cabazonmoupr.htm">http://www.aqmd.gov/news1/2012/cabazonmoupr.htm</a> )	STAT project (implemented through Prop 84 Round 1) includes an agreement to monitor groundwater quality- have included information in Chapter 11 that any projects implemented through the IRWM Program would be required to monitor and report water-related data to a third party (DWR).
65	CRLA; Leadership Counsel for Justice & Accountability	2-51; 11-27	Section 2.7 Major Water-Related Objectives and Conflicts, Chapter 6 Objectives, Section 11.5 Finance	At least one member of the CVIRWM (CVWD), has expressed extreme reluctance to avail itself of these loan programs [offered by CA agencies to assist in development of drinking water and wastewater infrastructure]. CVWD's interest in not participating in these loan programs is in conflict with DACs' interest in exploring all possible sources of funding for extension of municipal water and sewer services to currently unserved areas. This conflict bears mention in [the named sections]	CVWD is involved and participates in loan programs, this comment is not factual.
66	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 6 Objectives	IRWM Guidelines require that the Objectives "address major water-related issues and conflicts in the region", see also e.g., California Water Code §10534; California Public Resources Code §75026(a).	N/A
67	CRLA; Leadership Counsel for Justice & Accountability	6-1	6.1 Goals and Objectives	Plan should articulate a Goal of equitable distribution of the burdens and benefits of water management throughout all geographic and socioeconomic sectors of the Coachella Valley IRWM region.	The goals and objectives were developed by stakeholders through an open stakeholder process - it would not be appropriate to modify them at this time.

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68	CRLA; Leadership Counsel for Justice & Accountability	6-1 to 6-6	6.1 Goals and Objectives	The Objectives should explicitly address the conflicts...between DAC residents who rent mobile home spaces in mobile home parks whose owners do not share their residents' interests in drinking water quality and wastewater (noting unique situation of non-tribal DAC residents living on tribal lands); and between CVWD's reluctance to participate in state infrastructure loan programs and EVC DAC residents' need for extensions of municipal drinking water and sewer lines.	Have added language into Chapter 6 about the stakeholder process undertaken to develop the objectives.
69	CRLA; Leadership Counsel for Justice & Accountability	6-3	Objective B (manage groundwater levels to reduce overdraft, manage perched water, and minimize subsidence)	Proposed measurements for first target under Objective B should be strengthened to serve the objective of stabilizing groundwater levels at or near current levels by eliminating, or at the very least defining, the word "significant".	Targets are reflective of conditions expressed in the Region's WMPs and in other accessible data so that progress towards meeting the targets can be reasonably measured in the future - no changes were made.
70	CRLA; Leadership Counsel for Justice & Accountability	6-3	Objective B (manage groundwater levels to reduce overdraft, manage perched water, and minimize subsidence)	The second target (limiting subsidence) should include a plan to monitor subsidence in more remote areas of the E. Coachella Valley, which are not covered by existing USGS monitoring.	We do not have this information - have noted this as a data gap in Chapter 11.
71	CRLA; Leadership Counsel for Justice & Accountability	6-4	Objective E (protect groundwater quality and improve, where feasible)	The second target (reduce arsenic concentration in E. Valley drinking water) should address the need for more comprehensive testing and monitoring of drinking water quality from private wells in the E. Coachella Valley. Measurements should include progress towards more comprehensive monitoring of drinking water at mobile home parks in the E. Coachella Valley, and progress towards improving the ratio or mitigated to unmitigated private drinking water wells with contaminant levels that exceed MCLs. Measurement should also include metrics for assessing sustainability of on-site arsenic treatment projects (example: whether O&M are being performed in a way that makes arsenic removal effective and that addresses the need for proper disposal of used filter, brine, and other [fill in]).	Have cross-referenced to information added into Chapter 11 about this data gap (monitoring on private wells in the E. Valley).
72	CRLA; Leadership Counsel for Justice & Accountability	6-4	Objective E (protect groundwater quality and improve, where feasible)	The third target (convert existing septic systems) should include a commitment to identify, enumerate, and monitor failing septic systems throughout the region. Progress should be measured not only in the number of projects executed but also in reduction of the number of failing septic systems or improvement in ratio or mitigated to non-mitigated failing septic systems. Retrofitted septic systems should also be subject to ongoing monitoring to ensure they are being properly maintained	We do not have this information - have noted this as a data gap in Chapter 11.

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73	CRLA; Leadership Counsel for Justice & Accountability	6-5	Objective J (maximize stakeholder involvement and stewardship in water resource management)	Should include target for outreach/education to owners of mobile home parks or other residential locations served by private wells and septic systems, to encourage them to participate in mitigation efforts, perhaps especially for mobile home parks with off-site landowners. The addition of this target would also serve Objective L.	Have added language to Objective J about a target to conduct outreach/education to owners of mobile home parks or other residential locations to encourage them to participate in the IRWM process and implementation of projects that can help resolve on-site issues.
74	CRLA; Leadership Counsel for Justice & Accountability	6-5 to 6-6	Objective L (address water and sanitation needs of DACs, including those in remote areas)	The first target (address DAC needs through ongoing communication) should include some assessment of the number of known DACs, mobile home parks, etc. and an evaluation of the percentage of these communities that are being reached. Target should also include language recognizing the need to reach off-site landowners, for whom a different outreach strategy will be needed.	We do not have this data (the percentage of the communities being reached). Have included DAC demographic data as a data gap in Chapter 11.
75	CRLA; Leadership Counsel for Justice & Accountability	6-5 to 6-6	Objective L (address water and sanitation needs of DACs, including those in remote areas)	There must be an assessment of other obstacles to participation and communication including an analysis of residents that do not speak English or Spanish and an analysis of other obstacles to communication including access to meetings.	See comment #33 - have included all of the participation report recommendations into Chapter 4 and a cross-reference to the participation report.
76	CRLA; Leadership Counsel for Justice & Accountability	6-5 to 6-6	Objective L (address water and sanitation needs of DACs, including those in remote areas)	Measurement of second target should include some assessment of number of known wells in need of sealing and an evaluation of the percentage of wells that is being sealed.	We do not have this information - have noted this as a data gap in Chapter 11.
77	CRLA; Leadership Counsel for Justice & Accountability	6-5 to 6-6	Objective L (address water and sanitation needs of DACs, including those in remote areas)	Third target (improve drinking water quality for DACs) should also have some way to determine how many DAC residents are in need of improved drinking water and what percentage of these residents is being reached by funded projects. Measurement should also include a method for ensuring proper O&M are being performed in on-site projects.	See #74.
78	CRLA; Leadership Counsel for Justice & Accountability	6-5 to 6-6	Objective L (address water and sanitation needs of DACs, including those in remote areas)	[Measurement of third target]...must include some way of measuring ongoing affordability other than simply "presum[ing] that any such project will only be implemented if it provides affordable drinking water for the DACs being targeted."	Have added to this target, "Affordability considerations will include impacts to residents for costs of service, including connection fees, O&M fees, etc."

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79	CRLA; Leadership Counsel for Justice & Accountability	6-5 to 6-6	Objective K and Objective L	Objectives K and L should include a combined target for identifying, assessing the needs of, and addressing the needs of DACs on tribal lands, including DACs comprised primarily of non-tribal members.	Have included information into Objective K and L a target for assessing the needs of, and addressing the needs of DACs on tribal lands.
80	CRLA; Leadership Counsel for Justice & Accountability	6-5 to 6-6	Objective L (address water and sanitation needs of DACs, including those in remote areas)	Fourth target (convert failing septic systems) should include a way to determine how many DAC residents are affected by inadequate or failing septic systems, and what percentage of these residents is being benefitted by funded projects.	See response to comment #72
81	CRLA; Leadership Counsel for Justice & Accountability	6-6	Objective M (maintain affordability of water)	Second target (maintain average cost to income ratio at current levels) should recognize that extension of municipal services to DACs could significantly impact the denominator of this ratio. Also, given the extreme financial need of many DACs, this target should consider disaggregating DACs from general population and measuring DACs' cost-to-income ratio, then committing to consider whether this cost-to-income ratio is appropriate or needs to be targeted for reduction	Added information that projects are analyzed for cost: benefit analysis consistent with DWR Guidelines.
82	CRLA; Leadership Counsel for Justice & Accountability	6-2	Section 6.1.1 Determining Objectives	Typographical error; the statutory cite should be to Section 10540(c) of the Water Code	Incorporated this change.
83	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 7 Stakeholder Involvement (general)	The efficacy of the CVRWMG's outreach efforts to DACs and compliance with the IRWM Guidelines' emphasis on stakeholder involvement require compliance with the following recommendations (see below).	N/A
84	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 7 Stakeholder Involvement (general)	Planning Partners and other stakeholders should have more access to CVRWMG meetings at which key decisions are made. Most elements of IRWM process are determined by CVRWMG itself, with Planning partners and others generally only being consulted on limited points.	Have added information into Chapter 7 to clarify that decisions are made by the Planning Partners with input from the CVRWMG.
85	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 7 Stakeholder Involvement (general)	DAC-related concerns should be more fully integrated into Chapter 7.	Have added direct references to the information in the DAC Chapter (Chapter 4), which includes a compilation of the DAC-related concerns.

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86	CRLA; Leadership Counsel for Justice & Accountability	7-1	Chapter 7 Stakeholder Involvement	Statement that "no structures are in place that would create a barrier to participation" fails to recognize the barriers identified in the DAC Outreach project and listed in Section 2.1 of Appendix E to the IRWM Plan Update, including but not limited to linguistic accessibility to stakeholders with limited English proficiency. Other obstacles include scheduling and location of key meetings and long-term exclusion of target DACs from similar processes.	Have added information that currently no barriers exist in as much as there are no internal limitations that preclude Planning Partners and DACs from participating in the IRWM Program and that there are no barriers to participation in the decision-making process. Have cross-referenced information about barriers identified in the participation report.
87	CRLA; Leadership Counsel for Justice & Accountability	7-18 to 7-25	Section 7.4 Balanced Access and Opportunity for Participation; Section 7.5 Disadvantaged Communities Outreach; Section 7.6 Tribal Outreach and Coordination; Appendix M Stakeholder Outreach and Communication Plan	Appendix M states that it "will be updated as needed throughout the IRWM planning process as stakeholder outreach and communication methods are refined" but there is no indication that any such refinement or updating as taken place.	Have comprehensively updated the Stakeholder Outreach and Comm. Plan to include DAC outreach and public outreach information consistent with current efforts.
88	CRLA; Leadership Counsel for Justice & Accountability	7-2 to 7-4; 7-11 to 7-15	Section 7.2 Structure and Organization, "Issues Groups"; Appendix M Stakeholder Outreach and Communication Plan	The CVRWMG seems no longer to employ the Issues Groups model as described in Appendix M. Appendix M should be updated to reflect changes made since 2010 and to incorporate the outreach-related recommendations of the DAC Outreach project, particularly those set forth in Appendix E of the IRWM Plan Update	See comment #87.
89	CRLA; Leadership Counsel for Justice & Accountability	7-5 to 7-17	7.2.1 Group Membership and Participation	It is unclear whether or how the CVRWMG has followed through on the commitments made in Appendix M (a) to develop a region-specific definition of "disadvantaged community" and identify representatives of the communities thus defined, and (b) to identify one or more CVRWMG members as a liaison to DAC/environmental justice communities in order to clarify paths of coordination and communication.	See comment #87.
90	CRLA; Leadership Counsel for Justice & Accountability	7-5 to 7-17	7.2.1 Group Membership and Participation	The categories of stakeholders do not include off-site landowners of mobile home parks or other residential clusters in DACs. This category should be identified and described in order to determine appropriate methods of outreach for purposes of encouraging such landowners to develop projects to address water-related needs.	Have added this category of stakeholders to Section 7.2.1.

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91	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 7 Stakeholder Involvement	Ongoing relevance of chapter is unclear. Chapter describes how stakeholders have been involved in the development of the original Plan and the 2014 update but does not fulfill IRWM Guidelines' requirement of explaining how stakeholders will be involved in implementation of the IRWM Plan (see Guidelines, pg. 22)	Have included information about the Planning Partners meetings (future) into the Plan.
92	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 7 Stakeholder Involvement	Plan should provide concrete details regarding how stakeholders will continue to be involved in implementation, including commitments to hold open Planning Partners meetings at defined intervals.	See #91
93	CRLA; Leadership Counsel for Justice & Accountability	7-27 to 7-28	Section 7.8.1 Updating or Amending the IRWM Plan	Should clarify how process of updating or amending IRWM Plan can be initiated.	Have added that stakeholders can request amendments to the Plan in writing to the CVRWMG and that the Plan Update process will otherwise be updated per DWR schedule (release of new Guidelines).
94	CRLA; Leadership Counsel for Justice & Accountability	7-18 to 7-19	Section 7.4.1 Outreach Activities	States a variety of outreach mechanisms that "may be used" but does not detail whether, how, or with what frequency or effectiveness they have been used to date or may be used in the future. It would be appropriate to include more details of these outreach mechanisms along with an evaluation of their efficacy in order to refine outreach strategies over time.	Have clarified that these mechanisms are included in the general tool box and are used as appropriate and could potentially be used in the future as appropriate.
95	CRLA; Leadership Counsel for Justice & Accountability	7-19 to 7-20	Section 7.4.2 Effective Communication - Both Internal and External to the Region	Describes communication with potential project proponents but does not state how these...are identified or - more critically for DACs - how outreach is or will be done specifically to increase the pool of potential project proponents.	Have cross-referenced Chapter 9 where we discuss, in detail, the directed outreach to DACs for the project selection process.
96	CRLA; Leadership Counsel for Justice & Accountability	7-21	Section 7.4.3 Open Door Policy	States that CVRWMG has conducted one-on-one meetings with stakeholders and stakeholder representatives but does not offer details such as a list of stakeholders who participated in such meetings.	Have updated this section with the list of organizations that we met with on a one-on-one basis.
97	CRLA; Leadership Counsel for Justice & Accountability	7-23	Section 7.5 Disadvantaged Communities Outreach "CVRWMG Coordination"	States that "[m]oving forward, if the CVRWMG and Planning Partners determine that a permanent advisory group is appropriate and desired, at least one DAC representative from the CVRWMG should be designated to serve on the advisory group". This section should specify when and how these decisions will be made.	Have cross-referenced the DAC Issues Group and their role in the governance structure.
98	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 7 Stakeholder Involvement	There is insufficient discussion of how the historic exclusion of and discrimination against DACs in resource allocation and planning may impact involvement and an articulate plan and commitment to overcome such historic underrepresentation in this and other projects.	Have cross-referenced the Participation Report, which addresses overcoming barriers to DAC participation.

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99	CRLA; Leadership Counsel for Justice & Accountability	8-7 to 8-36	Section 8.4 Overview of RMS	The [Coachella Valley Efforts described for each RMS]...are all past or current, with no program described for developing future efforts consistent with the various RMS.	Have cross-referenced the part of Chapter 9 where we discuss evaluating projects for consistency with the RMS.
100	CRLA; Leadership Counsel for Justice & Accountability	8-7 to 8-36	Section 8.4 Overview of RMS	Section 8.4.4 mentions the California Water Plan identifies the strategy of "providing additional funding for water supply, water treatment, and infrastructure projects to ensure safe and reliable supply of drinking water for individuals and communities," but the Coachella Valley Efforts listed do not include any efforts to improve water supply, water treatment, or infrastructure to DACs that are currently not served by municipal water providers.	Have added examples of RMS that have been implemented to address the stated needs.
101	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 9 Project Evaluation and Prioritization	We are concerned that several elements of [the project evaluation and prioritization] process create significant headwinds for project proposals designed to benefit DACs. Leveling the playing field for DAC projects requires compliance with the following recommendations [see below].	N/A
102	CRLA; Leadership Counsel for Justice & Accountability	9-3 to 9-20	Section 9.2 Project Selection Process	Project review process should be more open and transparent. Scoring process in Table 9-1 is relatively straightforward, but subsequent phases...remain rather opaque. The IRWM Plan describes a number of variables that are [considered] in later steps...but provides no information about their relative weight. We recommend that Plan be revised to provide more specificity and clarity about how project proposals are evaluated after they have made the initial cut based on Project Scoring Guide	Have added a list of Phase 2 considerations (C/B ratios, readiness and likeliness to proceed, etc.) The Plan now clarifies that due to the competition in the Colorado River Funding Area, projects are assessed for their strength in scoring well per DWR's established Guidelines.
103	CRLA; Leadership Counsel for Justice & Accountability	9-3 to 9-20	Section 9.2 Project Selection Process	Recommend that all substantive phases of project review process be conducted in open meetings with Planning Partners.	Have added that prior to the Round 3 funding opportunity the CVRWGM will review the project selection process with the Planning Partners and ask Planning Partners if they would like a chance to participate in the interview phase of project review.
104	CRLA; Leadership Counsel for Justice & Accountability	9-14 to 9-15	Section 9.2 Project Selection Process	In post-scoring selection process, priority should be given to projects that fulfill the statewide priority of ensuring equitable distribution of benefits as described in Table 9-4.	See response to #102.

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105	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 9 Project Evaluation and Prioritization	[We recommend the following pre-submission step in addition to the recommendations of the DAC Outreach Project:] Coordinate with Riverside County DEH and Regional Board to send notices of "call for projects" to any mobile home parks known to have drinking water with contaminant levels above MCLs, or have been cited for significant septic problems within the past 3-5 years.	Have included coordination with Riverside County DEH and Regional Board to send notices of "call for projects" to any mobile home parks known to have drinking water with contaminant levels above MCLs, or have been cited for significant septic problems within the past 3-5 years.
106	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 9 Project Evaluation and Prioritization	[We recommend the following pre-submission step in addition to the recommendations of the DAC Outreach Project:] Perform outreach to potential project proponents in DACs not currently served by municipal sewer and drinking water but that appear to be good candidates for connection to sewer and/or drinking water lines. Outreach should include identification of "clusters" of possible beneficiaries and encouraging cooperation among landowners in these "clusters"	Have added into the "next steps" portion of Appendix VII-G.
107	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 9 Project Evaluation and Prioritization	[We recommend the following pre-submission step in addition to the recommendations of the DAC Outreach Project:] Provide DAC representatives with additional technical assistance to ensure they understand the scoring criteria and have information about how to describe their project proposals in ways that will best demonstrate their relationship to project selection criteria. DAC-based non-profits may require assistance with Economic Feasibility analysis. Alternately, municipal providers could commit to sponsoring a certain number of DAC projects to assist these projects in completing such complex analyses. Many DAC representatives would not consider drinking water project to have GHG reduction benefits, but technical assistance could aid [them to understand] safe drinking water may result in fewer car trips to [buy or deliver water] yielding GHG reduction benefits.	Have cross-referenced specific sections of the Plan that involve technical outreach to local project sponsors and DACs in particular.
108	CRLA; Leadership Counsel for Justice & Accountability	9-13	Section 9.2.3 Project Selection Factors "Technical Feasibility"	Technical Feasibility criterion which boosts scores of project that have already secured permits and performed CEQA/NEPA processes, will operate to the disadvantage of DACs, which are unlikely to have resources to get project to this shovel-ready stage without support from IRWM grants. It would further statewide priority of equitable distribution of benefits if the CVRWGM waived [this] criterion when considering projects that directly benefit DACs to the extent possible and encourage and prioritize planning grant projects that would help a DAC project achieve shovel-ready status prior to next round of grant funding.	Have added a cross-reference to the "DAC Track" in the participation report. Have also revised the "DAC Track" to make it clear that this is not a new (separate) evaluation process, but rather reduced DWR requirements.
109	CRLA; Leadership Counsel for Justice & Accountability	9-18	Section 9.2.3 Project Selection Factors "Environmental Justice Considerations"	Should set a concrete schedule for future Planning Partners meetings to fulfill commitment of "frequent Planning Partners meetings in which all DACs will be invited"	See comment #92.



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110	CRLA; Leadership Counsel for Justice & Accountability	9-7	Section 9.2.2 Project Review and Prioritization Process	Recommend that CVRWGMG commit to providing...feedback [to sponsors of Tier 2 projects and/or non-select projects for them to consider revisions or improvements that might assist them in future rounds of grant making]	Have included information about the Tier 2 process and the Round 3 process, which can include additional input from Planning Partners if so desired by the Partners.
111	CRLA; Leadership Counsel for Justice & Accountability	General	Section 9.2 Project Selection Process	Project selection process should address potential negative impacts of project proposals, including potential impacts on quantity or quality of drinking water supply to existing communities, particularly those that rely on private wells.	Have included information about assessing impacts, which is done through project selection.
112	CRLA; Leadership Counsel for Justice & Accountability	10-30 to 10-31	Section 10.3.3 Future Efforts to Establish Proactive Relationships	Sec. 10.3.3 offers very little concrete detail regarding how CVRWGMG or its members will proactively engage land use planners to improve coordination...we recommend CVRWGMG's members commit to attending Planning Commission and other relevant meetings of municipalities with which they overlap.	Have added examples of how the CVRWGMG does this work into Chapter 10.
113	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 10 Agency Coordination	We...recommend that the IRWM Plan consider the Regional Housing Needs Assessment (RHNA) numbers ...and note any discrepancies between RHNA predictions and UWMP predictions.	Have included in this section that the UWMP predictions are indirectly based on the RHNA given that the UWMP numbers are from CVAG, which includes info from RHNA.
114	CRLA; Leadership Counsel for Justice & Accountability	10-30 to 10-31	Section 10.3.3 Future Efforts to Establish Proactive Relationships	CVRWGMG members should commit to participating in development of Housing Elements for municipalities within their jurisdiction, including consideration of relationship between DAC water needs and statutory requirements that...Housing Element "make adequate provision for the existing and projected needs of all economic segments of the community" Gov. Code §65583	Have changed language about involvement in General Plans to note that CVRWGMG members will do this. Have not made a specific reference to involvement in Housing Elements - this is not the role of the CVRWGMG agencies as water managers.
115	CRLA; Leadership Counsel for Justice & Accountability	10-30 to 10-31	Section 10.3.3 Future Efforts to Establish Proactive Relationships	CVRWGMG members should commit to participating in local municipalities' updating of Land Use Elements to comply with new statutory requirements to identify unincorporated DACs and ensure that needs of existing communities are prioritized; analyze each DAC's needs for water, wastewater, storm water drainage and structural fire protection, and identify possible funding sources for extension of services to these communities.	Have changed language about involvement in General Plans to note that CVRWGMG members will do this. Have not made a specific reference to involvement in Housing Elements - this is not the role of the CVRWGMG agencies as water managers.
116	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 10 Agency Coordination	CVRWGMG and its members should assess major development proposals and as necessary comment on impact such developments will have on DAC water and wastewater needs, with respect to both water quality and water quantity.	Have changed language about involvement in WSAs to note that CVRWGMG members will do this. Have not made a specific reference to involvement in development review - this is not the role of the CVRWGMG agencies as water managers.

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117	CRLA; Leadership Counsel for Justice & Accountability	10-30 to 10-31	Section 10.3.3 Future Efforts to Establish Proactive Relationships	CVRWMG and its members should participate in and provide written comments to regional land use planning efforts for projected future growth in the region, including but not limited to, Sustainable Communities Strategy development and implementation as well as any other studies or assessments of regional importance	Have changed language about involvement in review and approval by local utilities to note that CVRWMG members will do this. Have not made a specific reference to involvement in the SCS - this is not the role of the CVRWMG agencies as water managers.
118	CRLA; Leadership Counsel for Justice & Accountability	General	Chapter 10 Agency Coordination	We recommend CVRWMG coordinate with Regional Board and Riverside County DEH to seek solutions for parcels known to have inadequate or failing septic systems or in which private drinking water wells have contaminants that exceed MCLs	Added information into 10.2.4 that the DAC WQ Evaluation included coordination with the RB and DEH. Also added info into 10.3.3 about future coordination on projects.
119	CRLA; Leadership Counsel for Justice & Accountability	10-6 to 10-10; 10-30 to 10-31	Section 10.1.3 Coordination with Tribal, Federal, State, and Local Agencies; Section 10.3.3 Future Efforts to Establish Proactive Relationships	We recommend CVRWMG work more closely with tribes to obtain and validate data...[and] establish relationships with BIA and other federal agencies tasked with regulating environmental quality on tribal lands, e.g., USEPA.	Have cross-referenced Section 10.1; however, review and validation of the data from other agencies/jurisdictions is not within the purview of the IRWM Program.
120	CRLA; Leadership Counsel for Justice & Accountability	Appendix A - Plan Standards Review Tool	Objectives	Should note that Objectives K and L also relate to "identification and consideration of drinking water quality"	Have noted that Objectives K and L also relate to "identification and consideration of drinking water quality"
121	CRLA; Leadership Counsel for Justice & Accountability	Appendix A - Plan Standards Review Tool	Objectives	Should note that Objective L also relates to "protection of groundwater resources from contamination"	Have noted that Objective L also relates to "protection of groundwater resources from contamination"
122	CRLA; Leadership Counsel for Justice & Accountability	Appendix A - Plan Standards Review Tool	Financing	The "explanation of how operation and maintenance costs will be covered"...should include discussion of the proposal to have individual user fees cover costs of on-site arsenic remediation systems	Have included information in App A about the Septic and RO projects (DAC projects), which included this work.
123	CRLA; Leadership Counsel for Justice & Accountability	Appendix A - Plan Standards Review Tool	Stakeholder Involvement	...references Sec. 7.5 and 7.6...as addressing the requirements to "discuss involvement of DACs and tribal communities". However, the referenced sections primarily describe past outreach activities and do not offer many specifics about ongoing or future efforts to involve DACs and tribal communities. We recommend additional information be provided regarding intended future efforts to involve DACs and tribal communities	Referred readers to Section 7.2.1, which includes information about future Planning Partners meetings (see response to Comment #92)

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124	CRLA; Leadership Counsel for Justice & Accountability	11-3 to 11-4	Table 11-1	Should include "benefit to DACs" or "equitable distribution of burdens and benefits of water management" as one potential long-term benefit for purposes of comparing various project types and components. This addition would support intention articulated by the Guidelines on this point (see Guidelines, pg. 21)	Benefits to DACs are discussed in detail in Chapter 11.
125	CRLA; Leadership Counsel for Justice & Accountability	11-10	Section 11.1.1 Overview of Benefits "Enhanced Public Safety"	The benefit of "enhanced public safety" should be reframed as "enhanced public health and safety" to include discussion of mitigating such dangers as contamination of drinking water and exposure to untreated wastewater.	Although the benefit is called "enhanced public safety", it includes public health measures as indicated in the text.
126	CRLA; Leadership Counsel for Justice & Accountability	11-1	Section 11.1 Impacts and Benefits	Plan's statement...that impacts and benefits will be reevaluated <u>during Plan updates</u> does not seem to satisfy the Guidelines' requirement that impacts and benefits be reviewed and updated as part of normal Plan management activities (see Guidelines pg. 50). We recommend Plan include a mechanism for regularly reviewing and updating the review of impacts and benefits during Plan implementation not only during very occasional Plan updates.	The evaluation of impacts and benefits can be included during IRWM Plan updates, which are considered to be "normal Plan management activities."
127	CRLA; Leadership Counsel for Justice & Accountability	11-13 to 11-17	Section 11.1.2 Overview of Impacts	We recommend...in addition to conducting environmental reviews...the CVRWMG require projects to describe any reasonable anticipated impacts on existing communities, particularly DACs. This impacts include, but are not limited to, any reasonable foreseeable impacts on quantity or quality of drinking water to existing communities. Such a criterion should also be included on the list of "potential long-term impacts" set forth in Table 11-2.	Added a cross-reference to the project database, which asks questions about impacts and benefits and specifically those that apply to DACs.
128	CRLA; Leadership Counsel for Justice & Accountability	11-3 to 11-4; 11-15	Table 11-1; Table 11-2	The source of lists of Project Types and Project Components in Table 11-1 and 11-3 is unclear. We recommend that Chapter 11 be revised to provide greater clarity.	Have added upfront text that describes where these types come from (project database).
129	CRLA; Leadership Counsel for Justice & Accountability	11-20; 11-22	Section 11.3.1 Overview of Data Needs "Groundwater Data"; Section 11.3.2 Data Collection Techniques	Subsection on Groundwater Data should discuss need for information on currently unmonitored drinking water wells in the E. Coachella Valley, including information on such issues as water quality and number of users.	Have included (as a data gap) need for information on unmonitored wells. Have also added information about CVWD's monitoring program.

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130	CRLA; Leadership Counsel for Justice & Accountability	11-20 to 11-22	Section 11.3.1 Overview of Data Needs; Section 11.3.2 Data Collection Techniques	Similar data [see comment above] should be provided with respect to (a) septic systems throughout the Coachella Valley and (b) septic systems known to be not functioning properly.	Have included as a data gap in Chapter 11.
131	CRLA; Leadership Counsel for Justice & Accountability	11-21; 11-22	Section 11.3.1 Overview of Data Needs "Demographic Data"; Section 11.3.2 Data Collection Techniques	We recommend identifying methods of collecting and reviewing [demographic DAC data] on an ongoing basis, other than bare reliance on Census figures which...tend to undercount populations and levels of need in DACs, particularly rural DACs in unincorporated areas.	Have included as a data gap in Chapter 11.
132	CRLA; Leadership Counsel for Justice & Accountability	11-20 to 11-22	Section 11.3.1 Overview of Data Needs; Section 11.3.2 Data Collection Techniques	We recommend that CVRWGM coordinate with Regional Board and Riverside County DEH to track (a) drinking water wells known to have contaminant levels that exceed MCLs, and (b) septic systems known not to be functioning correctly. This information should be included in the DMS and updated frequently.	Have included info about mapping drinking water wells and septic systems as a data gap in Chapter 11 .
133	CRLA; Leadership Counsel for Justice & Accountability	11-20 to 11-22	Section 11.3.1 Overview of Data Needs; Section 11.3.2 Data Collection Techniques	We recommend that Plan provide a mechanism for stakeholders to report drinking water quality issues and septic system problems on an ongoing basis and that this information also be incorporated into the DMS.	Have added information about IVAN, which is an existing self-reporting tool in the Coachella Valley.
134	CRLA; Leadership Counsel for Justice & Accountability	11-20 to 11-22	Section 11.3.1 Overview of Data Needs; Section 11.3.2 Data Collection Techniques	We recommend that subsidence be monitored in more remote areas of the E. Coachella Valley and that this information be incorporated into the DMS	See comment #70.
135	CRLA; Leadership Counsel for Justice & Accountability	11-23	Section 11.3.4 Responsible Entity	We recommend that the ad hoc DMS subcommittee be developed and that it include at least one DAC or environmental justice representative from both the E. Coachella Valley and the W. Coachella Valley.	Have deleted sentence about the committee - this is a potential project in the database and has also been included as a data gap in Chapter 11.
136	CRLA; Leadership Counsel for Justice & Accountability	11-23	Section 11.3.4 Responsible Entity	We recommend that the [DMS] subcommittee's meetings be open, with invitations issued to all stakeholders on the CVRWGM's contact list.	See comment #135
137	CRLA; Leadership Counsel for Justice & Accountability	11-25 to 11-26	Section 11.4.1 Plan Performance	We recommend Sec. 11.4.1 include a specific schedule in which CVRWGM will evaluate Plan's progress toward achieving expressed goals and objectives. Such evaluation should occur at least annually and should occur in, or be followed by, a meeting with Planning Partners to analyze and discuss results of the evaluation and discusses ways to improve performance as needed. This system would support Guidelines' intentions (see Guidelines pp. 53-54).	Have added information about the regular project reporting, which will be uploaded to the CVRWGM website. Have also noted that the Planning Partners can be updated on this information if they so desire.

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138	CRLA; Leadership Counsel for Justice & Accountability	11-26	Section 11.4.2 Project-Specific Monitoring Plans	We recommend that project-specific monitoring plans include "impacts on existing communities" or "impact on DACs" as a mandatory component of such monitoring plans.	Have noted that the monitoring requirements are established by DWR and the local project sponsors - but that they each must comply with CEQA, which assesses project-level impacts.
139	CRLA; Leadership Counsel for Justice & Accountability	11-27 to 11-32	Section 11.5 Finance	The report...lacks some critical information about the [funding] sources themselves and lacks information as to how the CVRWGMG and/or its constituent agencies will access and leverage those funding sources to address DAC water needs.	This is not a requirement of the IRWM Plan.
140	CRLA; Leadership Counsel for Justice & Accountability	11-30; 11-24	Section 11.5 Finance "Funding Sources - State"; Table 11-4	Plan should state that Prop. 50 and Prop. 84 funds are of limited duration and they will cease to be available soon.	Have added information about limitations of Prop 50 and Prop 84.
141	CRLA; Leadership Counsel for Justice & Accountability	11-30	Section 11.5 Finance "Funding Sources - State"	Plan should reflect the current reality of Prop. 84 and Prop. 50 funds.	Have added information about limitations of Prop 50 and Prop 84.
142	CRLA; Leadership Counsel for Justice & Accountability	11-29 to 11-30	Section 11.5 Finance "Funding Sources - State"	CVRWGMG and its partners should monitor development of the new bond program being considered by the State and its applicability to DAC water and wastewater issues in the region.	Have added information about the possibility of a new Water Bond; however, the CVRWGMG staff cannot advocate for or against this bond.
143	CRLA; Leadership Counsel for Justice & Accountability	11-30; 11-29	Section 11.5 Finance "Funding Sources - State"; Table 11-4	The SRF for drinking water, wastewater and storm water drainage are stable and should be identified as such...[SRF] provide both grant and loan funding to DACs, including very low-interest loans.	Have added information about the stability of SRF.
144	CRLA; Leadership Counsel for Justice & Accountability	General	Section 11.5 Finance	CVRWGMG and/or its constituent members should develop and implement a plan to obtain and leverage said funding to the extent possible to address DAC issues.	Have included additional information about the technical work done to help prepare DAC projects for IRWM funding.
145	CRLA; Leadership Counsel for Justice & Accountability	11-28 to 11-29	Section 11.5 Finance "Funding Sources - Local"; Table 11-4	CVRWGMG and/or its constituent members should identify locally sourced funding that can be shared throughout the jurisdiction or at least within a region to alleviate the burden of infrastructure financing on a small group of low-income residents.	See #144
146	CRLA; Leadership Counsel for Justice & Accountability	General	Section 11.5 Finance	Property taxes provide significant source of funding for some if not all of the CVRWGMG's members. Plan should determine how those property tax allocations can address infrastructure deficits in DACs.	This is not within the purview of the IRWM Program.

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147	CRLA; Leadership Counsel for Justice & Accountability	General	Section 11.5 Finance; Table 11-4	Other programs [that should be incorporated] into funding strategies include: Department of Public Health's interim drinking water solution funding; Department of Public Health's pre-planning money set-aside to address governmental and planning constraints to sustainable projects; Local and regional funding programs that support on property improvements, including the Regional Board's Supplemental Environmental Project program	Additional funding strategies have been added.
148	CRLA; Leadership Counsel for Justice & Accountability	4-45 to 4-46	Section 4.4.3.4 Project Descriptions "Project 4: Regional Program for Onsite Water Treatment"; Appendix J DAC Project 4 - Residential Groundwater Treatment Program	We are concerned about the possible financial consequences for extremely low-income DAC residents who may be forced to bear the full brunt of these O&M costs [for on-site arsenic treatment systems].	Amended the appendix to discuss how financing structure included in this appendix has been vetted with PUCDC, who felt that the average monthly costs that would need to be collected to fund this on an ongoing basis would be reasonable.
149	CRLA; Leadership Counsel for Justice & Accountability	4-45 to 4-46	Section 4.4.3.4 Project Descriptions "Project 4: Regional Program for Onsite Water Treatment"; Appendix J DAC Project 4 - Residential Groundwater Treatment Program	We recommend any such projects [on-site arsenic treatment systems] include an analysis of the affordability of O&M costs to residents, identification of other possible sources to support O&M, and preference given to funding solutions that will not increase costs to residents.	Have updated the budget information for this appendix - and have also updated the text to note that any project of this nature funded through the IRWM Program would most certainly be vetted for the ability for residents to pay for necessary O&M. If residents could not afford O&M project may be considered infeasible.
150	CRLA; Leadership Counsel for Justice & Accountability	4-45 to 4-46	Section 4.4.3.4 Project Descriptions "Project 4: Regional Program for Onsite Water Treatment"; Appendix J DAC Project 4 - Residential Groundwater Treatment Program	We recommend that landowners implementing such projects [on-site arsenic treatment systems] follow the procedures required by the Mobile Home Residency Law, Civil Code §§ 798 et seq., for adding fees or increasing rents in mobile home parks.	Added statement to 4.4.3 Project 4 indicating that any fees are compliance with §798.
151	CRLA; Leadership Counsel for Justice & Accountability	General	Table 7-5, Table 7-10; Pg. 9-17; Table 1 (Appendix M)	The Plan...misidentifies CRLA as the California Rural Legal Assistance Foundation (CRLAF).	Incorporated this change throughout Plan.
152	CRLA; Leadership Counsel for Justice & Accountability	General	Throughout	Recommend the IRWM Plan adopt the recommendations included in the DAC Report, with a few caveats.	See comment #33 above.

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153	CRLA; Leadership Counsel for Justice & Accountability	General	Throughout	As is described in the DAC Outreach Report, CVIRWM region contains "pocket DACs" that may not be visible when Census data are analyzed by tracts, block group, or even block, but are best identified by on-the-ground surveying. This section should state whether and why data on pocket DACs were or were not included in the analysis	Have made sure that the issue of mapping pocket DACs is included in Chapter 4.
154	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	...we are concerned that the criteria and analysis will hinder the full potential of the any project that builds from this proposal (see following comments)	N/A
155	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	Plan should ensure that the extent to which a health hazard does or could potentially exist must be among the criteria for selection of a project	Have included this as a next step in the Appendix VII-G report.
156	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	Plan's analysis of low to high feasibility does not accurately assess the feasibility of projects located more than one quarter of a mile from existing lines. Throughout the state, the state water board has funded projects that require extension of main lines in excess of even two miles and the projects have proven financially feasible. CVRWGM should reassess feasibility of projects greater than 0.25 miles from a mainline	The feasibility designations were developed from a cost perspective and vetted with stakeholders, and are not going to be modified.
157	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	Several projects deemed main adjacent require some extension of a main line. CVRWGM must reassess those properties to determine the extent to which infrastructure improvements in the public right-of-way are necessary	Have included this as a next step in the Appendix VII-G report.
158	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	All municipal service extension projects should remain on applicable CVRWGM project lists until such time as the DAC at issue is connected to municipal services or otherwise has adequate water and wastewater services.	All IRWM projects will remain in the database indefinitely - no change required.
159	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	CVRWGM should expand its efforts to support an extension of municipal services that implicate on-property improvements. Several funding programs do...provide grant and loan funding for on-property improvements. CVRWGM should identify these programs and implement a plan to access and allocate funds as necessary to ensure adequate water and wastewater services throughout the IRWM region.	Have included this as a next step in the Appendix VII-G report.
160	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	CVRWGM should act as a facilitating agency to encourage landowners, residents, municipal service providers, regional and state funding agencies to work together to support collaborative projects	CVRWGM does serve this role. Have included information about CVRWGM actions to Appendix VII-G.
161	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	CVRWGM should develop and implement a comprehensive, regional plan to extend services to communities that currently rely on contaminated wells and failing septic systems and cesspools. Only in this way will the region effectively and efficiently address critical and widespread infrastructure deficiencies and the public health risks they create.	Have noted that the info in Appendix VII-G is a first step and that NGOs, agencies, and other interested parties will work together on next steps, which could include a regional plan.

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162	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	CVRWMG should encourage extension of services by identifying and providing incentives to municipal service providers that expand services to DACs	CVRWMG does serve this role. Have included information about CVRWMG actions to Appendix VII-G.
163	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix H: DAC Project 2 - Determining Connection Opportunities	CVRWMG should, through all its policies and programs, prioritize the expansion of services to existing communities over expansion of services to new developments. Ch. 4 [of IRWM Plan] appropriately acknowledges the development of new communities as a mechanism for increasing disparities in the region.	Have included - in the IRWM Plan and in Appendix VII-G that new development is responsible for constructing their own pipelines (including to DACs).
164	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix I: DAC Project 3 - Regional Program for Septic System Rehabilitation	We are concerned that septic rehabilitation projects are cost prohibitive for DACs, especially small DACs, and that funding for such programs will be hard to attract given that the improvements will take place on private land.	Have clarified that this project was requested by local DAC partners (PUCDC), and is considered a feasible option for DACs in the short-term.
165	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix I: DAC Project 3 - Regional Program for Septic System Rehabilitation	Septic rehabilitation project must assess the affordability of such a program and compare the costs - both short and long term - with other alternatives such as extension of municipal sewer system	Have clarified that the purpose of this project was to develop an affordable alternative where municipal extensions are not feasible.
166	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix I: DAC Project 3 - Regional Program for Septic System Rehabilitation	Any proposal should assess the opportunity to cluster several communities to reduce costs	See #165.
167	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix I: DAC Project 3 - Regional Program for Septic System Rehabilitation	Septic rehabilitation may require permits from a variety of public agencies, which may serve as a deterrent for mobile home parks that may have other regulatory deficiencies.	Report clearly identifies permitting hurdles as part of this effort.
168	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix I: DAC Project 3 - Regional Program for Septic System Rehabilitation	Septic rehabilitation projects undertaken on a park-by-park or community-by-community basis puts the onus on park owners or residents to apply for, implement, and maintain a project. Any septic system rehabilitation project should instead be part of a comprehensive, regional strategy to address wastewater infrastructure deficiencies in the most cost-effective and health-promoting way possible.	Have clarified that the Work Plan attachment to Appendix VII-H is intended to be regional in nature - it is a regional strategy for addressing (on the short-term) septic issues where municipal extensions are not possible.
169	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix I: DAC Project 3 - Regional Program for Septic System Rehabilitation	Plan must address funding deficiencies and propose solutions.	Funding projects on private land is outside the purview of the IRWM Program. In Section 5 Next Steps, added reference to Ch. 11, Section 11.5 of the IRWM Plan which has information on potential funding opportunities.
170	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix J: DAC Project 4 - Residential Groundwater Treatment Program	Residential groundwater treatment programs undertaken on a park-by-park or community-by-community basis put the responsibility squarely on the shoulders of park owners, who may lack sufficient incentive to apply for funding or on residents who often do not have site control and may not be able to provide necessary assurances of cooperation by the landowner.	Have clarified that this project was requested by local DAC partners (PUCDC), and is considered a feasible option for DACs in the short-term.



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171	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix J: DAC Project 4 - Residential Groundwater Treatment Program	To the extent to which residential groundwater treatment is a viable option to secure potable drinking water to DACs, the CVRWMG should incorporate this option as part of a regional plan to ensure potable drinking water to all residents	The purpose of this project is to secure groundwater treatment for DACs.
172	CRLA; Leadership Counsel for Justice & Accountability	General	Appendix J: DAC Project 4 - Residential Groundwater Treatment Program	Any such projects should include an analysis for the affordability of O&M costs to residents, identification of other possible sources to support O&M, and preference given to funding solutions that will not increase costs to residents.	The project includes information about O&M costs, which were vetted with local NGOs.
173	CRLA; Leadership Counsel for Justice & Accountability	General	Section 4.4.3.4; Appendix J: DAC Project 4 - Residential Groundwater Treatment Program	We are concerned about the possible financial consequences for extremely low-income DAC residents who may be forced to bear the full brunt of these O&M costs [for on-site arsenic treatment systems].	The project includes information about O&M costs, which were vetted with local NGOs.
174	CRLA; Leadership Counsel for Justice & Accountability	General	Section 4.4.3.4; Appendix J: DAC Project 4 - Residential Groundwater Treatment Program	We recommend that landowners implementing such projects [on-site arsenic treatment systems] follow the procedures required by the Mobile Home Residency Law, Civil Code §§ 798 et seq., for adding fees or increasing rents in mobile home parks.	See comment #150
175	CRLA; Leadership Counsel for Justice & Accountability	Appendix S - pg. 12, pg. 22	Table 1; Membrane Separation	Some of the data...seem to raise doubts about whether membrane separation technology can remove enough arsenic to provide drinking water that does not exceed MCLs for arsenic. Table 1 states primary MCL for arsenic is 10 micrograms/liter, but avg. concentration in Areas of Concern is 237 micrograms/liter, meaning ~96% of arsenic would need to be removed to...not exceed MCL. However...pg. 22 [states] membrane separation can remove 505%-90% of As(v) but may be less effective for As(III). It would be helpful to clarify whether membrane separation systems can provide safe drinking water in Areas of Concern.	Have provided information about the success of this technology as evident in PUCDC's STAT project (implemented during Prop 84 Round 1).
176	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We [reiterate] our concern that recommendations that appear in the DAC Outreach Program report are not incorporated into the IRWM Plan...the IRWM Plan should be modified to consider those recommendations	See comment #33 above. Have included in Chapter 4, DACs.
177	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	The very serious and widespread water quality issues impacting DACs are repeatedly identified as "perceived". While we do not doubt residents' perception of the various health hazards they are facing, the information sought in readily verifiable. To the extent that verified data is available it should be cited, and [unverified] data...must be verified immediately.	See comment #51. Have clarified why results were reported as perceived and noted in the IRWM Plan that verification of this data is a data gap.
178	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	Consistent use of the term "perceived" lends itself to the interpretation that an issue may or may not exist, which would have implicit and explicit impacts on any effort, plan or policy to address the issue, including access to funding programs. If an issue is only perceived then funding, application and planning priorities could be unfairly skewed and result in a failure to develop and implement projects that would address priorities to actual, as opposed to perceived, deficiencies that pose a public health hazard.	See comment #177

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
179	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We are aware of high levels of arsenic, bacteria, and hexavalent chromium (chromium - VI) throughout eastern parts of region.	See comment #51
180	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	All data that have been verified need be included in this assessment.	See comment #177
181	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	If there are data that need to be verified, verification must be included in the outreach budget to fully fund necessary activities and provide necessary sampling kits and equipment to ensure a meaningful and comprehensive assessment of water and wastewater issues in DACs.	See comment #177
182	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	[Critical next steps to the DAC Outreach Project:] CVRWGM must dedicate sufficient and significant resources to comprehensively assess the many issues impacting DACs.	Addressed in IRWM Plan (Chapter 4).
183	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	[Critical next steps to the DAC Outreach Project:] Mapping DACs in an ongoing process...The RWGM must support continued mapping and characterization of DACs to ensure complete information.	Have included as a data gap in the IRWM Plan (Chapter 11).
184	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	[Critical next steps to the DAC Outreach Project:] We are concerned that some of the information provided does not represent the experiences of a sufficiently representative group of residents. For example, to the extent that the Outreach Report relies on opinions of mobile home park <i>owners</i> , the experiences of residents of those same parks may be inadvertently excluded. The experience of all residents...must be fully reflected in any DAC analysis.	This analysis is complete, and we do have information from owners and residents. Information in the IRWM Plan demonstrates the need to reach out to owners and residents of MHPs. See comment #73.
185	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	The RWGM must dedicate sufficient resources to allow continued analysis and mapping of DACs.	Have included this as a data gap in Chapter 11.
186	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	One recurring inaccuracy in the report...is the Report's repeated reference to "Polancos" as illegal. This is inaccurate and leads to misimpression and confusion. The description of possible unpermitted mobile home parts [sic] must be modified for accuracy and clarity.	Have looked through the IRWM Plan and all appendices to make sure that polancos are not misrepresented.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
187	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	This recommendation (coordination with non-profit partners) is critical to the success of any IRWMP. There must be robust funding available to non-profit organizations to conduct the necessary work effectively.	Have checked to make sure that the participation report and the IRWM Plan have this recommendation and that it is clear that coordination with non-profits will primarily occur through the Planning Partners.
188	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	Prioritization and additional support for project proposals serving DACs is critical. We have concerns that the proposed "DAC Track"...may fail to address some of the fundamental barriers impacting DAC applicants and would-be applicants such as the lack of technical assistance with project application preparation and lack of comprehensive short- and long-term planning to address DAC issues.	See comment #108 - have clarified that the DAC Track is meant to reference changes we recommend for DWR. The IRWM Program already completes technical and planning outreach to DACs.
189	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	DAC residents, and small non-profits representing them, often lack the financial capacity to hire highly skilled consultants to develop projects. The failure of the larger water systems and coalitions such as the CVRWGMG to create a comprehensive plan to address DAC issues requires individual communities to develop individual projects when a collaborative project may actually be in the best interest of all parties. The "DAC Track" does not suffice in evening the odds and ensuring DAC needs are prioritized.	Developing such a plan to address DAC issues could be included as a future IRWM project; since this does not currently exist, the CVRWGMG still recommends that a DAC Track be implemented by DWR and that the Region continue providing technical support to DACs as needed.
190	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	CVWD has also failed to clarify if DAC projects would automatically be relegated to the DAC Track. Such a relegation would only be appropriate if there were a DAC funding set-aside.	Have clarified in Chapter 9 information about the DAC track as explained in #108 and #188.
191	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	The DAC Track solution may seem like a satisfactory compromise yet risks marginalizing DACs to the periphery of application processes instead of considering - while granting appropriate priority, technical assistance and expedited reimbursement processes - DAC applications through the general application process	See #188
192	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	Modified selection criteria would not be helpful if ultimately a DAC project would not be deemed competitive without required analysis and/or if a project were ultimately unsuccessful due to inadequate assessment. Rather, there should be sufficient funding and technical assistance available to assist DACs in developing and carry out projects.	We agree that there must be both - less stringent DWR criteria and technical assistance. See #188.
193	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	One modifications for DACs...should be that planning and pre-planning processes are fundable for DACs to make their proposed projects "shovel ready" and competitive.	Have included this into the participation report.
194	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We are concerned that there is too strong an emphasis on local control. Local control...does not in itself have adequate accountability mechanisms in place...diversifying control of the CVRWGMG and the role of the Regional Representative will create implicit accountability mechanisms.	See #103 - Planning Partners play an integral role (in addition to the CVRWGMG) in the project selection process.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
195	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We...urge CVRWMG to ensure the Regional Representative is either a DAC community resident or culturally competent with respect to DACs. If this recommendation is adopted, Planning Partners should develop criteria and selection process for regional representative.	Have revised text to clarify that this person is intended to be from DWR.
196	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We strongly support the recommendation for expedited reimbursement of funds for DAC projects.	N/A
197	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We support funding programs designed to support technical assistance and effective outreach...[but] there should be increased efforts to support collaborative planning among and between agencies and DACs to support regional solutions that may include extension of services and/or other affordable and sustainable options	Have added this to recommendation #3.
198	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We welcome recommendation for more connectivity among local, regional, and statewide stakeholder	Planning Partners play this role (connection among a diverse group of local, regional, and statewide stakeholders).
199	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We recommend the IRWM Plan clarify and identify what agency will coordinate with local public health and state water board personnel responsible for drinking water and wastewater management as well as other agencies.	Please see Chapter 10 of the IRWM Plan.
200	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	We are concerned...there was a complete absence of reference to the lack of representation of DAC residents in relevant decision-making bodies...Planning and decision-making processes cannot be considered equitable or representative if all constituents are not represented. DAC projects are chosen and prioritized in IRWM that have governance structures that were created and are controlled by [agencies and organizations] that traditionally are not aware of the needs and do not give priority to DACs, particularly in unincorporated areas.	The Planning Partners, which include DAC residents, are part of the IRWM governance structure and are involved in the decision-making process for the IRWM Program.
201	CRLA; Leadership Counsel for Justice & Accountability	General	Coachella Valley DAC Outreach Demonstration Program Report	...proposed projects and needs of DACs are usually not well aligned with the traditional interests of IRWMs that are dominated by...non-DAC stakeholders. In some of these cases, DAC drinking water and sanitation ratepayers...[have] to advocate for financial "sponsorship" or their water infrastructure improvement projects in an IRWM process that does not want to offend its non-DAC stakeholders by asking them to financially support the application development of DAC projects.	DAC projects and needs are deeply embedded in the IRWM Program, and the IRWM Program is committed to addressing DAC needs and assisting DACs in the application development of DAC projects.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
202	Agua Caliente Band of Cahuilla Indians	General	Throughout	Throughout the Plan, many facts and figures describing quantity and quality of water used by each water purveyor are given. Unfortunately the numbers presented are defined differently based on the discussion in each section of the plan, making it difficult, if not impossible for a stakeholder or other interested party to follow the discussion chapter-to-chapter...The Tribe would like to see greater effort made to streamline the document and resolve internal inconsistencies with the goal of moving towards a Plan that is meaningful to and useful for tribes and the public at large	Plan has been updated to include better descriptions of the water supply and water demand projections and any seeming discrepancies in these numbers.
203	Agua Caliente Band of Cahuilla Indians	2-2	Second paragraph	Do the Districts account for these [seasonal visitors] populations in their estimates of water demand?	Region Description has been amended to explain that water demands (historic) include all water that is used, including seasonal visitors. The inclusion of seasonal visitors on the demand size is part of the reason that the Region's GPCDs are so high - the GPCDs include all demands (including seasonal visitors), but only factor permanent populations.
204	Agua Caliente Band of Cahuilla Indians	2-3	3rd paragraph	The [groundwater] discussion goes on to explain there are differences in how the sub-basins are defined...It is difficult for the reader to understand the basin/sub-basin structure when each Agency is using a different definition. Please explain why Agencies are using different basin definitions.	Have further clarified (in the acronyms list and in the Region Description) the distinction between local and Bulletin 118 basins. Have also added a table into Chapter 2 that provides further clarification.
205	Agua Caliente Band of Cahuilla Indians	2-3	3rd paragraph	The Tribe suggests that the Plan adopt a common set of sub-basin definitions	See comment #204 above.
206	Agua Caliente Band of Cahuilla Indians	2-3 to 2-9	Section 2.2.2 Water Systems and Distribution "Groundwater"	To help stakeholders and other readers, the Tribe would like to see a new table with the groundwater information <u>broken down by sub-basin</u> (using a common set of sub-basins, as suggested [above]) <u>to allow for comparison</u> . The Table would need to include: (1) Sub-basin name, (2) Sub-basin storage capacity (AF), (3) Annual pumping volume from each sub-basin, (4) Annual recharge to each sub-basin, (5) Annual overdraft in each sub-basin, and (6) Cumulative overdraft in each sub-basin	This information is not available, and therefore has not been included.
207	Agua Caliente Band of Cahuilla Indians	2-37	2nd paragraph	It is noted that per capita demand will steadily decrease over the long-term. Please define "long-term" in this context.	Have clarified that long-term means through 2035 per the CVWD UWMP.
208	Agua Caliente Band of Cahuilla Indians	2-38	"Desert Water Agency (DWA)"	The discussion about DWA's potable water demand notes that "DWA has a diverse source of water supply"...This description of water use is deceptive; 5% of water supply is surface water, 4% is recycled, resulting in 91% ...coming from the groundwater basin. In short, the basin is pumped for water, and then replenished with Colorado River water.	This reference reflects the fact that DWA implements a robust recycled water program that includes almost complete reuse of wastewater flows; this high level of water reuse makes DWA's supplies highly diverse.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
209	Agua Caliente Band of Cahuilla Indians	2-40	Section 2.5.1 Groundwater Quality	Plan states "Basin-wide groundwater quality is difficult to characterize as groundwater quality varies throughout the valley..."...This implies a lack of coordinated, comprehensive information on the subject - is that accurate?	Revised this section to explain that the Region's water quality is diverse, which does not lend to easy regional characterization as with other issues.
210	Agua Caliente Band of Cahuilla Indians	2-40	Section 2.5.1 Groundwater Quality	The Tribe suggests that the responsible agencies develop a state-of-the-art groundwater quality database for the Coachella Valley that incorporates all data into a format useable for the agencies and stakeholders	The IRWM Program has implemented a DMS through the IRWM website. A further-developed DMS is included as an IRWM Project; however, due to the substantial needs of the Region this project does not generally score well in the region's prioritization process.
211	Agua Caliente Band of Cahuilla Indians	3-11	"Conservation"	For clarity, please include a table listing all the BMPs [of the California Urban Water Conservation Council] and identify the specific practices of the agencies implementing them, so that the reader might better verify these representations	Have included a list of all the BMPs of the CUWCC that are being implemented in the Region in Chapter 3 (Issues and Needs).
212	Agua Caliente Band of Cahuilla Indians	3-25	Section 3.1.8 Issues Groups "Tribal Lands"	Identification of Tribal Lands as an Issues Group is problematic. Each tribal government must be addressed individually given that each nation and reservation has distinct concerns and needs.	Have reorganized these issues so that they do not fall under the header "Issues Groups", but rather have their own headers, which more accurately reflects the importance of these issues.
213	Agua Caliente Band of Cahuilla Indians	3-25	Section 3.1.8 Issues Groups "Tribal Lands"	In addition to and beyond this IRWM Plan, water purveyors must improve and strengthen their relationships with local tribes so that future iterations of this Plan will better reflect the rightful place of tribes as partners in regional water management, given that the Agua Caliente Tribe has reserved rights to groundwater under federal law that heretofore the districts have ignored.	The IRWM Plan does not discuss the water rights of any entity, and the water purveyors have worked through the IRWM process to improve and strengthen their relationships with local tribes. Chapter 5 has been updated to include information about the T-M tribe that has adopted the IRWM Plan.
214	Agua Caliente Band of Cahuilla Indians	3-35	Section 3.5.1 Vulnerability Prioritization "Water Supply: Decrease in imported supply"	A decrease in imported water supply is a climate change vulnerability issue. Please clarify whether this imported supply includes SWP water; the paragraph only mentions water from the Colorado River.	Have updated language to mention both sources of imported water and the Law of the River, which provides substantial protection for the Colorado River against climate change.
215	Agua Caliente Band of Cahuilla Indians	3-35	Section 3.5.1 Vulnerability Prioritization "Water Supply: Decrease in imported supply"	The report should make clear that the Valley's SWP allocation is exchanged with MWD for lower quality Colorado River water. It is apparent that supplies from both sources are facing acknowledged reliability problems in the coming decades.	See comment #214 above.

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
216	Agua Caliente Band of Cahuilla Indians	General	Chapter 5	The Tribe is troubled by the process the CVRWMG used to write this chapter. [The Tribe provided input as early as August 20, 2013, was provided a 2-week review period of the chapter from October 14-October 25, the Tribe attended the October 22 Tribal Stakeholder meeting, the Tribe was notified Nov. 5 (after release of 2014 Plan) that not all comments were reviewed in time to be included in the Plan]. Between August and November there seems to have been ample time to collect input from tribes. Instead, the process was compressed into a 2-week timeframe in which the Tribe's input wasn't fully considered. The Tribe sees this interaction as representative of the entire IRWM process; a perfunctory exercise conducted in a schedule and method convenient for the agencies resulting in a continuation of status quo water management and avoiding a true collaboration with stakeholders and the public in the Coachella Valley.	In an attempt to allow the Tribes to see a "sneak peek" of the Tribal Water Resources Chapter, a timing issue was created that had the unintended consequence of condensing the review and incorporation process for comments received from the Tribes.
217	Agua Caliente Band of Cahuilla Indians	6-10	Table 6-1	Table 6-1 shows baseline per capita water use by agency...Please explain why the per capita water use is so high for DWA and CVWD and so low for the other purveyors.	Refer to comment #203 - have updated Table 6-1 to explain these numbers (i.e. GPCD includes seasonal visitor demands but not their population numbers, resulting in elevated GPCDs. Additionally, CVWD and DWA have larger lot sizes and lower population densities, which are generally correlated with higher GPCD figures).
218	Agua Caliente Band of Cahuilla Indians	8-9	Section 8.4.1 Reduce Water Demand "Urban Water Use Efficiency - Coachella Valley Efforts" 2nd bullet	Please provide a table showing the rate structures of all agencies for clear comparison between water purveyors including the use and applicability of tiered rates.	Have added a new section describing each agency's rate structures - this section is included within the Region Description
219	Agua Caliente Band of Cahuilla Indians	9-3	Section 9.1 Regional Priorities "Priority 7: Create the Data Management System"	The Tribe...continues to strongly support the development of an online database. This particular priority however only includes a vague...commitment to expand the IRWM website and online <u>project</u> database. There is no mention of a comprehensive database of all water information to improve transparency and management of regional water resources and enable greater public participation.	See comment #210
220	Agua Caliente Band of Cahuilla Indians	9-3	Section 9.1 Regional Priorities "Priority 7: Create the Data Management System"	Section 11.3.7 lists locations of water data available through numerous State Agency websites. The CVRWMG could best serve federally recognized tribes, its stakeholders, and the public at large by organizing information about the region from these websites into a coherent useable source of water information.	See comment #210

#	Commenter	Page*	Location*	Comment	Revisions made to Final Plan
221	Agua Caliente Band of Cahuilla Indians	9-3	Section 9.1 Regional Priorities "Priority 7: Create the Data Management System"	When will the IRWM commit to significantly improved and meaningful data collection, management and sharing?	The existing DMS is considered substantial enough to provide a database for data collection, management, and sharing of publically available information. Further condensation of these publically available databases would be considered a duplication of efforts; as indicated in #210, this is why a more robust DMS project does not score highly within the project selection process.
222	Agua Caliente Band of Cahuilla Indians	10-13 and 10-22	Section 10.2.1 Water Supply Planning and Groundwater Management (general); Section 10.2.4 Technical Evaluations for the 2014 IRWM Plan "Groundwater Monitoring Strategy"	Groundwater monitoring must be given greater emphasis. For example, statements are made in the plan referencing agency Engineer's Reports that don't adequately characterize groundwater pumping and replenishment...Also the section Groundwater Monitoring Strategy is only partially finished. The proposed Outcomes states "Will be included in the Final IRWM Plan" Why couldn't this important section be included in the public draft?	Have added that monitoring is considered a data gap. In addition, please note that the Groundwater Monitoring Strategy was considered draft during the release of the Public Draft IRWM Plan as at this time it was also open for public comment. The CVRWGM agrees that this is a highly important document, which will be finalized with the IRWM Plan.
223	Agua Caliente Band of Cahuilla Indians	10-23	Section 10.2.5 Individual Planning Efforts by Agency "CVWD" 5th paragraph	When will it [CVWD's non-potable water master plan] be completed? Is DWA also preparing one for its service area? If so, when will it be completed?	Have updated Chapter 10 text to describe non-potable planning efforts undertaken by CVWD and DWA.
224	Agua Caliente Band of Cahuilla Indians	11-19	Section 11.1.3 Benefits and Impacts of Plan Implementation "Challenges to Plan Implementation - Regulatory Uncertainty"	The paragraph on regulatory uncertainty is troubling. The preparation of the 1st SNMP for the Valley is considered an "unfunded mandate" and implies that there is no value in development of this Plan. The Tribe submits that development of the SNMP is just good water management that should have been done voluntarily and without waiting for a mandate from the State.	Have re-worded this section - the CVRWGM agrees that the SNMP is an important document and did not intend to imply that it has no value to the region.



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221	Agua Caliente Band of Cahuilla Indians	9-3	Section 9.1 Regional Priorities "Priority 7: Create the Data Management System"	When will the IRWM commit to significantly improved and meaningful data collection, management and sharing?	The existing DMS is considered substantial enough to provide a database for data collection, management, and sharing of publically available information. Further condensation of these publically available databases would be considered a duplication of efforts; as indicated in #210, this is why a more robust DMS project does not score highly within the project selection process.
222	Agua Caliente Band of Cahuilla Indians	10-13 and 10-22	Section 10.2.1 Water Supply Planning and Groundwater Management (general); Section 10.2.4 Technical Evaluations for the 2014 IRWM Plan "Groundwater Monitoring Strategy"	Groundwater monitoring must be given greater emphasis. For example, statements are made in the plan referencing agency Engineer's Reports that don't adequately characterize groundwater pumping and replenishment...Also the section Groundwater Monitoring Strategy is only partially finished. The proposed Outcomes states "Will be included in the Final IRWM Plan" Why couldn't this important section be included in the public draft?	Have added that monitoring is considered a data gap. In addition, please note that the Groundwater Monitoring Strategy was considered draft during the release of the Public Draft IRWM Plan as at this time it was also open for public comment. The CVRWGM agrees that this is a highly important document, which will be finalized with the IRWM Plan.
223	Agua Caliente Band of Cahuilla Indians	10-23	Section 10.2.5 Individual Planning Efforts by Agency "CVWD" 5th paragraph	When will it [CVWD's non-potable water master plan] be completed? Is DWA also preparing one for its service area? If so, when will it be completed?	Have updated Chapter 11 text to describe non-potable planning efforts undertaken by CVWD and DWA.
224	Agua Caliente Band of Cahuilla Indians	11-19	Section 11.1.3 Benefits and Impacts of Plan Implementation "Challenges to Plan Implementation - Regulatory Uncertainty"	The paragraph on regulatory uncertainty is troubling. The preparation of the 1st SNMP for the Valley is considered an "unfunded mandate" and implies that there is no value in development of this Plan. The Tribe submits that development of the SNMP is just good water management that should have been done voluntarily and without waiting for a mandate from the State.	Have re-worded this section - the CVRWGM agrees that the SNMP is an important document and did not intend to imply that it has no value to the region.



## Consistency with the Whitewater River Region 2013 MS4 Permit

The District believes that the CVIRWMP should be consistent with the information and findings established by the Permittees and Regional Board through the Region's last three MS4 Permit terms. As such, we recommend that the entire document be edited to reflect the following Findings made by the Regional Board, in the 2013 Whitewater River Region MS4 Permit ([find it here](#)):

**1) The Whitewater River Region is an ephemeral portion of the watershed; in the urbanized areas, flow in the Whitewater River and all of its tributaries are very rare** – Finding #9, p. 5; Finding #30, 1<sup>st</sup> bullet p. 9, 1<sup>st</sup> bullet p. 10, last bullet pp. 11-12, 1<sup>st</sup> and 2<sup>nd</sup> bullets p. 12.

*Notable IRWMP Pages/Sections which Conflict – Last sentence of 1<sup>st</sup> paragraph in Section 3.1.6; p. 3-20, last sentence of 1<sup>st</sup> paragraph under “Stormwater” heading;*

**2) Due to natural conditions, low urban density, and Permittee-implemented BMPs, discharges from urbanized areas to Receiving Waters are also rare** – Finding #30, 3<sup>rd</sup> and 5<sup>th</sup> bullets p. 11.

*Notable IRWMP Pages/Sections which Conflict – Last sentence of 1<sup>st</sup> paragraph in Section 3.1.6; p. 3-24, 1<sup>st</sup> sentence under “Wetlands” heading;*

**3) It is very rare that flows in the CVSC consist of storm flows** – Finding #30, 3<sup>rd</sup> bullet on p.12.

*Notable IRWMP Pages/Sections which Conflict – p. 3-24, 1<sup>st</sup> sentence under “Wetlands” heading.*

**4) With the exception of the lower 17-mile reach of CVSC, surface water quality in the Whitewater River Region has been identified as good. Additionally, where surface water quality issues might exist, stormwater is not identified as a source** – Finding #34, pp. 14-15; Finding #51, p. 18; Finding #52, p. 19; Finding #54, p. 19; Finding #55, p. 20.

*Notable IRWMP Pages/Sections which Conflict – p. 1-2, 2<sup>nd</sup> paragraph under Section 1.1; p. 2-45, last sentence of 1<sup>st</sup> paragraph under “Stormwater Quality Concerns” heading; p. 6-4, the language of Objective F, and the 3<sup>rd</sup> sentence under “Objective F” heading.*

**5) Low annual rainfall, low urban density, minimal vegetative cover, development predominantly located on alluvial fans, constructed flood control improvements and Permittee New Development requirements have all combined to limit potential impacts on the Region's drainage system. Additionally, all Receiving Waters which compose the drainage system within the urbanized area are engineered and maintained channels; therefore, watershed erosion and sediment management are not issues which need to be addressed within the Region** – Finding #30, 2<sup>nd</sup> bullet p. 11 and last bullet p. 12; Finding #68, p. 23.

*Notable IRWMP Pages/Sections which Conflict – Table 3-2, on p. 3-33 under “Justification” for “Ecosystem and Habitat” vulnerabilities; p. 6-4, 2<sup>nd</sup> sentence under “Objective F” heading; p. 8-24, last sentence of the 1<sup>st</sup> paragraph under “Urban Runoff Management” heading; p. 11-9, 3<sup>rd</sup> bullet under “Ecosystem Improvement” heading.*

## **Distinction between Coachella Valley Stormchannel and the Whitewater River**

In various portions of the IRWMP, CVSC and WRSC are used interchangeably; we feel that it is important for the two to be distinguished from one another due to their marked differences (i.e. one features perennial flows, the other is dry/ephemeral, one has a TMDL and multiple 303 (d) listings, the other has none, etc.). Suggest a document search to assure that both terms are being used appropriately.

*Notable IRWMP Pages/Sections with Issues – p. 3-13, end of 2<sup>nd</sup> paragraph; p. 3-20, last sentence of 2<sup>nd</sup> to last paragraph; Table 3-1 on p. 3-28 in “Key Issues” associated with “Flood Risks”; 1<sup>st</sup> and 2<sup>nd</sup> paragraphs of Section 3.1.6.*

### **303 (d) List and CVSC TMDL Information Needs Updating**

Several IRWMP sections feature outdated 303 (d) listing information from 2006 (the 2010 list can be found [here](#)). On page 3-27, incorrect sources are named for 303 (d) listings.

*Notable IRWMP Pages/Sections with Issues – Section 2.5.5; Table 3-1 on p. 3-27 under category “Surface Water Quality”; and p. 6-4, 2<sup>nd</sup> to last sentence under “Objective F” heading.*

Additionally, several IRWMP sections feature outdated and/or incorrect CVSC Bacterial Indicator TMDL information. The TMDL received final approval from EPA on April 27, 2012, and the City of Coachella (the only MS4 discharger which has been named as a responsible party) is currently implementing Phase 1 of TMDL implementation. For more information, see Findings 36 – 50 of the 2013 Whitewater River Region MS4 Permit (link provided above).

*Notable IRWMP Pages/Sections with Issues – Section 2.5.5; pp. 3-20 – 3-21 under heading “Coachella Valley Stormwater Channel”; and Table 6-1 on p. 6-15.*

### **Other Recommended Sectional Revisions**

Page 2-24 – We prefer that the IRWMP not use the terms “divert” or “discharge” when referring to stormwater or floodwaters. The District makes every attempt to maintain natural drainage patterns. “Convey stormwater” is a preferred term. Recommend this change throughout the document.

Flows are conveyed to the Salton Sea during major and significant storm events.

Page 2-26 – We suggest revision to the 1<sup>st</sup> paragraph, to reflect that flooding occurs periodically during significant storms, and is not ongoing. We do not feel that flooding occurs through “mechanisms”. Capacity of infrastructure is not always exceeded; some areas do not contain infrastructure and are located within flood risk areas.

Please use the standard industry definitions for the NFIP, flood risk reduction and terms such as the 100-year flood. Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood

event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood.

Communities are not required to identify areas. They are required to regulate SFHA.

Page 2-44 – Suggest deletion of the 1<sup>st</sup> sentence of the 2nd paragraph under the “Regional Stormwater Permit” heading. Although the Permittees do have a CMP, it is not a requirement of the Whitewater River Region MS4 Permit.

Page 2-45 – Suggest deletion of the last paragraph regarding CMP; the updates were not required by the Colorado River Regional Board and did not affect the Whitewater River Region section of the CMP.

Additionally, the District would like to again point to the fact that the Regional Board has recognized (see the aforementioned 2013 MS4 Permit Findings) that there currently are no stormwater quality “concerns” in the Whitewater Region, except for the TMDL at CVSC; therefore, it is our recommendation that the section titled, “Stormwater Quality Concerns” should focus on the TMDL, not one year (2010-2011) of monitoring data. Also, the last two bullets of the section, which cite monitoring data obtained from Ramsey Street, and Whitewater River Canyon Road should not be included in the IRWMP, as Ramsey Street is located in Banning (not within the IRWM boundary), and the Whitewater River Canyon Road monitoring site is a non-urban site, chosen by the Regional Board to measure background levels of contaminants in the watershed.

Page 3-13 – Suggest revision of the 2<sup>nd</sup> paragraph to reflect that flows are conveyed to the Salton Sea during major and significant storm events.

We prefer that the IRWMP not use the terms “divert” or “discharge” when referring to stormwater or floodwaters. The District makes every attempt to maintain the natural drainage patterns. “Convey stormwater” is a preferred term. Recommend this change throughout the document.

Page 3-21- We prefer that the IRWMP not use the terms “divert” or “discharge” when referring to stormwater or floodwaters. The District makes every attempt to maintain the natural drainage patterns. “Convey stormwater” is a preferred term. Recommend this change throughout the document.

Additionally, the Flood Management Section (3.1.6) is awkwardly written, we suggest proofing, editing, and addition of a narrative about non-structural protection, flood risk reduction and residual risk.

Page 4-3 – We recommend deleting 4.1.3 No. 3. The Verbena Channel and Basin concept is no longer a proposed project.

Page 4-41 – In the “Flood Control” Project Concept section of Table 4-4, we suggest deletion of the 2<sup>nd</sup> sentence of the Background/Issue Statement. Vector control issues need to be addressed as part of any basin design, independent of whether the basin will be located within a DAC. It is our experience that if a basin cannot meet the standard drawdown time to address vector control requirements, it is typically due to soil type or drainage slope.

Page 6-4 – We propose that the last portion of the language of IRWMP Objective F be changed to, “and preventing pollution in stormwater runoff.”

Page 6-5 – Suggest deletion of the 4<sup>th</sup> sentence of the 1<sup>st</sup> paragraph (Objective H). It is believed that the tremendous effort which has been, and is currently being put forth through Permittee New Development requirements, on-site retention ordinances and master planning will assist with mitigating flood risks as populations increase.

Page 6-11 - The narrative regarding infiltration measurement is awkwardly written, we suggest proofing and editing.

Page 6-17-The measurements text appears to run on, and should be clarified. If possible, we recommend adding a measureable target for non-structural flood risk reduction solutions. Minimize development in high flood risk areas when possible.

Page 7-15 – District staff received invites to the Integrated Flood Management Issues Group; however, we are fairly certain that we were not able to attend. Does CVRWGMG have record of us attending?

Page 9-14 – In the, “Use and Reuse Water More Efficiently” section of Table 9-4, we suggest deletion of “capture and reuse” language regarding LID BMPs. It has been determined by Regional Board staff, the cities, and County that capture and reuse BMPs are not feasible considering 3.6 inches of annual rainfall.

Page 9-15 - We do not believe that LID is a significant practice related to integrated flood management. LID is a practice that has certain benefits; integrated flood management is performed on a greater scale.

Page 10-10 - Recommend deleting “CVWD and RCFCWCD each have included the impacts of these flows in the design capacities of their regional facilities and each utilizes their own permit approval processes for accepting local drainage”. Alternatively, this statement may be explained in detail.

Page 10-15 – Suggest revision of the 1<sup>st</sup> sentence of the 2<sup>nd</sup> paragraph of Section 10.2.3. The District does not regulate drainage and development in floodplains, Riverside County does.



December 31, 2013

***Via Electronic Mail***

Rosalyn Prickett (cvirwm@rmcwater.com)  
RMC Water and Environment  
10509 Vista Sorrento Parkway,  
San Diego, CA 92121

**RE: Draft 2014 Coachella Valley Integrated Regional Water Management Plan, released for comment on November 4, 2013, and Draft Coachella Valley Disadvantaged Community Outreach Demonstration Program Report, released for comment on December 9, 2013**

Dear Ms. Prickett:

California Rural Legal Assistance, Inc. (CRLA) and Leadership Counsel for Justice and Accountability (Leadership Counsel) submit the following comments on the Coachella Valley Regional Water Management Group's (CVRWMG)'s Draft 2014 Integrated Water Management Plan (IRWM Plan, Plan, or Plan Update) and Disadvantaged Community Outreach Demonstration Program Report (DAC Report). CRLA is a non-profit statewide law firm that provides legal representation to low-income residents of rural California, including in many communities comprised primarily of farmworkers and their families. Leadership Counsel fights alongside the most impacted communities to secure equal access to opportunity regardless of wealth, race, income, and place. We submit these comments in response to the notices for public comment published on November 4, 2013 (IRWM Plan) and December 9, 2013 (DAC Report).

We applaud the CVRWMG for its dedication to producing a robust and thorough IRWM Plan. In particular, CVRWMG's commitment to involving disadvantaged communities (DACs) – both in the process of developing the IRWMP and in developing the DAC Outreach Demonstration Program – serves as an example to other RWMGs throughout the State of California. We wish to recognize the significant effort, time, and perseverance that were involved in developing the Draft 2014 IRWM Plan and offer the following comments in order to maximize the strength and effectiveness of the final Plan and to improve compliance with governing authority in the California Water Code (§§ 10530 *et seq.*), the California Public Resources Code (§ 75026(a)), and the California Department of Water Resources' Integrated Regional Water Management (IRWM) Grant Program Guidelines (Guidelines or IRWM Guidelines).



## **General Recommendations**

We remind the CVRWGM that on September 25, 2012, Governor Edmund G. Brown, Jr. signed AB 685, establishing a state policy that every Californian has a human right to safe, clean, affordable and accessible drinking water. A critical component of AB 685 is its mandate that all relevant agencies consider the human right to water when creating policies and regulations and making administrative decisions pertinent to the use of water for human consumption, cooking, and sanitary purposes. CVRWGM and its members are some of the agencies with a duty to further the human right to water.

The CVRWGM undertook an impressive DAC Outreach Demonstration Project in 2012 and 2013 covering DACs in both the Eastern and Western Coachella Valley. The findings and recommendations of this project were released under separate cover from the IRWM Plan Update, with no discussion of whether or how the DAC Outreach Demonstration Project's recommendations would be incorporated into the Plan. The CVRWGM should promote more equitable and effective engagement of DACs in both the IRWM planning process and future IRWM-related grant opportunities by adopting the recommendations made by the DAC Outreach Demonstration Project with some exceptions and/or clarifications, as noted in greater detail below. This will ensure compliance with the IRWM Guidelines and relevant statutes cited above.

We also note that the IRWM Plan Update, despite identifying numerous objectives and criteria for evaluation of project proposals, does not articulate a cohesive plan for soliciting or developing project proposals that will achieve the Plan's objectives with maximum efficiency. The Plan seems to rely on the initiative of individual project proponents – a modus operandi that seems likely to produce haphazard, uncoordinated and unequal results. We recommend that the Plan adopt a more robust approach to integrated regional water planning, allowing for the identification and development of priority projects – including collaborative or clustered projects - in order to maximize effectiveness and efficiency. This will also facilitate planning and investment of DACs, thus furthering goals of equitable distribution of regional water management benefits.

## **Data on Drinking Water and Wastewater Needs in DACs**

We commend the CVRWGM on its attention to the water and wastewater needs of DACs. An IRWMP chapter devoted specifically to DACs, the Disadvantaged Community Outreach Demonstration Program Report (DAC Outreach Report), and numerous DAC-related appendices testify to the CVRWGM's commitment to identifying and addressing the needs of DACs in the Coachella Valley. Relegating this discussion to DAC-specific materials, such as those listed above, may create the impression that the needs of DACs in the Coachella Valley are not a central component of integrated regional water management, when in fact they are key to integration. We therefore recommend that key DAC-related data be incorporated throughout the IRWMP and offer the following examples:

- From Chapter 2, Region Description:
  - “Wastewater Treatment” section of 2.2.3 should describe, number, and map the residents relying on septic systems for wastewater treatment.





- Sections 2.4.1 (“Water Supply”) and 2.4.2 (“Water Demand”) should acknowledge that water supply and demand associated with private wells are a significant but currently unquantified component of the Region’s water supply and demand. Inclusion of this information would better fulfill the IRWM Guidelines’ requirements (see Guidelines at 19, 39-40).
- Coordination with land use planners is critical to this process, so Section 2.4.2 (“Water Demand”) also should include discussion of Regional Housing Needs Assessment (RHNA) numbers projected for the region by the Southern California Association of Governments (SCAG) for use in housing and land use planning. Inclusion of RHNA numbers would promote the IRWM Guidelines’ goal of “effective [] integrat [ion of] water management with land use planning” (see, e.g., Guidelines at 12, 18, 22, 39).
- Section 2.5.1 (“Groundwater Quality”) should include quantification, to the extent possible, of private wells in the Region that are known to exceed state Maximum Contaminant Levels (MCLs) for drinking water. Many private wells supplying water to small mobilehome parks in the Eastern Coachella Valley do not test or report on drinking water quality and that data on MCL exceedance are almost certainly an undercount. This section minimizes the severity of drinking water quality concerns in DACs in the Eastern Coachella Valley, e.g., it emphasizes residents’ perceptions of water quality rather than known data (p. 2-40) and states that “some private wells in the East Valley contain low levels of arsenic” (p. 2-46). Redrafting to emphasize the known drinking water hazards would better fulfill the IRWM Guidelines’ requirements regarding description of water quality (pp. 19, 40).
- Section 2.6 (“Social and Cultural Make-Up”) should include more data on population characteristics of DACs in the Coachella Valley, such as a summary of the data presented in Section 4.3.3 (“Economic Stratigraphy”) and should more directly refer the reader to Chapter 4 for additional detail. We also recommend a discussion of the concern that U.S. Census figures may not accurately reflect population characteristics of DACs, particularly in the rural Eastern Coachella Valley. This concern is noted in the DAC chapter (p. 4-13) but bears mention in the Region Description as well.
- From Chapter 3, Issues and Needs:
  - The discussion of groundwater related issues (pp. 3-3 – 3-8) should note that the areas of the Eastern Coachella Valley most vulnerable to the negative impacts of groundwater overdraft are DACs. This concern applies to intrusion by Salton Sea waters and waters from the semi-perched aquifer, subsidence (though it should also be noted that subsidence monitoring appears to be inadequate in the DACs of the southern and eastern reaches of the Coachella Valley), wells running dry, and diminution in groundwater storage capacity.
  - The description of septic failure issues (p. 3-19) should note that this concern particularly impacts DACs throughout the IRWM region.



- The discussion of DAC-related issues (pp. 3-24 – 3-25) should place more emphasis on wastewater treatment needs. The paragraph entitled “Rural Access to Water” should note (a) that many small mobilehome parks in the Eastern Coachella Valley are served by small private wells that are not subject to regular monitoring and (b) that many such private wells likely exceed MCLs for arsenic and potentially for other contaminants.
- Table 3-1 minimizes the extent of arsenic contamination of drinking water in Eastern Coachella Valley private wells and should instead state that “[m]any of the small private water systems in mobile home parks in East Valley exceed the MCLs for arsenic.”

We also note that some data included in the IRWMP Update and its Appendices are inadequate and/or are not presented with sufficient clarity. We recommend the following revisions to clarify the presentation of data or, when appropriate, to highlight the existence of key data gaps:

- Figures 4-5 (2010 IRWM Plan Disadvantaged Communities (2000 Census)) and 4-6 (2010 IRWM Plan Disadvantaged Communities (Claritas Data)) do not indicate their level of granularity. This concern also applies to the maps in Appendix C, which additionally should note the year of the data from which they are drawn.
- Table 4-3 (Focus Area Select Statistics) offers statistics about type of tenure for households in the IRWM region but does not explain whether mobilehome owners who rent a mobilehome space are categorized as owners or as renters. For purposes of assessing water-related infrastructure needs, mobilehome owners who rent mobilehome spaces face unique challenges that have some characteristics of homeownership and other characteristics of renter status. It would therefore be appropriate to include a separate category for these households in recognition of the specialized analysis they require.
- Section 4.3.4 (DAC Outreach Survey and Mapping) notes that the survey assessed residents’ opinions or perceptions of their water quality and wastewater needs but fails to address (a) the relevance of such perception-related data, (b) existing verified data on water quality and wastewater needs, or (c) the need for more thorough monitoring of DACs’ water quality and wastewater needs, particularly in unpermitted mobilehome parks, other unregulated water systems and private wells in the Eastern Coachella Valley and a plan to undertake said monitoring.
- Section 4.3.5 (DAC Water Quality Evaluation) and Figure 4-15 (Areas of Concern) are based on existing data on wellwater and therefore do not include data on water quality in many unpermitted mobilehome parks, other unregulated water systems and private wells in the Eastern Coachella Valley. This deficit in the existing data should be acknowledged, with recognition that the mapped Areas of Concern probably do not include all DACs who receive water from private wells with contaminant levels that exceed MCLs. This concern applies also to Appendix S (Disadvantaged Communities Water Quality Evaluation) and a plan to address that data gap.



- Data reported in Chapter 5 (Tribal Water Resources) seem to be based almost entirely on self-reporting by the tribes of the Coachella Valley, either directly to the CVRWMG or to other entities. The lack of regular or centralized third-party monitoring of data related to tribal lands can complicate and undermine the assessment of water-related needs and the development of appropriate solutions. For example:
  - Table 5-1 (Tribal Nation Reservations within the Coachella Valley IRWM Region) does not reflect the existence of several large mobilehome parks on Torres-Martinez tribal lands. See, e.g., <http://yosemite.epa.gov/opa/admpress.nsf/0/9F93C60CB9F2250B85257BE20065A786> (describing water quality enforcement actions by the United States Environmental Protection Agency in one 300-resident mobilehome park on Torres-Martinez tribal lands).
  - Section 5.4.2 (Tribal Water Quality Monitoring Activities) mentions that “most tribes” submit water quality data to the United States Environmental Protection Agency but does not note which areas of the Coachella Valley are not covered by this self-reporting and does not discuss the potential conflicts of interest faced by the tribes in this self-reporting system.
  - It is unclear whether CVIRWM, in drafting Chapter 5, accessed STORET data or relied entirely on information self-reported by tribal representatives in their meetings with CVIRWM members.
  - In order to resolve these data gaps and uncertainties related to tribal water resources, we recommend that the CVRWMG not only work more closely with tribes to obtain and validate the data in question but also that the CVRWMG establish relationships with the Bureau of Indian Affairs and other federal agencies tasked with regulating environmental quality on tribal lands, e.g., the United States Environmental Protection Agency.
- Appendix S (Disadvantaged Community Water Quality Evaluation), in Section 2.2 (Data Analysis), states that U.S. Census data were used to identify DACs but does not state the level of granularity with which these Census data were analyzed. Furthermore, as is described in the DAC Outreach Report, the Coachella Valley IRWM region contains various “pocket DACs” that may not be visible when Census data are analyzed by tract, block group, or even block, but are best identified by on-the-ground surveying. This section should state whether and why data on pocket DACs were or were not included in the analysis.
- Appendix U (Evaluation of Valley-Wide Groundwater Monitoring Programs):
  - It is unclear whether any assessment was done of the semi-perched aquifer in the Eastern Coachella Valley or whether any consideration was given to shallow private wells that might be drawing from this semi-perched aquifer.



- Section 2.1.1 (Constituents of Concern for Groundwater Quality Monitoring: Arsenic): It is unclear whether the data presented in this section are drawn only from municipal wells or also from primary wells and/or private wells.
- Section 3 (Identified Data Gaps): It is unclear whether wells on tribal lands are currently being monitored by any of the entities named in Section 2 (Existing Groundwater Monitoring Programs) or how frequent or thorough any such monitoring might be. Given the widespread concern about lack of regulation of drinking water on tribal lands in the Coachella Valley, it would be appropriate to clarify this question and, if monitoring is not currently occurring, to mention this data gap.

### **Discussion of Water-Related Conflicts**

The IRWM Plan is required to “describe the major water-related . . . conflicts within a region.” Cal. Water Code § 10534; see also Cal. Water Code § 10541(e) (3); Pub. Res. Code § 75026(a); Guidelines at 20, 31, 40. The current Draft of the 2014 IRWM Plan fails to note several significant water-related conflicts impacting the Coachella Valley IRWM region, including conflicts between landowners and residents and conflicts between DACs’ infrastructure needs and municipal providers’ reluctance to participate in state loan programs designed to extend municipal water and wastewater services to DACs. The Plan should be revised to describe these conflicts and, as required by the IRWM Guidelines, should address these conflicts in its Objectives. See Guidelines at 20.

#### **Conflicts between landowners and residents**

Much of the discussion of outreach to DACs in the Eastern Coachella Valley focuses on communication with owners of small mobilehome parks who live on-site and whose personal water-related needs may be quite similar to the needs of residents renting space in the parks. Many residents of Eastern Coachella Valley DACs live in mobilehome parks whose owners live off-site and whose interests (profit) may conflict with the interests of the DAC residents themselves (access to safe drinking water and adequate wastewater treatment). A small mobilehome park owner who resides on-site might be more willing to participate actively in a project to improve the park’s infrastructure than would an off-site owner who does not have an incentive to invest the resources necessary to facilitate a connection to municipal services.

An outreach plan premised on a continuity of interest between landowners and residents will not be adequate to address the water-related needs of DAC residents whose interest conflicts with the interest of their landlords. A separate, well-tailored outreach plan would educate these landlords about the IRWM process and might persuade them to develop or otherwise support projects designed to improve drinking water and wastewater treatment for their residents. Partnership with enforcement agencies such as the Riverside County Department of Environmental Health or the Regional Water Quality Control Board could be beneficial to convince such landowners of the benefits of improving water-related infrastructure, provided that such enforcement is limited to citations and does not create a risk of displacement for low-income residents.



A unique manifestation of this conflict occurs on tribal lands, particularly when non-tribal members rent mobilehome spaces on tribal lands. Non-tribal residents of DACs on tribal lands are not protected by California law regarding drinking water quality or adequacy of wastewater treatment, and tribes may have little incentive to offer relevant data to outside entities or to agree to regulate themselves or their members at the same level that the State of California and the County of Riverside regulate non-tribal lands within the IRWM region. A possible solution to these concerns might be a requirement that tribes, in order to access IRWM-related benefits, enter into a Memorandum of Understanding (MOU) agreeing to monitor and report water-related data to third parties and agree to adopt and enforce drinking water and wastewater provisions that are at least as protective as those available to residents of the State of California. One example of such an MOU was developed between the Cabazon Band of Mission Indians and the South Coast Air Quality Management District in 2012. For a description of this MOU, see <http://www.aqmd.gov/news1/2012/cabazonmoupr.htm>.

The above concerns bear noting throughout the Plan and its appendices, including but not limited to Section 2.7 of Chapter 2 (Major Water-Related Objectives and Conflicts); the overview of issues impacting tribal lands in Section 3.1.8 of Chapter 3 (Issues Groups); the description of infrastructure issues facing mobilehome parks in Section 4.2.5 of Chapter 4 (Coordination with Community Leaders); Section 4.3.6 of Chapter 4 (DAC Needs); the description of the Regional Program for Septic Rehabilitation in Section 4.4.3 of Chapter 4 (Project Descriptions); Chapter 5 (Tribal Water Issues); Chapter 6 (Objectives); Chapter 7 (Stakeholder Involvement); and Appendix O (Disadvantaged Communities Outreach Plan).

#### Conflicts relating to state infrastructure loan programs

Several California agencies offer loan programs to assist in the development of infrastructure for drinking water and wastewater. These agencies include the California Infrastructure Finance Bank, the State Water Board, and the California Department of Public Health. The latter two agencies, through the State Revolving Funds, offer loans with very low interest rates to extend municipal infrastructure to disadvantaged communities. At least one member of the Coachella Valley IRWM, the Coachella Valley Water District (CVWD), has expressed extreme reluctance to avail itself of these loan programs. CVWD's interest in not participating in these loan programs is in conflict with DACs' interest in exploring all possible sources of funding for extension of municipal water and sewer services to currently unserved areas. This conflict bears mention in Section 2.7 of Chapter 2 (Major Water-Related Objectives and Conflicts); Chapter 6 (Objectives); and Section 11.5 of Chapter 11 (Finance).

#### Projects designed to address the unique needs of DACs

The IRWM Plan includes an analysis of four promising programs designed to address the unique needs of DACs in the Coachella Valley. These programs demonstrate a start and components of a comprehensive, regional plan to address such needs in concert with other programs and policies as discussed in greater detail below.



## **Connection to Municipal Services**

We appreciate that expansion of municipal services was explored and will be pursued but we are concerned that the criteria and analysis will hinder the full potential of the any project that builds from this proposal. Specifically:

- The Plan should ensure that the extent to which a health hazard does or could potentially exist must be among the criteria for selection of a project
- The Plan’s analysis of low to high feasibility does not accurately assess the feasibility of projects located more than one quarter of a mile from existing lines. Throughout the state, the state water board has funded projects that require extension of main lines in excess of even two miles and the projects have proven financially feasible. The CVRWGMG should reassess feasibility of projects that are greater than 0.25 miles from a mainline.
- We feel that several projects deemed main adjacent require some extension of a main line. The CVRWGMG must reassess those properties to determine the extent to which infrastructure improvements in the public right of way are necessary.
- All municipal service extension projects should remain on applicable CVRWGMG project lists until such time as the DAC at issue is connected to municipal services or otherwise has adequate water and wastewater services.
- The CVRWGMG should expand its efforts to support on extension of municipal services that implicate on-property improvements. Several funding programs do in fact provide grant and loan funding for on-property improvements. The CVRWGMG should identify those programs and implement a plan to access and allocate funds as necessary to ensure adequate water and wastewater services throughout the IRWM region.
- The CVRWGMG should act as a facilitating agency to encourage landowners, residents, municipal service providers, regional and state funding agencies to work together to support collaborative projects.
- The CVRWGMG should develop and implement a comprehensive, regional plan to extend services to communities that currently rely on contaminated wells and failing septic systems and cesspools. Only in this way will the region effectively and efficiently address critical and widespread infrastructure deficiencies and the public health risks they create.
- The CVRWGMG should encourage extension of services by identifying and providing incentives to municipal service providers that expand services to DACs
- The CVIRWGMG should, through all its policies and programs, prioritize the expansion of services to existing communities over expansion of services to new developments. Chapter 4 appropriately acknowledges the development of new communities as a mechanism for increasing disparities in the region.

## **Rehabilitation of Septic Systems**

We are concerned that septic rehabilitation projects are cost prohibitive for DACs, especially small DACs, and that funding for such programs will be hard to attract given that the improvements will take place on private land. Any septic rehabilitation project must assess the affordability of such a program and compare the costs – both short and long term – with other alternatives such as extension of municipal sewer system. Any proposal should also assess the opportunity to cluster several communities to reduce costs. Additionally, septic rehabilitation may require permits from a variety of public agencies, which may serve as a deterrent for mobilehome parks that may have other regulatory deficiencies. Finally, septic rehabilitation



projects undertaken on a park-by-park or community-by-community basis put the onus on park owners or residents to apply for, implement, and maintain a project. Any septic system rehabilitation project should instead be part of a comprehensive, regional strategy to address wastewater infrastructure deficiencies in the most cost-effective and health-promoting way possible. The plan again must address funding deficiencies and propose solutions.

### **Residential groundwater treatment**

As noted above, residential groundwater treatment programs undertaken on a park-by-park or community-by-community basis put the responsibility squarely on the shoulders of park owners, who may lack sufficient incentive to apply for funding, or on residents, who often do not have site control and therefore may not be able to provide the necessary assurances of cooperation by the landowner. To the extent to which residential groundwater treatment is a viable option to secure potable drinking water to DACs, the CVRWGMG should incorporate this option as part of a regional plan to ensure potable drinking water to all residents. Additionally, any such projects should include an analysis of the affordability of O&M costs to residents, identification of other possible sources to support O&M, and preference given to funding solutions that will not increase costs to residents.

### **Objectives**

IRWM Guidelines require that the Objectives “address major water-related issues and conflicts in the region.” Guidelines at 20; see also, e.g., California Water Code § 10534; California Public Resources Code § 75026(a). We recommend the following revisions to the Objectives set forth in the Draft IRWM Plan Update to address this mandate:

- The Plan should articulate a Goal of equitable distribution of the burdens and benefits of water management throughout all geographic and socioeconomic sectors of the Coachella Valley IRWM region.
- The Objectives should explicitly address the conflicts described above: (a) between DAC residents who rent mobilehome spaces in mobilehome parks whose owners do not share their residents’ interests in drinking water quality and wastewater (noting the unique situation of non-tribal DAC residents living on tribal lands); and (b) between CVWD’s reluctance to participate in state infrastructure loan programs and ECV DAC residents’ need for extensions of municipal drinking water and sewer lines.
- The proposed measurements for the first target under Objective B (“[t]his target will be met if groundwater elevations at these sites do not show a significant (emphasis added) decline in future Engineer’s Reports . . . ) should be strengthened to serve the objective of stabilizing groundwater levels at or near current levels by eliminating, or at the very least defining, the word “significant.” The second target (limiting subsidence) should include a plan to monitor subsidence in more remote areas of the Eastern Coachella Valley, which are not covered by existing United States Geological Service monitoring.
- The second target under Objective E (reduce arsenic concentrations in East Valley drinking water) should address the need for more comprehensive testing and monitoring



of drinking water quality from private wells in the Eastern Coachella Valley. Measurement for this target should include (a) progress towards more comprehensive monitoring of drinking water at mobilehome parks in the Eastern Coachella Valley, perhaps using the Plan's mapping of existing mobilehome parks (Figure 4-25) as a starting point and (b) progress towards improving the ratio of mitigated to unmitigated private drinking water wells with contaminant levels that exceed MCLs. The measurement should also include metrics for assessing sustainability of on-site arsenic treatment projects – for example, whether operations and maintenance are being performed in a way that makes arsenic removal effective and that addresses the need for proper disposal of used filters, brine, and other [fill in].

- The third target under Objective E (convert septic to sewer or replace/retrofit existing systems) should also include a commitment to identify, enumerate, and monitor failing septic systems throughout the region. Progress towards the target should be measured not only in the number of projects executed but also in reduction of the number of failing septic systems, or (as above) improvement in ratio of mitigated to non-mitigated failing septic systems. Retrofitted septic systems should also be subject to ongoing monitoring in order to ensure that they are being maintained properly.
- Objective J (maximize stakeholder involvement and stewardship in water resource management) should include a target for outreach/education to owners of mobilehome parks or other residential locations served by private wells and septic systems, in order to encourage them to participate in mitigation efforts, perhaps especially for mobilehome parks that have off-site landowners who are not themselves directly impacted by drinking water and wastewater treatment issues. The addition of this target would also serve Objective L.
- The first target under Objective L (address DAC needs through ongoing communication with increasing number of organization and participants, recognizing the complexity of DAC infrastructure concerns) should include some assessment of the number of known DACs, mobilehome parks, etc. and an evaluation of the percentage of these communities that are being reached. The target should also include language recognizing the need to reach off-site landowners, for whom a different outreach strategy will be needed. There must be an assessment of other obstacles to participation and communication including an analysis of residents that do not speak English or Spanish and an analysis of other obstacles to communication including access to meetings.
- The measurement of the second target under Objective L (proper sealing of groundwater wells) should include some assessment of the number of known wells in need of sealing and an evaluation of the percentage of wells that is being sealed.
- The third target under Objective L (improve drinking water quality for DACs) should also have some way to determine how many DAC residents are in need of improved drinking water and what percentage of these residents is being reached by funded projects. The measurement should also include a method for ensuring that proper operations and maintenance are being performed in on-site projects. Finally, given the need to provide for operations and maintenance costs, the measurement must include





some way of measuring ongoing affordability other than simply “presum[ing] that any such project will only be implemented if it provides affordable drinking water for the DACs being targeted.”

- Objectives K and L should include a combined target for identifying, assessing the needs of, and addressing the needs of DACs on tribal lands, including DACs comprised primarily of non-tribal members
- The fourth target under Objective L (septic-to-sewer conversions or septic retrofits) should include a way to determine how many DAC residents are affected by inadequate or failing septic systems and what percentage of these residents is being benefited by funded projects.
- The second target under Objective M (maintain average cost-to-income ratio at current levels) should recognize that extension of municipal services to DACs could significantly impact the denominator of this ratio. Also, given the extreme financial need of many DACs in the Coachella Valley, this target should consider disaggregating DACs from the general population and measuring DACs’ cost-to-income ratio, then committing to consider whether this cost-to-income ratio is appropriate or needs to be targeted for reduction.
- Finally, Section 6.1.1 contains a typographical error; the statutory cite should be to Section 10540(c) of the Water Code.

### **Stakeholder Involvement**

CVRWMG has given significant attention to stakeholder involvement as expressed both in Chapter 7 of the draft IRWM Plan and in the Disadvantaged Community Outreach Demonstration Program Report. The CVRWMG’s proactive stance in pursuing DWR funding for the DAC Outreach project evidences a commendable level of concern for involving DACs in the IRWM process, both in Plan development and in grant-seeking. The efficacy of the CVRWMG’s outreach efforts to DACs and compliance with the IRWM Guidelines’ emphasis on stakeholder involvement require compliance with the following recommendations:

- The Planning Partners and other stakeholders should have more access to CVRWMG meetings at which key decisions are made. Most elements of the IRWM process are determined by the CVRWMG itself, with Planning Partners and others generally only being consulted on limited points.
- DAC-related concerns should be more fully integrated into Chapter 7 (Stakeholder Involvement). The statement that “no structures are in place that would create a barrier to participation” (p. 7-1) fails to recognize the barriers identified in the DAC Outreach project and listed in Section 2.1 of Appendix E to the IRWM Plan Update, including, but not limited to, linguistic accessibility to stakeholders with limited English proficiency. Other obstacles include scheduling and location of key meetings and long-term exclusion of target DACs from similar processes.



- The Public Outreach and Communications Plan (Appendix M) states that it “will be updated as needed throughout the IRWM planning process as stakeholder outreach and communication methods are refined” (p. 1), but there is no indication that any such refinement or updating has taken place. The CVRWGMG seems no longer to employ the Issues Groups model as described in the Public Outreach and Communications Plan. The Public Outreach and Communications Plan should be updated to reflect changes made since 2010 and to incorporate the outreach-related recommendations of the DAC Outreach project, particularly those set forth in Appendix E to the IRWM Plan Update.
- It is unclear whether or how the CVRWGMG has followed through on the commitments made in the Public Outreach and Communications Plan to (a) develop a region-specific definition of “disadvantaged community” and identify representatives of the communities thus defined (p. 8) and (b) to identify one or more CVRWGMG members as a liaison to DAC/environmental justice communities in order to clarify paths of coordination and communication (p. 9).
- The categories of stakeholders identified in Chapter 7 do not include off-site landowners of mobilehome parks or other residential clusters in DACs. This category should be identified and described in order to determine appropriate methods of outreach for purposes of encouraging such landowners to develop projects to address water-related needs.
- Ongoing relevance of the Stakeholder Involvement chapter is unclear. This chapter describes how stakeholders have been involved in the development of the original Plan and the 2014 update, but does not fulfill the IRWM Guidelines’ requirement of explaining how stakeholders will be involved in the implementation of the IRWM Plan. See Guidelines at 22. The Plan should provide concrete details regarding how stakeholders will continue to be involved in implementation, including commitments to hold open Planning Partners meetings at defined intervals. Section 7.8.1 should also clarify how the process of updating or amending the IRWM Plan can be initiated.
- Section 7.4.1 (Outreach Activities) states a variety of outreach mechanisms that “may be used” but does not detail whether, how, or with what frequency or effectiveness they have been used to date or may be used in the future. It would be appropriate to include more details of these outreach mechanisms along with an evaluation of their efficacy in order to refine outreach strategies over time.
- Section 7.4.2 (Effective Communication) describes communication with potential project proponents but does not state how those potential project proponents are identified or – more critically for DACs – how outreach is or will be done specifically to increase the pool of potential project proponents.
- Section 7.4.3 (Open Door Policy) states that the CVRWGMG has conducted one-on-one meetings with stakeholders and stakeholder representatives but does not offer details such as a list of the stakeholders who participated in such meetings.



- Section 7.5 (Disadvantaged Communities Outreach) states that “[m]oving forward, if the CVRWMG and Planning Partners determine that a permanent advisory group is appropriate and desired, at least one DAC representative from the CVRWMG should be designated to serve on the advisory group” (p. 7-23). This section should specify when and how these decisions will be made.
- While the DAC Outreach Report includes a frank discussion of challenges to DAC involvement, there is insufficient discussion of how the historic exclusion of and discrimination against DACs in resource allocation and planning may impact involvement and an articulate plan and commitment to overcome such historic underrepresentation in this and other projects.

### **Resource Management Strategies**

Chapter 8 (Resource Management Strategies) includes information on “Coachella Valley Efforts” for each relevant RMS. The efforts described therein are all past or current, with no program described for developing future efforts consonant with the various RMSs. Section 8.4.4 (Improve Water Quality) mentions that the California Water Plan identifies the strategy of “providing additional funding for water supply, water treatment, and infrastructure projects to ensure safe and reliable supply of drinking water for individuals and communities,” but the Coachella Valley Efforts listed do not include any efforts to improve water supply, water treatment, or infrastructure to DACs that are currently not served by municipal water providers.

### **Project Evaluation and Prioritization**

We appreciate the considerable thought and effort that CVRWMG has invested in developing its detailed and thorough process of project evaluation and prioritization. We are concerned that several elements of this process create significant headwinds for project proposals designed to benefit DACs. Leveling the playing field for DAC projects requires compliance with the following recommendations:

- The project review process should be more open and transparent. The scoring process summarized in Table 9-3 (Project Scoring Guide) is relatively straightforward, but subsequent phases of the project review process remain rather opaque. The IRWM Plan describes a number of variables that are taken into consideration in later steps of the project review process but provides no information about their relative weight. We recommend that the Plan be revised to provide more specificity and clarity about how project proposals are evaluated after they have made the initial cut based on the Project Scoring Guide. We also recommend that all substantive phases of the project review process be conducted in open meetings with Planning Partners. In this post-scoring selection process, priority should be given to projects that fulfill the statewide priority of ensuring equitable distribution of benefits as described in Table 9-4 (Statewide Priorities).
- A number of pre-submission steps could be taken to support DACs in developing and submitting project proposals. We recommend the following in addition to the recommendations offered by the DAC Outreach Project:



- Coordinate with the Riverside County Department of Environmental Health and the Regional Water Quality Control Board to send notices of the “call for projects” to any mobilehome parks that are known to have drinking water with contaminant levels above the MCLs or have been cited for significant septic problems within the past 3-5 years.
- Perform outreach to potential project proponents in DACs that are currently not served by municipal sewer and drinking water but that appear to be good candidates for connection to sewer and/or drinking water lines. This outreach should include identification of “clusters” of possible beneficiaries (e.g., groupings of several nearby mobilehome parks, rather than evaluating project feasibility based on only one mobilehome park) and encouraging cooperation among landowners in these “clusters.”
- Provide DAC representatives with additional technical assistance in order to ensure that they understand the scoring criteria and have information about how to describe their project proposals in ways that will best demonstrate their relationship to project selection criteria. DAC-based non-profits may require assistance in performing the Economic Feasibility analysis described on p. 9-18; alternatively, municipal providers could commit to sponsoring a certain number of DAC projects in order to assist these projects in completing such complex analyses. Many DAC representatives would not consider a drinking water project to have greenhouse gas (GHG) reduction benefits, but technical assistance could aid these representatives in appreciating that provision of safe drinking water may result in fewer car trips to far-away grocery stores and/or fewer trips by water delivery trucks, thus yielding GHG reduction benefits.
- The Technical Feasibility criterion (9-13 – 9-14), which boosts the scores of projects that have already secured permits and performed CEQA/NEPA processes, will operate to the disadvantage of DACs, which are unlikely to have the resources to get a project to this shovel-ready stage without support from IRWM-related grants. It would further the statewide priority of equitable distribution of benefits if the CVRWGM waived the technical feasibility criterion when considering projects that directly benefit DACs to the extent possible and encourage and prioritize planning grant projects that would help a DAC project achieve shovel-ready status prior to the next round of grant-making.
- The Plan should set forth a concrete schedule for future Planning Partners meetings in order to fulfill the commitment of “frequent Planning Partners meetings in which all DACs will be invited” (p. 9-18).
- It is unclear whether sponsors of Tier 2 projects (p. 9-7) and/or non-selected projects will receive any feedback in order for them to consider revisions or improvements that might assist them in future rounds of grant-making. We recommend that CVRWGM commit to providing such feedback.



- The project selection process should also address potential negative impacts of project proposals, including any potential impacts on the quantity or quality of drinking water supply to existing communities, particularly those communities that rely on private wells.

### **Agency Coordination**

The IRWM Guidelines require that the Plan include “future plans to further a collaborative, proactive relationship between land use planners and water managers.” Guidelines at 20; see also Guidelines at 61-62. Section 10.3.3 (Future Efforts to Establish Proactive Relationships) offers very little concrete detail regarding how the CVRWMG or its members will proactively engage land use planners to improve coordination between land use planning and water planning in the Coachella Valley. We recommend that CVRWMG’s members commit to attending Planning Commission and other relevant meetings of municipalities with which they overlap. We also recommend that the IRWM Plan consider the Regional Housing Needs Assessment (RHNA) numbers determined for Coachella Valley municipalities by the Southern California Association of Governments (SCAG) and note any discrepancies between RHNA predictions and UWMP predictions. CVRWMG members also should commit to participating in the development of Housing Elements for municipalities within their jurisdiction, including consideration of the relationship between DAC water needs and statutory requirements that each city’s or county’s Housing Element “make adequate provision for the existing and projected needs of all economic segments of the community.” Gov. Code § 65583.

CVRWMG members should commit to participating in local municipalities’ updating of their Land Use Elements to comply with new statutory requirements to identify unincorporated DACs and to ensure that needs of existing communities are prioritized; analyze each DAC’s needs for water, wastewater, stormwater drainage, and structural fire protection; and identify possible funding sources for extension of services to these communities. See Gov. Code § 65302.10. Finally, the CVRWMG and its members should assess major development proposals and as necessary comment on the impact such developments will have on DAC water and wastewater needs, with respect to both water quality and water quantity. The CVRWMG and its members should participate in and provide written comments to regional land use planning efforts for projected future growth in the region, including, but not limited to, Sustainable Communities Strategy (SCS) development and implementation as well as any other studies or assessments of regional importance.

We also recommend that the CVRWMG coordinate with the Regional Water Quality Board and Riverside County Department of Environmental Health in order to seek solutions for parcels that are known to have inadequate or failing septic systems or in which private drinking water wells have contaminants that exceed MCLs.

Finally, as noted above, we recommend that the CVRWMG not only work more closely with tribes to obtain and validate the data in question but also that the CVRWMG establish relationships with the Bureau of Indian Affairs and other federal agencies tasked with regulating environmental quality on tribal lands, e.g., the United States Environmental Protection Agency.



## **Plan Standards Review**

We recommend the following changes to the Plan Standards Review contained in Appendix A:

- The Objectives section of the Plan Standards Review Tool should note that Objectives K and L also relate to “identification and consideration of drinking water quality” and that Objective L also relates to “protection of groundwater resources from contamination.”
- The “explanation of how operation and maintenance costs will be covered” in the Financing section of the Tool should include discussion of the proposal to have individual user fees cover the costs of on-site arsenic remediation systems.
- The Stakeholder Involvement section of the Tool references Sections 7.5 and 7.6 of Chapter 7 as addressing the requirement to “discuss involvement of DACs and tribal communities” (see Guidelines at 23). However, the referenced sections primarily describe past outreach activities and do not offer many specifics about ongoing or future efforts to involve DACs and tribal communities. We recommend that additional information be provided regarding intended future efforts to involve DACs and tribal communities.

## **Impacts and Benefits**

We applaud the CVRWGMG’s recognition of DWR’s cost-reimbursement funding structure as an impediment to DAC projects (p. 9-18). The CVRWGMG will further the goals set forth in the Guidelines (see Guidelines at 54-56), if it follows these recommendations with respect to the IRWM Plan’s discussion of impacts and benefits:

- Table 11-1 (Summary of Potential Long-Term Benefits for Proposed Projects) should include “benefit to DACs” or “equitable distribution of burdens and benefits of water management” as one potential long-term benefit for purposes of comparing the various project types and project components. This addition would support the intention articulated by the Guidelines on this point. See Guidelines at 21.
- The benefit of “enhanced public safety” should be reframed as “enhanced public health and safety” in order to include a discussion of mitigating such dangers as contamination of drinking water and exposure to untreated wastewater.
- The Plan’s statement, in Section 11.1, that impacts and benefits will be reevaluated during Plan updates does not seem to satisfy the Guidelines’ requirement that impacts and benefits be reviewed and updated as part of the normal Plan management activities. See Guidelines at 50. We recommend that the Plan include a mechanism for regularly reviewing and updating the review of impacts and benefits during Plan implementation, not only during very occasional Plan updates.
- We recommend that, in addition to conducting environmental reviews in Section 11.1.2 (Overview of Impacts), the CVRWGMG require projects to describe any reasonably anticipated impacts on existing communities, particularly DACs. These impacts include, but are not limited to, any reasonably foreseeable impacts on quantity or quality of



drinking water to existing communities. Such a criterion should also be included on the list of “potential long-term impacts” set forth in Table 11-2 (Summary of Potential Long-Term Impacts for Proposed Projects).

- The source of the lists of Project Types and Project Components in Table 11-1 and Table 11-2 is unclear. We recommend that Chapter 11 be revised to provide greater clarity.

## **Data Management**

We make the following recommendations with respect to data management:

- With respect to Sections 11.3.1 (Overview of Data Needs) and 11.3.2 (Data Collection Techniques):
  - The subsection on Groundwater Data should discuss the need for information on currently unmonitored drinking water wells in the Eastern Coachella Valley, including information on such issues as water quality and number of users. This information should be assessed regularly over time. Similar data should be provided with respect to (a) septic systems throughout the Coachella Valley and (b) septic systems known to be not functioning properly.
  - We commend the intention, articulated in the subsection on Demographic Data, to incorporate data from the DAC Outreach Program into the Data Management System (DMS). We recommend also identifying methods of collecting and reviewing this kind of data on an ongoing basis, other than bare reliance on Census figures, which – as noted by the DAC Outreach Report – tend to undercount populations and levels of need in DACs, particularly rural DACs in unincorporated areas.
  - We recommend that the CVRWGMG coordinate with the Regional Water Quality Control Board and the Riverside County Department of Environmental Health to track (a) drinking water wells that are known to have contaminant levels that exceed MCLs and (b) septic systems that are known not to be functioning correctly. This information should be included in the DMS and updated frequently. Given that the regulatory entities named above may not have complete information on drinking water quality and septic system issues throughout the IRWM region, we also recommend that the Plan provide a mechanism for stakeholders to report drinking water quality issues and septic system problems on an ongoing basis and that this information also be incorporated into the DMS.
  - We recommend that subsidence be monitored in more remote areas of the Eastern Coachella Valley and that this information be incorporated into the DMS.
- In Section 11.3.4 (Responsible Entity), we recommend that the ad hoc DMS subcommittee be developed and that it include at least one DAC or environmental justice representative from both the Eastern Coachella Valley and the Western Coachella Valley, given the disparate community structures and needs between the two regions. We also



recommend that the subcommittee’s meetings be open, with invitations issued to all stakeholders on the CVRWMG’s contact list.

### **Plan Performance and Monitoring**

We recommend that Section 11.4.1 (Plan Performance, subsection regarding Evaluating Plan Performance) include a specific schedule in which the CVRWMG will evaluate the Plan’s progress toward achieving the expressed goals and objectives. Such evaluation should occur at least annually and should occur in, or be followed by, a meeting with Planning Partners to analyze and discuss the results of the evaluation and discuss ways to improve performance as needed. This system would support the Guidelines’ intentions. See Guidelines at 53-54.

We also recommend that the project-specific monitoring plans described in Section 11.4.2 include “impacts on existing communities” or “impact on DACs” as a mandatory component of such monitoring plans.

### **Financing Opportunities**

The report’s analysis of funding opportunities identifies some key sources but lacks some critical information about the sources themselves and lacks information as to how the CVRWMG and/or its constituent agencies will access and leverage those funding sources to address DAC water needs.

With respect to the availability of identified funding sources, the Plan should state that Proposition 50 and Proposition 84 funds are of limited duration and they will cease to be available soon. The Plan should reflect the current reality of prop 84 and prop 50 funds. The CVRWMG and its partners should monitor development of the new bond program being considered by the State and its applicability to DAC water and wastewater issues in the region.

The State Revolving Funds for drinking water, wastewater and stormwater drainage are stable and should be identified as such. Additionally, the revolving funds provide both grant and loan funding to DACs, including very low-interest loans. The CVRWMG and/or its constituent members should develop and implement a plan to obtain and leverage said funding to the extent possible to address DAC issues.

The CVRWMG and/or its constituent members should identify locally sourced funding that can be shared throughout the jurisdiction or at least within a region to alleviate the burden of infrastructure financing on a small group of low-income residents.

Property taxes provide a significant source of funding for some if not all of the CVRWMG’s members. The Plan should determine how those property tax allocations can address infrastructure deficits in DACs.

Other programs that the CVRWMG and its partners should incorporate into funding strategies include:

- The Department of Public Health’s interim drinking water solution funding





- The Department of Public Health’s pre-planning money set-aside to address governmental and planning constraints to sustainable projects,
- Local and regional funding programs that support on property improvements, including the Regional Water Quality Control Board’s Supplemental Environmental Project program.

### **On-site arsenic treatment systems**

We applaud the Plan’s attention to on-site arsenic treatment systems as an interim solution to provide safe drinking water to DACs in the Eastern Coachella Valley for whom connection to municipal drinking water is not immediately feasible. We also commend the CVRWGMG for its recognition of Pueblo Unido Community Development Corporation’s pioneering work in exploring such solutions. We offer the following recommendations regarding the Plan’s incorporation of on-site arsenic treatment systems:

- While we recognize that operations and maintenance costs for such on-site systems will need to be addressed, but we are concerned about the possible financial consequences for extremely low-income DAC residents who may be forced to bear the full brunt of these O&M costs. See Section 4.4.3.4 (pp. 4-45 – 4-46); Appendix J (Disadvantaged Communities Project 4 – Residential Groundwater Treatment Program). We recommend that any such projects include an analysis of the affordability of O&M costs to residents, identification of other possible sources to support O&M, and preference given to funding solutions that will not increase costs to residents. We also recommend that landowners implementing such projects follow the procedures required by the Mobilehome Residency Law, Civil Code §§ 798 et seq., for adding fees or increasing rents in mobilehome parks.
- Some of the data provided in Appendix S (DAC Water Quality Evaluation) seem to raise doubts about whether membrane separation technology can remove enough arsenic to provide drinking water that does not exceed MCLs for arsenic. Table 1 states that the primary MCL for arsenic is 10 micrograms/liter but that average concentration in the identified Areas of Concern is 237 micrograms/liter, meaning that approximately 96% of the arsenic would need to be removed in order for water not to exceed the MCL. However, Appendix S states on p. 22 that membrane separation can remove 50%-90% of As (V) but may be less effective for As (III). It would be helpful to clarify whether membrane separation systems can provide safe drinking water in Areas of Concern.

### **Misidentification of California Rural Legal Assistance, Inc.**

We thank the CVRWGMG for including California Rural Legal Assistance, Inc. (CRLA) as a stakeholder and Planning Partner throughout the IRWM process. The Plan, at several points, misidentifies CRLA as the California Rural Legal Assistance Foundation (CRLAF). CRLAF is a completely separate organization, with a separate board and staff. This error occurs in Tables 7-5 and 7-10 within Chapter 7; p 9-17 within Chapter 9; and Table 1 within Appendix M. Please make the corrections.



## **DAC Report**

### **DAC Water and Wastewater Issues Identified**

We repeat our commendation of the CVRWGMG for elevating the issues of DACs through both the IRWM Plan itself and the special DAC Outreach Program. We do, however reiterate some of our concerns listed above with respect to certain deficiencies in data and analysis. We also reiterate our concern that the recommendations that appear in the DAC Outreach Program report are not incorporated into the IRWM Plan. We assess some of those recommendations below and repeat that the IRWM Plan should be modified to consider those recommendations.

#### **Inadequate Data Assessment and Analysis of DACs**

The very serious and widespread water quality issues impacting DACs are repeatedly identified as “perceived.” While we do not doubt residents’ perception of the various health hazards they are facing, the information sought is readily verifiable. To the extent that verified data is available it should be cited, and data that has not been verified must be verified immediately. The consistent use of the term “perceived” lends itself to the interpretation that an issue may or may not exist, which would have both implicit and explicit impacts on any effort, plan or policy to address the issue, including access to funding programs. If an issue is only perceived then funding, application and planning priorities could be unfairly skewed and result in a failure to develop and implement projects that would address priorities to actual, as opposed to perceived, deficiencies that pose a public health hazard. We are aware of high levels of arsenic, bacteria and hexavalent chromium (chromium -VI) throughout the eastern parts of the region. All data that have been verified need be included in this assessment. If there are data that need to be verified, verification must be included in the outreach budget to fully fund necessary activities and provide necessary sampling kits and equipment to ensure a meaningful and comprehensive assessment of water and wastewater issues in DACs.

The DAC outreach project represents a huge step forward in identifying and addressing issues impacting DACs. There are critical next steps. The geographies and obstacles to health and wellbeing are vast and the CVRWGMG must dedicate sufficient and significant resources to comprehensively assess the many issues impacting DACs. Mapping DACs is an ongoing process. The work that non-profit partners have undertaken is impressive and important, but it is only a start. The IRWMG must support continued mapping and characterization of DACs to ensure complete information. Similarly, we are concerned that some of the information provided does not represent the experiences of a sufficiently representative group of residents. For example, to the extent that the Outreach Report relies on opinions of mobilehome park *owners*, the experiences of residents of those same parks may be inadvertently excluded. The experience of all residents – be they owners or renters – must be fully reflected in any DAC analysis. The IRWMG must dedicate sufficient resources to allow continued analysis and mapping of DACs.

Additionally, one recurring inaccuracy in the report worth noting is the Report’s repeated reference to “Polancos” as illegal. This is inaccurate and leads to misimpression and confusion. The description of possibly unpermitted mobile home parts must be modified for accuracy and clarity.



## Recommendations

We recommend that the IRWM Plan adopt the recommendations included in the DAC Report, with a few caveats. We have identified below some issues for consideration with respect to several of the recommendations:

### 8.1 Utilize Assistance from Community Non-Profit Organizations

This recommendation is critical to the success of any IRWMP. There must be robust funding available to non-profit organizations to conduct the necessary work effectively.

### 8.2 Establish a “DAC Track” to Facilitate DAC IRWM Participation

Prioritization and additional support for project proposals serving DACs is critical. We have concerns that the proposed “DAC Track,” which relaxes IRWM implementation grant project selection, may fail to address some of the fundamental barriers impacting DAC applicants and would-be applicants such as the lack of technical assistance with project application preparation and lack of comprehensive short- and long-term planning to address DAC issues. DAC residents, and small non-profits representing them, often lack the financial capacity to hire highly skilled consultants to develop projects. The failure of the larger water systems and coalitions such as the CVRWGMG to create a comprehensive plan to address DAC issues requires individual communities to develop individual projects when a collaborative project may actually be in the best interest of all parties. The “DAC Track” does not suffice in evening the odds and ensuring DAC needs are prioritized.

CVWD has also failed to clarify if DAC projects would automatically be relegated to the DAC Track. Such a relegation would only be appropriate if there were a DAC funding set-aside. The DAC Track solution may seem like a satisfactory compromise yet risks marginalizing DACs to the periphery of application processes instead of considering – while granting appropriate priority, technical assistance and expedited reimbursement processes - DAC applications through the general application process.

#### 8.2.1 Modified Project Selection Requirements

Modified selection criteria would not be helpful if ultimately a DAC project would not be deemed competitive without required analysis and/or if a project were ultimately unsuccessful due to inadequate assessment. Rather, there should be sufficient funding and technical assistance available to assist DACs in developing and carrying out projects. One modification for DACs, however, should be that planning and pre-planning processes are fundable for DACs to make their proposed projects “shovel ready” and competitive.

#### 8.2.2 Deference to Local Project Selection Process / Regional Representative

We are also concerned that there is too strong an emphasis on local control. Local control, albeit responsive, does not in itself have adequate accountability mechanisms in place. We believe that diversifying control of the CVRWGMG and the role of the Regional Representative will create implicit accountability mechanisms. We also would urge CVRWGMG to ensure the Regional Representative is either a DAC community resident or culturally competent with respect to



DACs. If this recommendation is adopted, the Planning Partners should develop criteria and selection process for a regional representative.

### 8.2.3 Expedited Project Expense Reimbursements

We strongly support this recommendation.

### 8.3 Provide Planning Grant Funding to Regions to Support DAC

We support funding programs designed to support technical assistance and effective outreach. We will repeat here, though, that there should be increased efforts to support collaborative planning among and between agencies and DACs to support regional solutions that may include extension of services and/or other affordable and sustainable options.

### 8.4 Expand the Role of Regional Representatives

We welcome the recommendation for more connectivity among local, regional and statewide stakeholders. We recommend the IRWM Plan clarify and identify what agency will coordinate with local public health and state water board personnel responsible for drinking water and wastewater management as well as other agencies.

### **Lack of DAC representation in the IRWM process**

We are concerned that in the DAC Outreach document there was a complete absence of reference to the lack of representation of DAC residents in relevant decision-making bodies. One of the key goals of the DAC outreach process was to “Increase DAC Participation in the IRWM Planning Process.” Planning and decision-making processes cannot be considered equitable or representative if all constituents are not represented. DAC projects are chosen and prioritized in IRWMs that have governance structures that were created and are controlled by water districts, counties, city government, water boards, environmental organizations and other institutional stakeholders that traditionally are not aware of the needs and do not give priority to DACs, particularly in unincorporated areas.

Further exacerbating the issue is that proposed projects and needs of DACs are usually not well aligned with the traditional interests of IRWMs that are dominated by the aforementioned non-DAC stakeholders. In some of these cases, DAC drinking water and sanitation ratepayers find themselves having to advocate for financial “sponsorship” of their water infrastructure improvement projects in an IRWM process that does not want to offend its non-DAC stakeholders by asking them to financially support the application development of DAC projects.

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We thank you very much for your consideration of these comments. If you have any questions or concerns about our recommendations, please do not hesitate to contact us. We look forward to continuing to work with the CVRWGMG as it moves towards finalization and implementation of the 2014 IRWM Plan Update.

Yours,

Laura Massie  
California Rural Legal Assistance, Inc.

Michele Hasson  
Leadership Counsel for Justice and Accountability





December 30, 2013

SENT VIA EMAIL AND USPS

Coachella Valley Regional Water Managers Group  
c/o Rosalyn Prickett  
RMC Water and Environment  
10509 Vista Sorrento Pkwy, Suite 205  
San Diego, CA 92121

**RE: Comments on the 2014 Update to the Coachella Valley Integrated Regional Water Management Plan**

Dear Ms. Prickett:

Thank you for the opportunity to review and comment on the 2014 IRWM Plan.

The Tribe offers the following general comments and questions:

The Tribe supports the efforts made to reach out to the tribes for input to the Plan. The Plan makes an effort to show the different issues each tribal government and its reservation faces and thus highlights the need for true partnerships with each tribe to ensure that water management is truly regional.

The Tribe is pleased that this Update references and incorporates the latest reports and information generated by the IRWM Group. It is also good to see at several places in the Plan the clear acknowledgement the continued overdrafting of the aquifer will have "*significant consequences*"<sup>1</sup> and "*[c]urrent water extractions and projected water demands are not sustainable...*"<sup>2</sup>

Throughout the Plan, many facts and figures describing the quantity and quality of water used by each water purveyor are given. Unfortunately the numbers presented are defined differently based on the discussion in each section of the Plan, making it difficult, if not impossible for a stakeholder or other interested party to follow the discussion chapter-to-chapter and gain a full understanding of how the agencies are managing water in the region. The Tribe would like to see greater effort made to streamline the document and resolve internal inconsistencies with the goal of moving towards a Plan that is meaningful to and useful for tribes and the public at large.

Specific comments on the Plan are provided below:

P. 2-2: The second paragraph discusses population in the Coachella Valley and notes that the population estimates "*do not account for the substantial amount of seasonal visitors...and the Region's seasonal workforce...*" Do the Districts account for these populations in their estimates of water demand?

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<sup>1</sup> P. 2-9

<sup>2</sup> P. 2-53



P. 2-3: The 3<sup>rd</sup> paragraph discusses groundwater as “...*the primary local urban water supply source.*” The discussion goes on to explain that there are differences in how the sub-basins are defined depending upon whether DWR or USGS definitions (or a combination of both) are used. It is difficult for the reader to understand the basin/sub-basin structure when each Agency is using a different definition. Please explain why the Agencies are using different basin definitions. The Tribe suggests that the Plan adopt a common set of sub-basin definitions.

Section 2.2.2 Water Systems and Distribution: This section provides information about quantities of water extracted from the groundwater basin as well as recharge areas and quantities. The first reference to groundwater quantity is on Page 2-4 where it notes “[t]he Coachella Valley Groundwater Basin has an estimated storage capacity of approximately 40 million acre-feet of water.” Page 2-5 lists “recent annual pumping volumes” by each Agency in total, then in a separate paragraph it notes the sub-basin each Agency uses. Then in Table 2-1 (p. 2-8) there is a table listing sub-basins and corresponding recharge activities. Finally, there is a separate section providing a general discussion of overdraft conditions. To help stakeholders and other readers, the Tribe would like to see a new table with the groundwater information broken down by sub-basin (using a common set of sub-basins, as suggested in the preceding paragraph) to allow for comparison. The table would need to include:

1. Sub-basin name
2. Sub-basin storage capacity (AF)
3. Annual pumping volume from each sub-basin
4. Annual recharge to each sub-basin
5. Annual overdraft in each sub-basin
6. Cumulative overdraft in each sub-basin

P. 2-37: It is noted that per capita demand will steadily decrease over the long-term. Please define “*long-term*” in this context.

P. 2-38: The discussion about DWA’s potable water demand notes that “*DWA has a diverse source of water supply, including groundwater, surface water, imported water, and recycled water.*” This description of water use is deceptive; 5% of water supply is surface water<sup>3</sup>, 4% is recycled<sup>4</sup> resulting in 91% of the water supply coming from the groundwater basin. In short, the basin is pumped for water, and then replenished with Colorado River water.

P. 2-40: In the Groundwater Quality section, the Plan states: “*Basin-wide groundwater quality is difficult to characterize as groundwater quality varies throughout the Valley. The water quality in a given well depends upon well depth (or the screened interval of the water supply well), proximity to faults, presence of surface contaminants, proximity to recharge basins, and other hydrogeologic features.*” This implies a lack of coordinated, comprehensive information on the subject—is that accurate? The Tribe suggests that the responsible agencies develop a state-of-the-art groundwater quality database for the Coachella Valley that incorporates all data into a format useable for the agencies and stakeholders.

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<sup>3</sup> P. 2-11

<sup>4</sup> P. 2-36





P. 3-11: It is commendable that the Agencies appear to be following the Best Management Practices of the California Urban Water Conservation Council. For clarity, please include a table listing all the BMPs and identify the specific practices of the agencies implementing them, so that the reader might better verify these representations.

P. 3-25: Identification of Tribal Lands as an Issues Group is problematic. Each tribal government must be addressed individually given that each nation and reservation has distinct concerns and needs. In addition to and beyond this IRWM Plan, water purveyors must improve and strengthen their relationships with local tribes so that future iterations of this Plan will better reflect the rightful place of tribes as partners in regional water management, given that the Agua Caliente Tribe has reserved rights to groundwater under federal law that heretofore the districts have ignored.

P. 3-35: A decrease in imported water supply is a climate change vulnerability issue. Please clarify whether this imported supply includes State Water Project (SWP) water; the paragraph only mentions water from the Colorado River. The report should make clear that the Valley's SWP allocation is exchanged with MWD for lower quality Colorado River water. It is apparent that supplies from both sources are facing acknowledged reliability problems in the coming decades.

Chapter 5 Tribal Water Resources: The Tribe is troubled by the process the Coachella Valley Regional Water Managers Group (CVRWMG) used to write this chapter. First, as requested, the Tribe gave input as early as August 20, 2013 by submitting the Tribal Questionnaire. The next contact was on October 14<sup>th</sup> when the Tribe was emailed a preliminary draft of the Chapter for review and directed to provide input by October 25<sup>th</sup>—a 2-week period.

*"We are requesting all final comments on this preliminary draft in two weeks by Friday October 25<sup>th</sup> so we can incorporate them into the public draft IRWM Plan scheduled for release on Monday November 4<sup>th</sup>."*

The Tribe also attended the October 22<sup>nd</sup> Tribal Stakeholder meeting during that same period and provided input by the October 25<sup>th</sup> deadline. It wasn't until November 5<sup>th</sup>, a day AFTER the 2014 Plan was released for public review, that the Tribe was notified that its comments were partially reviewed, but not in time to be included in the Plan:

*"We have received your letter and we are in the process of reviewing your comments; however, yesterday we released the public draft of the 2014 Coachella Valley Integrated Regional Water Management Plan. Please be advised that while some of your comments have been addressed, some are still under review at this time."*

Between August and November there seems to have been ample time to collect input from tribes. Instead, the process was compressed into a 2 week timeframe in which the Tribe's input wasn't fully considered. The Tribe sees this interaction as representative of the entire IRWM process; a perfunctory exercise conducted in a schedule and method convenient for the agencies resulting in a continuation of status quo water management and avoiding a true collaboration with stakeholders and the public in the Coachella Valley.



P. 6-10: Table 6-1 shows baseline per capita water use by agency. DWA and CVWD usage numbers are significantly higher than all other water purveyors in the Valley, in some cases double or triple the amount. Please explain why the per capita water use is so high for DWA and CVWD and so low for the other purveyors.

P. 8-9: The Plan writes: "*The majority of Valley water users are on a tiered water rate...*" Please provide a table showing the rate structures of all agencies for clear comparison between water purveyors including the use and applicability of tiered rates.

P. 9-3: Priority 7 is to create a data management system. The Tribe has made this comment repeatedly throughout the years, when given an opportunity to comment on various agency water management plans, and continues to strongly support the development of an online database. This particular priority however only includes a vague ("*over the next few years*") commitment to expand the IRWM website and online project database. There is no mention of a comprehensive database of all water information to improve transparency and management of the regional water resources and enable greater public participation. Section 11.3.7 lists the locations of water data available through numerous State Agency websites. The CVRWGM could best serve federally recognized tribes, its stakeholders, and the public at large by organizing information about the region from these websites into a coherent usable source of water information. When will the IRWM commit to significantly improved and meaningful data collection, management and sharing?

P. 10-13 & 10-22: Groundwater monitoring must be given greater emphasis. For example, statements are made in the Plan referencing agency Engineer's Reports that don't adequately characterize groundwater pumping and replenishment:

*"The reports provide total estimated groundwater pumping and recharge water deliveries for the year, and provide a summary of each agency's total estimated costs to manage the replenishment programs."*

Also, the section entitled *Groundwater Monitoring Strategy* is only partially finished. The proposed Outcomes states "*Will be included in the Final IRWM Plan*". Why couldn't this important section be included in the public draft?

P. 10-23: It is commendable that CVWD is preparing a non-potable water master plan. When will it be completed? Is DWA also preparing one for its service area? If so, when will it be completed?

P. 11-19: The paragraph on regulatory uncertainty is troubling. The preparation of the 1<sup>st</sup> Salt and Nutrient Management Plan for the Valley is considered an "unfunded mandate" and implies that there is no value in development of this Plan. The Tribe submits that development of the SNMP is just good water management that should have been done voluntarily and without waiting for a mandate from the State.



Thank you for the opportunity to review the 2014 Update to the IRWM Plan. If you have any questions, please feel free to contact me at 760-883-1326.

Very truly yours,

Margaret E. Park, AICP  
Director of Planning & Natural Resources  
**AGUA CALIENTE BAND  
OF CAHUILLA INDIANS**

C: Tribal Council  
Tom Davis, Chief Planning and Development Officer





October 25, 2013

Coachella Valley Regional Water Managers Group  
c/o Rosalyn Prickett, AICP  
RMC Water and Environment  
10509 Vista Sorrento Pkwy, Suite 205  
San Diego, CA 92121

**RE: Comments on the Draft Tribal Water Resources chapter of the 2014 Coachella Valley Integrated Regional Water Management Plan**

Dear Ms. Prickett:

Thank you for the opportunity to review and comment on the Tribal Water Resources chapter. The chapter purports to “*present an overall summary and introduction of the Tribal Nations of the Coachella Valley, and the water resources and water management challenges of their reservations.*” Unfortunately, Tribal concerns are again addressed in a limited fashion in this chapter. The Tribe, while perhaps considered by others as a longstanding “stakeholder” in this IRWM Plan process, still asserts that, because of its status as a federally recognized tribe with inherent sovereign powers, Tribal and Reservation interests can best be served through the Tribe’s designation as a full-fledged member of the Management Group. Nevertheless, our comments are provided below.

- 1) Throughout the document where appropriate, please capitalize “Tribe” when referring to the Agua Caliente Band of Cahuilla Indians and capitalize “Reservation” when referring to the Agua Caliente Indian Reservation.
- 2) Section 5.2: It is misleading to say that “*The Region uses the expansive groundwater basin and imported water from Colorado River and State Water Project (SWP) contracts.*” In fact, groundwater is mined without regard for its sustainability and untreated Colorado River water is used to recharge the aquifer. No SWP water actually is used in the Valley—it is exchanged for lesser quality Colorado River water. The Tribe has made this comment in similar planning documents over the past decade. These planning documents should not mislead the public into believing the Valley actually receives SWP water. The Valley’s allocation of SWP water was given to MWD 30 years ago in an exchange agreement.
- 3) It is not clear what the purpose is of describing and detailing the collections of the Agua Caliente Cultural Museum as such information is not germane to water management and water rights. Please remove this information. Please substitute the following description of the Agua Caliente Band of Cahuilla Indians for Section 5.3.1 in its entirety:

*The Agua Caliente Band of Cahuilla Indians is a federally recognized American Indian tribe with more than 400 members. The Tribe stewards more than 31,500 acres of ancestral lands which include protected Bighorn sheep habitat and land throughout Palm Springs, Cathedral City and Rancho Mirage as well as Riverside*



County. The Tribe is also one of Coachella Valley's largest employers with about 2,500 team members working for the tribal government and its business ventures. The Tribe is known for preserving its heritage while focusing on its future. In addition, the Tribe has a solid track record for being a tireless steward of the environment. The Tribe maintains positive working relationships with local, regional and federal governments through many collaborative efforts and partnerships. The Tribe has shared and donated resources to support public safety services, transportation improvement projects, and community services.

The Tribe's history here goes back thousands of years. Near the turn of the 20<sup>th</sup> Century, the Tribe operated the original hot springs bathhouse, offering visitors access to their sacred healing waters. Today, the Tribe operates two destination resorts, a 36-hole golf course and maintains the world-renowned Indian and Tahquitz Canyons.

The developed areas of the Reservation are provided water service from DWA and CVWD and wastewater service from the City of Palm Springs and CVWD. With respect to water rights, the Tribe and its members possess reserved water rights in the Coachella Valley. Federal law recognizes and protects the Tribe's aboriginal use right to water, as well as the rights to water associated with the creation of its Reservation in the Valley in 1876. The Tribe's reserved water rights are among the most senior rights in the Coachella Valley. A portion of the Tribe's reserved right to surface water from Tahquitz and Andreas Creeks were asserted by the United States (despite the state court's lack of jurisdiction over federal rights), as trustee for the Tribe, and recognized by the State of California in the 1938 Whitewater River Adjudication. The United States asserted additional groundwater rights in that adjudication, but no action was taken on those rights at that time as groundwater was beyond the court's jurisdiction. The Tribe possesses other, as yet unquantified, surface and groundwater rights in the Coachella Valley.

- 4) In Section 5.4.1, subsection entitled "Quality of Local Groundwater Supplies," the draft report makes the claim that salinity and other contaminant levels are within regulatory limits for drinking water. These levels within the aquifer continue to increase, and the day will be reached when some or all of them exceed current limits, or new more restrictive limits are set. The planning agencies have no plan for how to avoid that eventuality. This document only manages to mask the real problem, rather than to deal with it in an open and transparent manner. The Tribe appreciates the need to keep drinking water affordable, but back-loading the problem to be paid at inflated rates in the future by future generations of Valley residents is not effective or responsible management.
- 5) Similarly, in Section 5.4.1, subsection entitled "Quantity of Local Groundwater Supplies," which cross references Chapter 11, the draft report more or less adopts the approach undertaken by, for instance, CVWD, in its 2010 WMP, an approach which makes unrealistic assumptions about the reliability of future supplies of surface recharge water from the Colorado River, including Colorado River the Valley receives from the SWP exchange agreement with MWD. This approach ignores more recent supply analysis from the Bureau of Reclamation, which is the leading basin-wide data and analysis available. A more



realistic appraisal of future imports, in turn, should naturally shift the emphasis toward more effective supply and demand strategies in the Valley.

- 6) In Section 5.4.1 and again in Section 5.5.2 it is noted that the Coachella Valley Regional Water Management Group (CVRWVG) engaged with tribal nations on a one-on-one basis and through "Planning Partners" meetings and communication. These efforts are essentially the same as those used since the inception of the IRWM program and the Tribe still believes these efforts are inadequate to comprehensively address Tribal issues. As we have said before, current and future planning for the management and administration of water in the Valley must, necessarily, take into account the full spectrum of the Agua Caliente Band's rights – both quantified and unquantified - as well as the rights of the other resident tribes. The Tribe's status as holder of a significant interest in the water resources of the Valley also mandates that it be given an elevated status in consultations over the development of all regional water management plans.

Thank you for the opportunity to review the Tribal Water Resources chapter of the updated IRWM Plan. If you have any questions, please feel free to contact me at 883-1326.

Very truly yours,

Margaret E. Park, AICP  
Director of Planning & Natural Resources  
**AGUA CALIENTE BAND  
OF CAHUILLA INDIANS**

C: Tribal Council  
Tom Davis, Chief Planning and Development Officer





## **Appendix VI-G: Work Plan for the Coachella Valley Groundwater Basin's Salt and Nutrient Management Planning Strategy**

This appendix includes the final Work Plan developed for the Salt and Nutrient Management Planning Strategy technical study conducted as part of the 2014 Coachella Valley IRWM Plan update process.



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# Work Plan for the Coachella Valley Groundwater Basin's Salt & Nutrient Management Plan

## BACKGROUND

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The State of California adopted the Recycled Water Policy (Policy) that requires Salt and Nutrient Management Plans (SNMPs) be developed to manage salts, nutrients, and other significant chemical compounds on a watershed- or basin-wide basis. The Policy specifies that SNMPs be developed in a cooperative and collaborative manner among water and wastewater agencies and other salt/nutrient stakeholders. The SNMPs are intended to help streamline permitting of new recycled water projects while ensuring compliance with water quality objectives and protection of beneficial uses. For each groundwater basin, a SNMP is to be provided to the Regional Water Quality Control Board (RWQCB) no later than May 2014. An extension of up to 2 years may be granted by the RWQCB if the region demonstrates substantial progress by the May 2014 deadline.

In 2011, the Coachella Valley Regional Water Management Group (CVRWMG) began preliminary discussions about preparing a SNMP for the Coachella Valley. In order to either meet the May 2014 deadline or show substantial progress in developing its SNMP, the CVRWMG is working toward consensus on a SNMP strategy and scope of work by early 2013.

The CVRWMG application for Planning Grant Funding included budget for initial scoping of the salt and nutrient planning to augment the Integrated Regional Watershed Management (IRWM) plan for the Coachella Valley. The grant was awarded, and the consulting team of RMC Water and Environment and Integrated Planning and Management, Inc. were contracted to initiate the scoping.

To date, three public workshops have been held on August 22, 2012, September 26, 2012, and November 28, 2012 with good interaction between stakeholders interested in the SNMP. Based on the direction from the CVRWMG, interests, comments and concerns of the stakeholders, and input from the Colorado River Regional Water Quality Control Board (RWQCB), the consulting team has prepared this Work Plan for preparation of the Coachella Valley Groundwater Basin Salt and Nutrient Management Plan. Included in this Work Plan is the list of roles and responsibilities for the entities that will be involved in the development of the SNMP, the scope of work, and a schedule for work plan implementation.

# ROLES AND RESPONSIBILITIES

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The following defines the team structure and roles and responsibilities for completing the SNMP.

## Acronyms, Groups, and Roles

### **CVRWMG (Coachella Valley Regional Water Management Group)**

**Members:** Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, Indio Water Authority, and Mission Springs Water District

**Roles:** Responsible for maintaining the Stakeholder List and identifying members that need to be included. Responsible for establishing and overseeing the Technical Working Group. Will review work product, provide data, manage the Technical Working Group, manage Stakeholders, make or seek agreement on policy decisions and direction and ensure integration of the SNMP into the Coachella Valley Integrated Regional Water Management Plan (IRWMP).

### **Technical Team**

**Members:** Technical experts to be determined for each task including, but not limited to, agencies, their consultants, RWQCB and other key regulatory personnel, and other organizations as deemed appropriate by the CVRWMG.

**Roles:** Perform technical work related to SNMP development, from collecting data to final analysis and documentation of the SNMP. This technical work may be conducted by CVRWMG agency staff, a consultant or other combination that is acceptable to the stakeholders and approved by the CVRWMG. When decided, the final roles of the Technical Team members will require further clarification as to who is performing the work and who will be reviewing and approving the work products.

### **Stakeholders**

**Members:** Open to all public agencies, including the RWQCB, other regulators, Tribes, environmental organizations, and other interested members of the community.  
Note: The current stakeholder list is shown in work plan section.

**Roles:** Provide public input and review major milestone tasks.

# DRAFT WORK PLAN

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As part of the development of the Coachella Valley Basin SNMP Work Plan, the current CVRWGMG and Stakeholders explored several of the issues that are likely to be addressed as part of the SNMP process. One of the challenges identified for this SNMP was the number of issues and size/scale of the SNMP, especially given the current Basin Plan's lack of sub-basin distinction. Therefore, the SNMP process is being developed using a phased approach that it will allow it to be completed over time in an incremental manner. The following defines the three plan development phases:

- **Phase 1: Initial SNMP Scoping and SNMP Work Plan Development**
  - Invite Stakeholders group for scoping early in the process
  - Develop the process, scope, and schedule for SNMP development (i.e. this Work Plan)
- **Phase 2: Initial SNMP development**
  - Characterize the groundwater basin(s), including estimating the assimilative capacity of the basin(s)
  - Identify salt / nutrient loadings and trends
  - Identify any supplemental monitoring needs
  - Identify water management goals and potential strategies, including any potential basin plan amendments recommendations
  - Conduct anti-degradation process
  - Finalize Phase 2 SNMP, including:
    - Develop initial implementation and monitoring plans
    - Develop initial SNMP data management, reporting, and audit processes
    - Determine CEQA/NEPA compliance needs
    - Documentation of SNMP
- **Phase 3: Finalize SNMP**
  - Conduct any necessary supplemental monitoring
  - Update salt / nutrient loading and trends (as necessary)
  - Update water management goals and strategies (as necessary)
  - Support processing of any recommended Basin Plan Amendments with the RWQCB
  - Update anti-degradation process (as necessary)
  - Finalize Phase 3 SNMP, including:
    - Update the implementation and monitoring plans
    - Update the SNMP data management, reporting, and audit process
    - Develop environmental documentation for any proposed Basin Plan Amendments
    - Documentation of SNMP

The following Work Plan describes the tasks necessary to prepare a Salt/Nutrient Management Plan (SNMP) for the Coachella Valley Groundwater Basin. Detailed tasks are shown for Phase 2, and an outline of some possible tasks necessary for Phase 3 are included.

# Phase 2 Work Plan

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## Task 1. Establish Collaborative Process

The primary purpose of this task is to assist the CVRWGM in refining the stakeholder process established during the Scoping and Work Plan Development (Phase 1) to ensure that the process meets State Policy requirements and represents the community. This will occur by continuing to engage stakeholders in the SNMP development process, establishing plan goals and objectives, gathering input on technical analysis tasks, and collaboratively developing implementation and basin management measures. The CVRWGM will direct or lead the collaborative process.

### Subtask 1.1 Develop Working Groups

Active participants in the SNMP process are assumed to fall into one of two groups intended to help guide and gain input for the SNMP.

- 1) **Stakeholders.** This group will consist of those whose activities and operations may impact salt and nutrient management in the Basin, including agricultural interests, private well owners, environmental groups, regulatory staff, and the general public. The current stakeholder list developed by the CVRWGM as part of the IRWMP and SNMP Work Plan development process will be used as the initial list of stakeholders (see current list of Stakeholder in table below). Additional stakeholders will be solicited by the CVRWGM prior to initiation of the SNMP and throughout the SNMP development process. This can be done as part of the IRWMP public workshops or separately. The CVRWGM shall maintain the stakeholder list and coordinate all workshop notifications and deliverable distributions with stakeholders.
- 2) **Technical Team.** This group consists of those who contribute technical information, conduct the technical analyses, develop the SNMP, and provide initial technical reviews prior to the CVRWGM reviews and Stakeholder meetings. The CVRWGM shall establish the Technical Team members, oversee their work, and coordinate their activities. This group is proposed to consist of the staff and designated technical consultants from local water and wastewater agencies and municipalities and staff from the Colorado River Basin (Region 7) Regional Water Quality Control Board. The CVRWGM will identify any other key members that should be included in the Technical Team. This technical work may be conducted by CVRWGM agency staff, a consultant(s), or other combination that is acceptable to the stakeholders and approved by the CVRWGM. When decided, the final roles of the Technical Team members will require further clarification as to who is performing the work and who is reviewing and approving the work products.

<b>Current Salt/Nutrient Management Planning Workgroup</b>	
<b>Affiliation</b>	<b>Contact</b>
CVRWMG - Coachella Valley Water District	Patti Reyes
CVRWMG - Coachella Water Authority/Sanitation District	Berlinda Blackburn
CVRWMG - Desert Water Agency	Mark Krause
CVRWMG - Indio Water Authority	Brian Macy
CVRWMG - Mission Springs Water District	John Soulliere
29 Palms Tribe	Marshall Cheung
Agricultural Sector	Peter Nelson
Agua Caliente Tribe	Margaret Park
Augustine Tribe	Les Ramirez
Cabazon Tribe	Becky Ross
Cabazon Tribe	Jacquelyn Gonzales
Cabazon Tribe	Paul Slama
City of Palm Springs	David Barakian
Coachella Valley Water District	Olivia Bennet
Coachella Valley Water District	Steve Bigley
Coachella Water Authority / Sanitation District	Jerry Jimenez
Coachella Water Authority / Sanitation District	Kirk Cloyd
Desert Water Agency	Mark Krause
Friends of the Desert Mountains	Buford Crites
Hi-Lo Desert Golf Course Superintendent's Association	Stu Rowland
Indio Water Authority	Sara Toyoda
Mission Springs Water District	Brent Gray
Mission Springs Water District	Mike Thornton
Myoma Dunes Mutual Water Company	Mark Meeler
Regional Water Quality Control Board	Abdi Haile
Regional Water Quality Control Board	Jon Rokke
Riverside County Executive Office	Mike Shetler
Riverside County Flood Control and Water Conservation District	Jason Uhley
Riverside County Flood Control and Water Conservation District	Scott Bruckner
Salton Community Services District	Jerry Santillan
San Geronio Pass Water Agency	Jeff Davis
Torres-Martinez Tribe	Debi Livesay
Valley Sanitary District	Joe Glowitz

### Subtask 1.2 Conduct Technical Review Meetings

In addition to conducting the technical work, the Technical Team shall conduct six (6) Technical Review Meetings. Members of the CVRWMG shall also attend these Technical Review Meetings. The purpose of the meetings will be to discuss data collection efforts, review work in progress, review/discuss comments on work products, coordinate, prepare and follow-up from Stakeholder

meetings, and to solicit input/direction from the CVRWGMG. The Technical Team shall prepare all meeting notices, agendas, and meeting summaries. Technical Review Meetings are planned at the following project milestones:

- Project kick-off and data collection
- Groundwater characterization review
- Salt/Nutrient loading assessment review
- Establish goals and identify management strategies for the SNMP
- Review anti-degradation process and assess management strategies
- Develop implementation and monitoring plans

### Subtask 1.3 Conduct Technical Review Conference Calls

The Technical Team shall conduct additional conference calls with all or sub-members of the Technical Team, as necessary, to discuss technical issues, preliminary analyses, etc. Any key decisions or major question should be brought up to the entire Technical Team or the CVRWGMG as necessary.

### Subtask 1.4 Conduct SNMP Stakeholder Workshops

The Technical Team shall conduct five (5) stakeholder workshops for the purpose of presenting information, gathering input from stakeholders, and providing a forum for discussion of salt/nutrient issues. The Technical Team will prepare agendas, workshop notifications, sign-in lists, presentations, and summaries, and guide stakeholder discussion and technical presentations. The CVRWGMG will review presentations prior to the workshops and provide comments to the Technical Team no later than three days prior to a workshop date. CVRWGMG shall also assist with workshop location coordination. The Technical Team will distribute workshop notifications and materials prior to each workshop, and shall provide the following in support during each workshop:

**Workshop 1 – Review Basin Characterization.** At end of **Task 2**, the Technical Team will prepare for and present an overview of the State Policy on SNMPS and key elements in developing the SNMP, the SNMP development process, elements/sections of the SNMP, salt/nutrient constituents that will be assessed, and an overview of current understanding of the groundwater basin and potential salt/nutrient sources in the Basin.

**Workshop 2 – Review Salt / Nutrient Loading and Trends.** Following **Task 3**, the results of salt/nutrient loading analysis and assimilative capacity analysis will be presented by the Technical Team.

**Workshop 3 – Input on SNMP Goals and Management Strategies.** During **Task 4**, the Technical Team will present a summary of the goals established for the SNMP and the potential salinity/nutrient management strategies to be analyzed, along with the process for analyzing these strategies. Stakeholder input shall be considered by the Technical Team and CVRWGMG.

**Workshop 4 – Review Anti-Degradation Process and Management Strategies.** Following **Task 5**, the Technical Team will present a summary of the evaluation of preferred management strategies and the results of the anti-degradation process.



**Workshop 5 – Review Draft SNMP**, During **Task 6**, the Technical Team will present the Draft SNMP to the stakeholders after the CVRWGMG has reviewed and commented on the Draft Plan. This workshop will be a forum to discuss and respond to stakeholder comments on the Draft Plan. The Technical Team shall present the collaborative process used in development of the Draft Plan and the SNMP’s key components.

***Task 1 Deliverables:***

- Technical Team and Stakeholder Working Group Lists
- Six (6) Technical Review Meetings
- Technical Team Conference calls, as necessary
- Five (5) SNMP Stakeholder Workshops
- For each Technical Team Review Meeting, Technical Team conference call, and Stakeholder workshop: announcements, agendas, meeting/conference call materials, including presentations and handouts, and summary notes

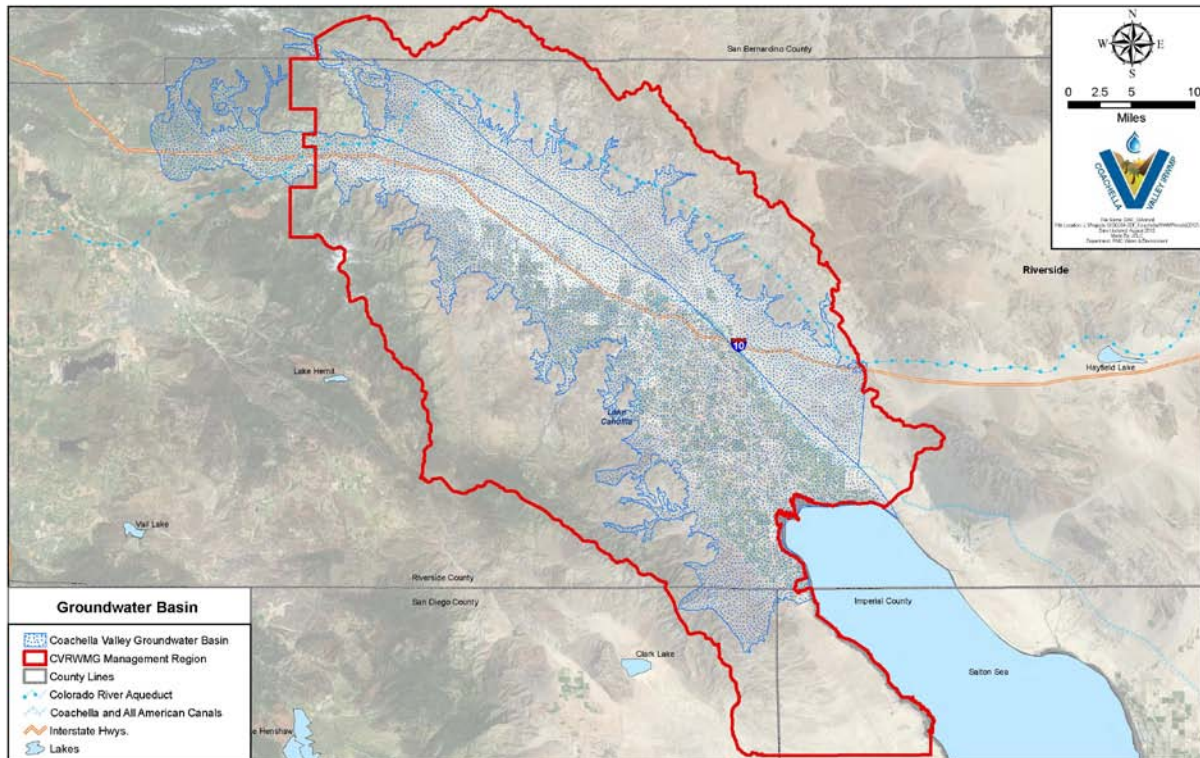
## **Task 2. Conduct Basin Characterization**

This task will involve identifying and characterizing the groundwater basin being assessed and delineating the study area.

### **Subtask 2.1 Identify the Groundwater Basins Being Evaluated**

The Technical Team will conduct work to define the groundwater basin and potential sub-basins or management areas, and identify the upstream tributary area that may contribute source loads to the basin. The study area will include all or portions of the San Gorgonio Pass, Whitewater (Indio), Garnet Hill, Murrieta, Mission Creek, and Desert Hot Springs groundwater sub-basins. Figure 1 shows the current project study area.

Any tributary lands that are suspected or known to influence groundwater flow or quality in the groundwater basin will be included. A determination of basis for the selected study area will be documented, and a Geographic Information Systems (GIS)-based map depicting the areal extent of the groundwater basin and proposed management areas, the proposed study area, and the tributary watershed will be prepared. This map will be posted on the CVRWGMG website for public viewing.

**Figure 1: Coachella Valley Salt and Nutrient Management Plan Study Area**

### Subtask 2.2 Identify, Collect, and Review Existing Groundwater Studies and Data

The Technical Team shall identify and review prior groundwater management studies, hydrogeologic assessments, or evaluations that have assessed issues relevant to salinity and nutrient planning and/or groundwater basin management within the study area. This work will include region-wide, local and basin-specific studies, as applicable and available. Information to be collected will include, but is not limited to:

- Areas of groundwater recharge (including direct and/or indirect groundwater discharges into the Salton Sea)
- Estimation of groundwater storage capacity (and other studies related to a basin-wide water balance)
- Public, private, and agricultural supplies, usage, and water quality information
- Location of recycled water irrigation/application
- Recycled water quality
- Storm water runoff quality and permitted outfalls
- Projected future water demands (including recycled water)
- Projected future wastewater and recycled water production

- Location and quantity/quality of brined disposal
- Land use plans from CVAG

Technical data or assessments on which groundwater management studies were based will also be used. Appropriate agencies, groups, and co-permittees will be contacted to assist with identifying and obtaining these studies.

### **Subtask 2.3 Document Beneficial Uses**

The Technical Team shall perform a preliminary analysis to identify and quantify existing and likely potential future uses of groundwater in the basin. This work will include identifying and characterizing existing and planned municipal supply wells or projects and quantified pumping in the Basin, identifying and characterizing private groundwater wells and users in the Basin, quantifying or estimating the irrigation pumping from private wells, identifying areas where groundwater-dependent habitat is known to exist, quantifying the amount of groundwater uptake required by the habitat, and identifying the actual listed Beneficial Use(s) within the basin and sub-basin areas from the Basin Plan. Existing documentation, where available, will be used, including water agency records, well surveys and well records, County of Riverside permit records, and other relevant data. GIS-based mapping will be used to identify the locations of municipal and private wells.

Work conducted under this task would provide preliminary indication of uses that may need to be protected. Should differences between current existing or potential future use and Basin Plan Beneficial Uses be identified, significant additional work and study, potentially up to a Use Attainability Analysis, would be required to modify the beneficial uses. Such a change requires an amendment to the current Basin Plan and is not included in this scope of work.

### **Subtask 2.4 Characterize Groundwater Quality and Occurrences**

The Technical Team shall characterize existing and historic groundwater quantities and qualities within the Basin through review of existing studies and contact with agencies or groups engaged in ongoing data collection. The Technical Team will also identify and obtain additional data, as available, to fill identified data gaps. Work may include collecting, aggregating, and analyzing historic and current water quality data for the beneficial uses and objectives review, and for purposes of completing the salt/nutrient loading analysis and anti-degradation process. Geographic and depth-dependent distribution of concentrations will be assessed for the salinity and nutrient parameters of interest (determined in **Subtask 2.5**, below). GIS-based maps will be developed depicting groundwater quality, concentration contours, depth-to-water, groundwater flow directions, and key hydrogeologic features that may affect constituent transport. All data will be accumulated into GIS- and/or Excel-based database for subsequent analyses. GIS-based mapping will be posted on the CVRWGM website for public viewing.

### **Subtask 2.5 Identify Salinity, Nutrient, and Constituents of Concern**

The Technical Team shall identify recommended salinity and nutrient parameters to be addressed within the SNMP. The focus of this subtask shall be to identify constituents of concern relative to attainment of groundwater basin objectives and water quality standards as related to beneficial use for the groundwater basin. The recommended list of constituents of concern will be developed on the basis of prior groundwater studies, collected groundwater quality information, consultation

with Regional Board staff, and discussions with study partners and stakeholders.

Anticipated constituents to be considered include total dissolved solids (TDS) and/or Specific Electrical Conductance or Electrical Conductivity (EC), and may include one or more individual ions such as chlorine, sulfates, or sodium if such constituents are determined to be of concern; nitrate-nitrogen; and potentially iron and/or manganese. During Stakeholder Workshop 1, the relevance of the aforementioned constituents and other potential constituents shall be discussed, and input regarding other potential constituents will be received.

As noted, the CVRWGM is encouraged to coordinate with its technical team to maximize use of prior studies that have assessed groundwater hydrogeology, groundwater quality, and beneficial uses within the Coachella Valley groundwater basin.

### **Subtask 2.6 Establish Baseline Conditions**

Using the data collected and evaluated in the prior subtasks, a baseline period will be selected and baseline groundwater conditions identified using available data for that period. This baseline period will be utilized in subsequent tasks to establish basin assimilative capacity.

#### ***Task 2 Deliverables:***

- Basin Study Area Map
- List of existing groundwater studies and hydrogeologic assessments in the Basin
- Well Listings in the Basin
- Well Location Map in the Basin
- Quantification of historical pumping (public and private wells), groundwater recharge, septic systems, recycled water usage, discharges, and runoff in the Basin
- Estimation of groundwater storage capacity (based on available data)
- An identification (list) of any groundwater-dependent habitat
- Groundwater Quality and Basin Characteristics GIS layers and Map
- Summary of preliminary existing and potential future Beneficial Uses within the Basins
- Baseline groundwater conditions
- List of Salinity and Nutrient Parameters and other Constituents of Concern to the SNMP
- Technical Memorandum (TM) summarizing the above
- Stakeholder Workshop 1 - Basin Characterization

### **Task 3. Identify Salt / Nutrient Loading and Trends**

This task will involve identifying, and the preliminary quantification of, salt and nutrient sources to the groundwater basin for the identified constituents of concern.

#### **Subtask 3.1 Identify Salinity and Nutrient Sources**

The Technical Team shall identify land use characteristics, known point sources and non-point sources of salts and nutrients, and their locations. Water sources and their places of use shall be identified based on information gathered with input from appropriate water suppliers, irrigators, and stakeholders. The type or source of water used for outdoor irrigation for each parcel shall be defined using available information. Data collected under this task will be accumulated into GIS

and/or Excel databases for subsequent analyses. During the first Technical Team Review Meeting, and subsequently in Stakeholder Workshop 1, the Technical Team shall seek input regarding significant land cover changes that might have taken place since the date of available data to more accurately reflect current land cover data.

### **Subtask 3.2 Quantify Salinity and Nutrient Source Loads**

The Technical Team shall use existing available data to quantify salinity and nutrient sources in terms of volume, concentration, and/or mass loads using data and information collected in previous tasks, along with other salinity and nutrient source loading information, to conduct a loading analysis. The Technical Team shall prepare a preliminary water budget and mass load estimate for the study area, as well as for individual groundwater sub-basins or management areas.

The Technical Team shall conduct the initial source loading analysis using a GIS-based tool to input all data into a GIS format and to perform initial water budget and mass loading analyses. The GIS-based tool shall be used to conduct analyses of historical, existing, and projected future basin conditions and to identify any water quality trends. Salt and nutrient loads to each sub-basin or management area will be identified, as will the salinity and nutrient load sources that appear to be most important in influencing historical and projected groundwater quality trends.

The mass balance model will assume instantaneous mixing of waters within the groundwater basin and will be developed to analyze sub-basins or management areas that may have specific water quality or salt/nutrient source loadings that differ significantly from the rest of the basin.

Where data history on sources, water balance, and conditions is adequate for use in projecting future conditions, the Technical Team will perform an assessment of historic and projected future trends of salinity and nutrient concentrations in groundwater basins. This preliminary work could indicate an increase, decrease, or no expected changes in the future. More detailed study (Phase 3) would provide quantified future contaminant concentrations for the 20-year planning horizon.

### **Subtask 3.3 Develop a Plan for Data Gaps**

The Technical Team shall identify potential data gaps or needs based on the work completed in **Tasks 2 and 3**. Data gaps could include groundwater quality data, groundwater monitoring data, salinity and nutrient source data, and data for hydrogeologic and other groundwater modeling parameters. The Technical Team shall determine what additional data may be required to support future analysis or modeling efforts to be completed in Phase 3. If necessary, the Technical Team will develop a plan for obtaining the data, including the identification of responsible parties for collecting the data as part of the monitoring plan to be developed under **Task 6**.

#### ***Task 3 Deliverables:***

- Salt and nutrient source location and loads maps
- Preliminary water budget and mass load estimates
- Preliminary salinity and nutrient source load assessment and evaluation of model results of existing and projected basin conditions
- Stakeholder Workshop 2: Salt/Nutrient Loading and Trends

#### ***Task 3 Assumptions:***

- Loading assessments will include an initial analyses, a review by the Technical Team, and

then a final analyses for presentation to the Stakeholders

- A Technical Memorandum or other written summary in digital format will be developed that can be used in subsequent workshop presentations and handouts and for use in the Draft and Final Salt/Nutrient Management Plan. This summary will include appropriate figures and maps based on the analyses conducted.

#### **Task 4. Identify Water Management Goals and Potential Strategies**

The purpose of this task is to identify the principal goals to be achieved by the SNMP and to develop an initial list of management strategies that may be appropriate for achieving the established goals.

##### **Subtask 4.1 Identify Water Supply and Water Quality Management Goals**

The Technical Team shall identify the preferred goals of the key agencies that will implement the SNMP and other stakeholders, including processes for obtaining stakeholder input and resolving potential conflicts.

Working with the CVRWGMG, the Technical Team shall develop an approach to solicit input from Stakeholders that will be used to identify and rank overall management goals to be achieved within the groundwater basin or sub-basin/management area. Desired goals may focus on source load reduction, treatment, providing other forms of water quality protection, or increased recycled water use. The selected goals should be specific to the needs and conditions of the basin, and will, in part, depend on:

- Existing groundwater quality and occurrence
- Existing salinity/nutrient source loads and locations
- Water agency needs and proposed supply projects
- Recycled water agency needs and proposed projects
- Existing Basin Plan objectives and compliance issues
- Water conservation considerations
- Potential within the basin to implement specific groundwater management strategies
- Basin assimilative capacity
- Funding/implementation considerations
- Future growth (development depends on water supply assessments)

The CVRWGMG shall be responsible for managing and addressing potential stakeholder conflicts and refinement of the SNMP goals as may be necessary. The Technical Team will provide a Technical Memorandum or other written summary that can be used in subsequent workshop presentations and handouts and for use in the Draft and Final Salt/Nutrient Management Plan. This updated summary will include appropriate figures and maps based on the analyses conducted previously and the salt/nutrient management plan goals developed under this task.

##### **Subtask 4.2 Develop List of Potential Management Strategies**

The Technical Team shall review possible salinity and nutrient management strategies, including those being implemented or under consideration by agencies, those identified in previous studies, and based on input from the CVRWMB and stakeholders. The Technical Team will develop a

preliminary list of alternative management strategies that are feasible for implementation in the groundwater basin, and obtain stakeholder input on the preliminary list. The following are potential strategies that may be considered:

<b>Summary of Potential Salinity/Nutrient Management Strategies</b>	
<b>Category</b>	<b>Potential Salinity/Nutrient Management Strategy</b>
Wastewater salinity/nutrient source control	<ul style="list-style-type: none"> <li>• Water softener control (ordinance and/or rebates)</li> <li>• Local pretreatment limits (industrial discharge controls)</li> <li>• Recycled water nutrient treatment</li> <li>• Recycled water demineralization treatment</li> </ul>
Public education	<ul style="list-style-type: none"> <li>• Salinity source reduction best management practices</li> <li>• Water softener use</li> <li>• Irrigation best management practices</li> <li>• Fertilizer use best management practices</li> </ul>
Source load reduction	<ul style="list-style-type: none"> <li>• Agency lease-holder requirements</li> <li>• Fertilizer reduction requirements for recycled water users</li> <li>• Source load diversion</li> </ul>
Source water salinity control	<ul style="list-style-type: none"> <li>• Brackish source water demineralization</li> <li>• Modify ratios of local or imported water sources</li> </ul>
Salt export	<ul style="list-style-type: none"> <li>• Brine line</li> <li>• Salt flushing to the Salton Sea or other location</li> <li>• Concentrate management including disposal</li> <li>• Zero liquid discharge involving salt sequestration</li> </ul>
Groundwater recharge	<ul style="list-style-type: none"> <li>• Imported water recharge</li> <li>• Recycled water recharge</li> <li>• Stormwater recharge</li> <li>• Percolation basins</li> <li>• Injection wells</li> <li>• Aquifer Storage Recovery (ASR) wells</li> </ul>
Groundwater management	<ul style="list-style-type: none"> <li>• Conjunctive use</li> <li>• Demineralization treatment</li> <li>• In lieu (exchange use of untreated groundwater for recycled water)</li> <li>• Decrease detention time</li> <li>• Seasonal storage</li> <li>• Carryover storage</li> <li>• Emergency storage</li> </ul>
Land use regulation	<ul style="list-style-type: none"> <li>• Modify land use policy</li> <li>• Require sewer connections</li> </ul>
Water use efficiency (20 x 2020 goals)	<ul style="list-style-type: none"> <li>• Landscape ordinance</li> <li>• Water use restrictions</li> <li>• Water conservation rate structures</li> </ul>

Summary of Potential Salinity/Nutrient Management Strategies	
Category	Potential Salinity/Nutrient Management Strategy
	<ul style="list-style-type: none"> <li>Public education/behavior change</li> </ul>
Stormwater/runoff management	<ul style="list-style-type: none"> <li>Stormwater BMPs to reduce salinity/nutrient loading</li> <li>Stormwater diversion to beneficial use</li> <li>Low flow runoff diversion</li> </ul>
Regulatory	<ul style="list-style-type: none"> <li>Changes to current basin plan (work in conjunction with RWQCB in Phase 3):               <ul style="list-style-type: none"> <li>Designated Beneficial Uses (See Task 2)</li> <li>Numerical groundwater concentration objectives or narrative translation procedures</li> <li>Implementation policies and projects</li> </ul> </li> </ul>

### Subtask 4.3 Evaluate Feasibility of Potential Management Strategies

Following completion of **Subtask 4.2**, the Technical Team will evaluate the list of potential management strategies to identify and compare the most feasible strategies (including existing and proposed strategies) on the basis of factors such as:

- Costs (capital and O&M, including monitoring costs)
- Anticipated water quality improvements
- Local water supply development potential, including increasing the use of recycled waters or enhanced development of groundwater supplies
- Regulatory compliance
- Sustainability and funding considerations
- Ability to implement
- Environmental impacts

After this evaluation is complete, preferred management strategies will be recommended for implementation by the Technical Team using stakeholder feedback and a pre-defined decision process and will be carried forward into the anti-degradation process for further review and consideration (**Task 5**). The CVRWGM will oversee the evaluation process and make final decisions regarding the recommended strategies.

The methodology for evaluating and ranking the list of potential management strategies will be developed by the Technical Team to help determine which management strategies should be implemented to help address the various SNMP goals (preferred management strategies). If necessary, a decision methodology will be developed with input from the Stakeholders to help define and document the decision-making process. The potential costs for implementation, including monitoring needs, of the strategies should also be considered in the prioritization process.

### Subtask 4.4 Assimilative Capacity Analysis

Assimilative capacity represents a comparison of existing water quality concentrations to the limits set in the Colorado River RWQCB's Water Quality Control Plan (Basin Plan). In general, water quality better than the Basin Plan limits is an indicator of available assimilative capacity,



while water quality constituent levels above the Basin Plan limits indicate that load reduction measures may be necessary (or that Basin Plan objectives may need to be changed). In this subtask, the Technical Team will conduct several activities that will allow comparison of groundwater quality at representative locations within the basin to identified limits set in the Basin Plan to estimate the assimilative capacity of the groundwater basin, either in whole or by management area.

#### **Step 1: Identify Basin Management Levels**

The Technical Team will work with Colorado River RWQCB staff to identify a method for translating the existing narrative water quality objectives for Municipal Supply (MUN), Agricultural Supply (AGR) and Industrial Supply (IND), as documented in the Basin Plan, into basin management targets for the recommended list of constituents of concern developed in **Subtask 2.5**. These levels will be used in the subsequent steps to estimate the basin assimilative capacity.

#### **Step 2: Compare Baseline Groundwater Quality Conditions with Basin Management Targets**

After identifying the Basin Management Targets, baseline groundwater quality will be compared to the targets to determine if the current status of the basin with respect to the Basin Plan's management goals.

#### **Step 3: Evaluate Fate and Transport of Salts and Nutrients in Groundwater Basin**

The Technical Team will also perform a qualitative analysis of the fate and transport of the identified constituents of concern using the GIS-based mass balance model.

#### **Step 4: Estimate Basin Assimilative Capacity**

The results of the previous steps will then be brought together to estimate the groundwater basin's assimilative capacity.

This approach will facilitate future updates to the analysis as well as allow reviewers to monitor specific areas of concern within the basin.

#### ***Task 4 Deliverables:***

- SNMP goals
- Summary of identified and ranked alternative management strategies
- Decision methodology for selecting the preferred strategy(ies)
- Stakeholder Workshop 3: SNMP Goals and Management Strategies
- Mass balance model and results
- Assimilative capacity analysis

#### ***Task 4 Assumptions:***

- The CVRWGM shall be responsible for managing and addressing potential stakeholder conflicts and refinement of the SNMP goals and preferred management strategies.

## Task 5. Conduct Anti-Degradation Process

The anti-degradation process incorporates and builds, as well as informs, efforts performed in previous tasks to evaluate the preferred management strategies. Strategies developed under **Task 4** should be reconsidered as a result of the initial analyses. In addition, assumptions and/or data collection needs resulting from the Salt/Nutrient Loading and Trends Analysis may also have to be revised or updated as a result of this analysis.

### Subtask 5.1 Assess Load Reductions and Water Quality Improvements

The purpose of this task is to assess the existing and preferred water management strategies and their ability to meet the goals of the SNMP, including any salt/nutrient load reduction, other water quality goal, and water supply/beneficial use goals. The Technical Team will identify the necessary mass loading modeling scenarios to be analyzed on a projected basis to assess the effectiveness of each management strategy in meeting the SNMP goals. It is assumed that the mass balance tool developed under **Task 3** will be utilized to perform this analysis. Initial strategies that should be assessed will be those strategies currently employed by agencies. If additional strategies are needed to meet SNMP goals, then the additional analyses will consider new/additional strategies based on the preferences identified under **Task 4**.

### Subtask 5.2 Identify Preferred Management Strategies

The Technical Team shall evaluate the preferred management strategies identified in **Subtask 4.3**, along with any additional management strategies determined potentially feasible, to determine their compliance with the State's Anti-Degradation Policy (Resolution Number 68-16). Specifically, the assessment will:

- Determine if their implementation will degrade groundwater;
- Verify that they meet best practicable treatment or control (BPTC) requirements; or
- If the strategy is consistent with the maximum benefit to the people of the State.

After this evaluation is complete, the revised list of preferred management strategies will be recommended for implementation by the Technical Team using stakeholder feedback and a pre-defined decision process. The CVRWGM will oversee the evaluation process and make final decisions regarding the recommended strategies.

If any Basin Plan Amendments are recommended (including those identified in **Task 4**) after conducting the anti-degradation process and evaluation of management strategies, then the following steps should be undertaken as part of the Phase 2 effort:

- Identify required Basin Plan Amendments (e.g. changes to numerical objectives, implementation policies, or beneficial uses) associated with the preferred salinity/nutrient management strategies. This effort will most likely occur during Phase 2 activities, but additional amendments may be developed as part of the initial Phase 3 efforts as well.
- Coordinate with Regional Board staff to (1) reach agreement on the approach for Basin Plan amendment; (2) identify information needs necessary for the proposed Basin Plan Amendment; and (3) identify if data are available for proposed amendment.
- Under **Task 6**, develop a data collection or monitoring plan necessary to collect any necessary data as part of the Phase 3 process.

Actual Basin Plan Amendments would be prepared under Phase 3.

**Task 5 Deliverables:**

- Assessment of load reduction and/or water quality improvements (anti-degradation process) - Technical Memorandum
- Evaluation and selection of SNMP Management Strategies - Technical Memorandum, including any recommended Basin Plan Amendments for Phase 3
- Recommendations for any additional Basin Plan Amendments - Technical Memorandum
- Stakeholder Workshop 4: Anti-Degradation Process and Management Strategies

## **Task 6. Finalize Phase 2 SNMP**

This task will involve developing an implementation plan, identifying the metrics to evaluate effectiveness of selected salinity and nutrient management strategies, developing monitoring and audit plans, finalizing the SNMP, and working with the Colorado River Basin RWQCB (Region 7) to obtain approval of the Phase 2 SNMP and scope for the Phase 3 SNMP.

### **Subtask 6.1 Develop Implementation Plan**

The Technical Team will develop an Implementation Plan that will include the following components:

- Identification of the selected management strategies
- Activities to be implemented
- Phases of implementation
- Estimated costs
- Implementation timeframes

### **Subtask 6.2 Identify Metrics and Develop Monitoring Program**

The Technical Team shall identify metrics (measurable parameters) that can be used to evaluate the effectiveness of the selected salinity and nutrient management strategies following implementation. The Technical Team shall develop a monitoring program, including identification of the responsible agency, the schedule for implementation, and monitoring required to measure the effectiveness of any implemented groundwater management strategy. Existing monitoring efforts will be incorporated into the SNMP monitoring plan. Where possible, existing monitoring efforts will be adjusted to include any necessary SNMP monitoring needs. The costs for additional monitoring needs shall be considered when assessing the feasibility of the implementation strategies under **Task 5.2**. The monitoring program shall comply with the State Water Resources Control Board's (SWRCB's) policy on monitoring of contaminants of emerging concern (CECs) that is currently in draft form and expected to be approved in late 2012 or 2013. In addition, data collection/monitoring needs identified under **Tasks 3** will also be included in this monitoring plan. The metrics and monitoring plan shall be reviewed by the CVRWGM prior to input from the Stakeholder Workshop.

### **Subtask 6.3 Develop SNMP Data Management, Reporting, and Audit Processes**

The Technical Team shall establish the framework and schedule for how data will be managed,

including ongoing monitoring efforts, in addition to reporting and auditing processes. Auditing of the SNMP and its implementation will likely be conducted on a periodic basis and should include updating of the SNMP (based on adaptive management principles) and identifying the responsible agency or agencies for implementing the effectiveness assessment.

### **Subtask 6.4 Determine CEQA/NEPA Compliance Needs**

In conjunction with the RWQCB, the Technical Team shall determine how the recommended SNMP will need to conform to California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements. In accordance with the SWRCB's Recycled Water Policy, the SNMP is required to be in compliance with CEQA to determine potential significant environmental impacts and identify measures to avoid or mitigate impacts where feasible.

However, under the California Secretary for Natural Resources, the SWRCB's basin planning process is exempt from certain requirements of CEQA, including the preparation of an Initial Study, Negative Declaration, and Environmental Impact Report [CCR, Title 14, §15251(g)]. The SNMP may still be subject to other CEQA provisions, including the avoidance of significant adverse effects to the environment where feasible. Completion of an environmental checklist and a written report consisting of a description of the proposed activities, analysis of reasonable alternatives, and identification of mitigation measures to minimize potential significant adverse environmental impacts may still be required (CCR, Title 23, §3777(a)). In lieu of an Initial Study, Negative Declaration, and Environmental Impact Report, a Substitute Environmental Documentation (SED) may be required for any water quality control plan, state policy for water quality control, and other components of California's water quality management plan, prior to RWQCB approval or adoption. This assessment will identify if implementation of the recommended strategies or any identified Basin Plan Amendments (to be developed under Phase 3 of this work plan) will be subject to review under CEQA or NEPA and if an SED or other documentation will be necessary.

The Technical Team will support the RWQCB in preparing the necessary CEQA documentation for implementation of the SNMP. For the purposes of this work plan, it is assumed that all management strategies identified in previous tasks for implementation under the SNMP will be non-structural in nature (e.g. policies, monitoring). Therefore, the scope of work under this subtask is limited to:

- One scoping meeting to seek input on environmental information that should be considered;
- Completion of an environmental checklist evaluating environmental factors that may be potentially affected by the SNMP implementation;
- Preparation of a response to any comments received on the environmental checklist and during the scoping meeting; and
- A cover memorandum identifying the preferred management strategies and summarizing the results of the checklist and scoping meeting (including identification of any recommended mitigation measures).

If the recommended strategies or identified Basin Plan Amendments would be subject to review, then in conjunction with the RWQCB and as part of the Phase 2 work, the CVRWGMG and the

Technical Team will:

- Identify the appropriate governing body (lead agency)
- Identify the required documentation and responsible parties

Since preparation of the Basin Plan Amendments are proposed under Phase 3, the Environmental Documentation process will occur in Phase 3 as well.

### **Subtask 6.5 Finalization of the SNMP**

The Technical Team shall prepare a Draft and Final Salt/Nutrient Management Plan that summarize the results of all deliverables described within **Tasks 1 through 6** into a comprehensive planning document that is stand-alone or that can be incorporated into the IRWM Plan Update.

#### ***Task 6 Deliverables:***

- Summaries or Technical Memorandums from **Tasks 2 through 5**,
- SNMP Implementation Plan
- Performance metrics and monitoring plan
- SNMP Audit Plan
- Scope and Schedule for Phase 3 efforts, including any proposed Basin Plan modifications for Phase 3
- Assessment of any required CEQA/NEPA documentation
- Draft and Final Salt/Nutrient Management Plan
- Stakeholder Workshop 5: Draft SNMP

#### ***Task 6 Assumptions:***

- One Draft Plan will be developed and after review by the CVRWGMG, will be reviewed by the public stakeholders as part of Stakeholder Workshop 5. Comments from this review will then be incorporated into a Final Plan for approval by the CVRWGMG.

# Phase 3 Tasks

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The purpose of Phase 3 is to update the SNMP based on additional data and/or recommendations resulting from the Phase 2 tasks. Possible tasks for inclusion in Phase 3 may include the following. Please note, however, that this list does not constitute a complete Work Plan for Phase 3.

## **Supplemental Monitoring**

This task includes collecting of supplemental monitoring needs identified under Phase 2. Such data could be a limited, one-time collection effort or could become an ongoing monitoring/effort that is required to evaluate the SNMP performance measures.

## **Update Salt/Nutrient Loading and Trends (if necessary)**

This would be an update to the analysis conducted under Task 3 in Phase 2, and would only be necessary if new or updated data were collected.

## **Update Water Management Goals and Strategies (if necessary)**

This would be an update to the analysis conducted under Tasks 4 and 5 in Phase 2 and would only be necessary if there were significant changes due to new data and/or the salt/nutrient loading and trends analysis. In addition, new goals or strategies may be developed and initial performance feedback on the existing or early implementation strategies under Phase 2 may warrant a change in the preferred strategies. If any Basin Plan Amendments are proposed as part of the implementation strategies (from Phase 2 or 3), then potential steps for this process include:

- Identifying required Basin Plan Amendments
- Coordinate with RWQCB staff on approach/process amending the Basin Plan
- Develop necessary documentation in coordination with the finalization of the SNMP
- Submitting the documentation to the RWQCB for review
- Coordinating with the RWQCB and establishing a plan for developing and submitting the environmental documentation to the RWQCB, as required

## **Update Anti-Degradation Process (if necessary)**

This would be an update to the analysis conducted under Tasks 5 and 6 in Phase 2 and would only be necessary if new data were collected or updates were necessary as a result of changes in the salt/nutrient loading and trends analysis or changes made in the proposed water management goals or strategies.

## **Update SNMP (if necessary)**

The SNMP may be updated, if necessary, based on the result of afore-mentioned Phase 3 tasks.

# EXISTING DATA / REPORT BIBLIOGRAPHY

The following table lists a sample of currently known data/information that is being requested from agencies involved with the SNMP.

<b>Agency</b>	<b>Data/ Report</b>	<b>Date</b>	<b>Filename</b>
<b>Coachella Valley Water District (CVWD)</b>	WQ Data / Coachella Canal at Avenue 52 East Annual Data 2007-2012	Oct. 2, 2012	Canal WQ Data 2007 to 2012.pdf
<b>CVWD</b>	WQ Table / TDS for Colorado River Aqueduct at San Jacinto Tunnel and Coachella Canal at Avenue 52 East Annual Data 2007-2012		Table 1_TDS for Colorado River Aqueduct and Coachella Canal Jan_2007 to Aug_2012.prf
<b>CVWD</b>	WQ Chart / TDS for Colorado River Aqueduct at San Jacinto Tunnel and Coachella Canal at Avenue 52 East Annual Data 2007-2012		Chart 1_TDS for Colorado River Aqueduct and Coachella Canal Jan_2007 to Aug_2012.prf
<b>Coachella Water Authority (CWA)</b>			
<b>Desert Water Agency (DWA)</b>			
<b>Indio Water Authority (IWA)</b>			
<b>Mission Springs Water District (MSWD)</b>			





## Appendix VI-H: Coachella Valley IRWM Program Project List (as of October 22, 2013)

This appendix includes a list of all projects submitted for inclusion in the 2014 Coachella Valley IRWM Plan. The list as printed is current as of October 22, 2013, but may be updated at any time. Please refer to the online project database for a current list of all projects included in the Plan. The project database can be accessed here: <http://irwm.wrime.com/cvirwm/login.php>. Please be aware that users must register and login prior to viewing database. Registration is free.



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**Coachella Valley IRWM Program Project List (as of October 22, 2013)**

Project Id	Project Title	Organization	Describe Project Location	Describe Need for Project	Project Summary	Project Description
182	Mid Valley Pipeline Phase II	Coachella Valley Water District	Project requires the construction of a distribution system that will extend through the Mid-Valley including through the cities of Indio, La Quinta, Indian Wells, Palm Desert, and Rancho Mirage.	Unless an alternate water supply is available, Coachella Valley Golf Courses pump their water supply from the overdrafted Coachella Valley aquifer via private wells. The Coachella Valley aquifer is annually overdrafted by approximately 100,000 to 150,000 acre-feet per year. If non-potable water is made available to these golf courses in lieu of groundwater, the overdraft could be significantly reduced. The sources of non-potable water available for golf course irrigation include recycled municipal effluent and Colorado River Water. The Mid-Valley Pipeline Final Concept Paper by GEI Consultants, October 2005, Identified 50 golf courses that could be served by a non-potable distribution system which would provide recycled municipal effluent from CVWD's Palm Desert Wastewater Reclamation Plant No. 10 and Colorado River water from the Coachella Canal. This project will provide approximately 50,000 AFY of non-potable annually and will reduce groundwater overdraft by up to 50%.	The Mid Valley Pipeline is a proposed non-potable water distribution system to provide recycled municipal effluent and Colorado River water for golf course irrigation in lieu of groundwater. There are over 100 golf courses in the Coachella Valley using an average of approximately 1,000 AFY each. This project could reduce demand on ground water by approximately 50,000 AFY annually.	The Mid Valley Pipeline is a non-potable water distribution system to convey recycled water and Colorado River water to Golf Courses for irrigation in lieu of groundwater. The project consists of two phases estimated at a total cost of approximately \$ 75 million. Phase 1 is complete and consists of a booster station at the Coachella Canal in Indio, approximately 7 miles of 54-inch pipeline along the Whitewater River Stormwater Channel, and 90 acre-feet of storage reservoirs at CVWD's WRP 10. Phase 1 pumps Colorado River water from the canal to the existing WRP 10 recycled water distribution system which serves 8 golf courses. Colorado River water augments the recycled water supply in summer months when golf course irrigation demand exceeds recycled water supply. Phase II is estimated to cost \$ 35 million and consists of expansion of the WRP 10 distribution system to serve 50 golf courses with an average demand of 1000 AFY each.
187	Water Recycling Efficiency and Capacity Improvement Project	Desert Water Agency	The contract work site is located at the Desert Water Agency Water Reclamation Plant within the city limits of Palm Springs, in Riverside County, California.	In an effort to continue our water conservation plans, the Desert Water Agency ("Agency") has entered into an agreement with the Agua Caliente Band of Cahuilla Indians ("Tribe") to supply them with recycled water for irrigation of a tribal-owned golf course located in Palm Springs, California. The tribe currently used a privately-owned pumping well to produce irrigation water, from a high-quality potable water aquifer, for the golf course. The recycled water provided to the golf course will offset the current potable water used for irrigation, allowing the tribe to eliminate electrical and maintenance costs associated	This project will offset high-quality potable ground water consumption at a Tribal owned golf course, by connecting the golf course to the recycled water system. See # 20	From #19: To meet the proposed recycled water demands, capacity and production will be increased at the Agency owned water reclamation plant.  #20 The Agency proposes to install two wells to pump non-potable groundwater. This groundwater will be fed into the recycled water plant to supplement the water currently being treated during high demand water periods. A new 500,000-gallon water reservoir is being added, along with a new hydro pneumatic tank,

Project Id	Project Title	Organization	Describe Project Location	Describe Need for Project	Project Summary	Project Description
				with pumping while preserving our vital groundwater supply.		increasing the water storage capacity at the plant. The project will also increase energy efficiency, through the installation of solar power generating modules. The solar power created will be used to offset power costs, reduce the electrical grid demand and carbon footprint of the recycled water plant.
188	Belardo Road Pipeline Replacement	Desert Water Agency	Palm Springs Main Zone	The 24" pipeline on Belardo Road needs to be extended to connect two sections of existing infrastructure. Installing the pipeline will provide benefits to the customers by improving the efficiency of the distribution system.	This project would install a 24" pipeline running under Belardo Road.	The Desert Water Agency General Plan suggested that this pipeline be installed in 2009. Due to budget restraints, the project was postponed. There is a need to install the infrastructure to increase the efficiency of the distribution system as well as minimize other water supply or quality problems relating to deterioration of other pipelines over time. This project is several years old and was stopped due to archeological reasons. This section of pipe will connect two sections of 24" pipeline allowing us to move water from north to south as intended in the general plan. Currently, the water must flow through smaller pipes, increasing head loss and reducing flow capacity.
189	Groundwater Quality Protection Project	Mission Springs Water District	MSWD service area	Eliminate septic tanks that threaten contamination of groundwater supply, by expansion of MSWD wastewater collection system and wastewater treatment plant. Protect hot mineral water which is the economic basis of the community's spa industry.	Complete construction of wastewater collection system in Assessment District 12 Sub Areas M, F, D1, which will connect 2600 parcels to the MSWD system and abate 1000 on-site septic systems. Provide partial funding for expansion of wastewater treatment plant.	<p>Areas M, F, D1 are part of a larger assessment district, which voters passed in 2004. In creating the Assessment District, voters provided \$28 million of match funding which expires in 2014. Engineering design of the 10 sub areas that make up the assessment district is almost complete and funds are needed for construction.</p> <p>The project will abate septic systems and protect both the drinking water supply and the hot water that is the basis of the spa economy for the city of DHS and the Coachella Valley. In some parts of the city the septic tank density is 2.3 to 2.8 times the density recommended by the Regional Water Quality Control Board.</p>

Project Id	Project Title	Organization	Describe Project Location	Describe Need for Project	Project Summary	Project Description
190	Well Pumping Plants 44 and 45 of the Palm Springs Main Well Field	Desert Water Agency	The project area is adjacent to the Whitewater River Channel within the cities of Palm Springs and Cathedral City, which in turn lie within the Upper Coachella Valley.	DWA Pumping Plant 44 and Pumping Plant 45 project is necessary to augment DWA's existing water supply system so that DWA can continue to provide safe and reliable service to residents of its service area in accordance with its 2008 Domestic Water System General Plan.	The project consists of construction of two wells, followed by the construction and operation of associated pumping plants.	The project consists of construction of two wells, followed by the construction and operation of associated pumping plants. Each well will be drilled to a depth of approximately 1,000 feet, and will have a 20 inch diameter casing fitted with about 400 feet of perforations. Each pumping plant will be designed to produce approximately 2,000 to 2,500 gallons per minute (gpm), and will be driven by a 400± horsepower electric motor.
191	Posse Park Surface Water Treatment Plant	Indio Water Authority	Project located at site designated for the City of Indio's Posse Park owned by the IWA, NW corner of Avenue 42 and Golf Center Parkway.	<p>The IWA and the Valley have experienced and will continue to experience substantial growth over the next 20 years. At present, the IWA and all other east Valley water agencies rely solely on local groundwater from the Lower Whitewater River Subbasin, an un-adjudicated basin, for its water supply. The basin is showing signs of overdraft. Increasing demands therefore have to be met with additional water supply sources.</p> <p>Future plans for recharging recycled water from VSD will also require a blending source. The SWTP will deliver the blending source for this application.</p>	A conceptual design has been completed for the Posse Park Surface Water Treatment Plant and the CEQA process has been initiated. The next steps in project implementation are pilot testing (if necessary), design and construction.	<p>IWA has signed a letter of intent to purchase 20,000 AFY of Delta water to be exchanged with Colorado River water to be delivered to the new SWTP via the Coachella Canal. A SWTP would increase IWA's flexibility in serving its customers and would help reduce the groundwater overdraft in the area. The intention is that treated water from the SWTP would be primarily for potable use, but it may also be used as a blending source for future groundwater recharge.</p> <p>The IWA Conceptual Design report evaluated six alternatives and identified full conventional pretreatment, low pressure membrane filtration, blending of filtered surface water with existing groundwater supplies and free chlorine for primary and residual disinfection as the preferred alternative.</p> <p>The project will be designed and constructed in two phases with an initial capacity of 10 MGD and expanded once for an additional 4 MGD by 2025.</p>

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192	Groundwater Elevation Monitoring--Regional project of CVRWMMG	CVRWMMG	Monitoring sites throughout the Coachella Valley Water Management Region	Develop monitoring program for the region that, as a minimum, complies with SBX7 6	Develop the program and organization structure to comply with SBX7 6	Develop the groundwater elevation monitoring for the groundwater basins/subbasins in the Coachella Valley Water Management Region, so as to better manage the resource during normal, wet and dry water years. An entity must volunteer to be the monitoring agent by January 1, 2011, with reporting to begin by January 1, 2012.
193	Information Systems--a Regional Project of CVRWMMG	CVRWMMG	Coachella Valley Water Management Region	Develop the information systems needed to support the IRWMP, as well as the monitoring program and other sharing of information from Planning Partners that may serve the efficient management of water resources in the Region.	Conceptual design needed--information systems that will report on those metrics that relate to attainment of Plan objectives	Conceptual design needed--information systems that will report on those metrics that relate to attainment of Plan objectives
194	Implementation of Projects in Garnet Wash and Tributaries Master Plan	Riverside County Flood Control and Water Conservation District	Projects located within Garnet Wash drainage area, about four miles southeast of the city of Desert Hot Springs, in Riverside County, California.	The problem of controlling storm waters in the area has been complicated because of flood runoff from the hills tends to spread out in many small washes over a wide area and poses a serious flood hazard threat to prospective land developments.	The District will construct flood control channels and culverts to control storm waters in the area.	Project will implement one or more stormwater management projects identified in the MDP.
195	Implementation of Projects in East Wide Channel, Long Canyon and Tributaries Master Plan	Riverside County Flood Control and Water Conservation District	Detention dams, levees and reservoirs near the mouths of Long Canyon and West Wide Canyon. Also includes improvements to channels.	Storm runoff coming from the canyons in the little San Bernardino Mountains onto the alluvial slopes is not confined to well-defined watercourses. Projects are needed to control large unpredictable storm flows and pose an extreme flood hazard.	Detention dams, levees and reservoirs near the mouths of Long Canyon and West Wide Canyon and tributaries. Also includes improvements to channels.	Detention dams, levees and reservoirs near the mouths of Long Canyon and West Wide Canyon and tributaries. Also includes improvements to channels.

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196	Implementation of projects for Cathedral City Master Plan	Riverside County Flood Control and Water Conservation District	South of Terrace Road in Cathedral City is subject to flooding from local storm runoff due to inadequate drainage systems. The Cathedral City has flooding problems that impact properties. Streets, channels and other flood infrastructure need to be installed or maintained to minimize or prevent flooding problems.	South of Terrace Road in Cathedral City is subject to flooding from local storm runoff due to inadequate drainage systems. The Cathedral City has flooding problems that impact properties. Streets, channels and other flood infrastructure need to be installed or maintained to minimize or prevent flooding problems.	South of Terrace Road in Cathedral City is subject to flooding from local storm runoff due to inadequate drainage systems. The Cathedral City has flooding problems that impact properties. Streets, channels and other flood infrastructure need to be installed or maintained to minimize or prevent flooding problems.	South of Terrace Road in Cathedral City is subject to flooding from local storm runoff due to inadequate drainage systems. This area and downstream need flood control improvement projects completed. Streets, channels and other flood infrastructure need to be reconstructed, installed or maintained to minimize or prevent flooding problems.
197	Achieve 14 percent reduction in Agricultural Water Use	Coachella Valley Water District	This project is located in the agricultural areas Eastern Coachella Valley	An Agricultural conservation program is necessary to prevent wasteful irrigation practices and to ensure that limited Colorado river supplies are efficiently used to meet demand and to help reduce burden on the overdrafted Coachella Valley Groundwater basin. Agricultural conservation program will provide a source of supply for municipal treatment of Colorado River Supplies.	This Agricultural Conservation Program will employ a series of tiered activities, each activity becoming more stringent to achieve a goal of 14 percent reduction in agricultural irrigation water use.	CVWD has demonstrated through past Bureau of Reclamation Sponsored programs that CVWD sponsored agricultural conservation programs with grower participation are effective. This project will provide a tiered approach to conservation, graduating to more stringent steps as necessary to achieve a goal of 14 percent conservation. The steps are 1) grower education and training, 2) CVWD provided services such as scientific irrigation scheduling, scientific salinity management, moisture monitoring, and irrigation distribution uniformity evaluations, 3) Irrigation system Upgrades/retrofits which includes full or partial funding to convert from flood and sprinkler to micro-sprinkler and drip, 5) economic incentives to those who maintain a water use budget.

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198	Treated Agricultural Drain Water for agricultural irrigation	CVWD	This is an East Valley Project and the location has not been finalized but will likely be at Ave. 63 and Filmore	Approximately 80,000 of agricultural drainage escapes out of the basin through agricultural drains. This local water supply could be desalinated and reused for agricultural drainage in the east valley creating a new water supply for urban use in the west valley via recharge of the west valley groundwater basin, thus reducing demand on the overdrafted groundwater basin.	Complete siting studies, environmental impact evaluation and design for agricultural drain water capture and treatment facilities.	A brackish groundwater treatment pilot/feasibility study was completed in 2008 (Malcolm-Pirnei) testing treatment alternatives, brine management approaches and source water supply capture. The study recommended capturing ag. drain water and perched ag. return flows (via bank filtration/pumping) for desalination using either RO or nano filtration. It is proposed that the desalinated water would be used for agricultural irrigation in lieu of Colorado River Water. This would create new water for ag. irrigation, making more Colorado River water available for municipal use or recharge. Brine could also be reused for saline wetlands habitat.
199	Siting studies, EIR and design of Colorado River Water Treatment Facility for municipal use	CVWD	Location is not determined.	The groundwater basin is in overdraft, and Colorado River water supplies are secure. Treating Colorado River Water for municipal use, reduces pumping thereby reducing the overdraft condition of the basin. Also Treating Colorado River water reduces salinity of water entering the basin.	This project consists of completing siting studies, preparing environmental impact evaluations, obtaining necessary permits and designing Colorado River treatment facilities for urban customers.	As growth occurs in the East Valley and farms convert to urban uses, ag demand for CR water decreases. To avoid increased urban groundwater pumping, CR water will need to be treated for municipal use. A surface water treatment feasibility study was successfully completed by Malcolm-Pirnie in 2008 testing alternative treatment methods and system compatibility.  It is proposed that facilities could be designed to treat up to 90,000 afy of CR river water by 2045.
200	Implementation of projects in the Palm Springs area Master Drainage Plan	Riverside County Flood Control and Water Conservation District	Projects will be located in the City of Palm Springs, Riverside County, California.	Drainage problems in Palm Springs need improvement for flood protection of both existing development and potential future development.	Drainage problems in Palm Springs need improvement for flood protection of both existing development and potential future development.	Drainage problems in Palm Springs need improvement for flood protection of both existing development and potential future development. Maintain Palm Canyon Levees, Whitewater River Levee, Tahquitz Creek Flood Control. Improve open channels, underground storm drains. Include new retention basins and existing basins like Victoria, Ruth Hardy, Airport, Farrell and Eagle debris basin and retention basins.



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201	Implement projects in the Desert Hot Springs Area Master Drainage Plan	Riverside County Flood Control and Water Conservation District	Projects are located in the City of Desert Hot Springs, Riverside County, California.	The community needs adequate flood protection. Uncontrolled flood waters impacting this alluvial fan area can be very devastating, primarily due to the unpredictability of their flow path and their high velocities. Silt and debris can cause damage to property.	Construct and maintain debris basins, levees and open channels and underground storm drains.	The community needs adequate flood protection. Uncontrolled flood waters impacting this alluvial fan area can be very devastating, primarily due to the unpredictability of their flow path and their high velocities. Silt and debris can cause damage to property. Construct and maintain debris basins, levees and open channels and underground storm drains. Maintain existing facilities, included but not limited to, Desert Hot Springs channel, line e-1, e-2, and c-1.
202	East Cathedral Canyon Channel Levee Restoration	Riverside County Flood Control and Water Conservation District	East Cathedral Canyon Channel located in Cathedral City, Riverside County, California	The Terrace Road Lateral and the Cathedral City Channel levee needs construction and restoration for flood protection purposes.	The District with Cathedral City is construction storm drains and working on the Terraace Road Lateral and levee restoration.	The District with Cathedral City is construction storm drains and working on the Terraace Road Lateral and levee restoration.
203	Verbena Channel	Riverside County Flood Control and Water Conservation District	Verbena Channel is south of Dillon Road and north of Two Bunch Palms Trail, near Desert Hot Springs, in the County of Riverside, California	Verbena Channel was a natural channel. During major storm events flows from his channel need to be controlled to prevent loss of property downstream and to assist with continued development of the area.	Replace a channel with a storm drain and a detention basin.	Verbena Channel is south of Dillon Road and north of Two Bunch Palms Trail, and will be replace by a storm drain and detention basin system from Camino Idilio approximately one mile north Verbena Drive at Park Lane.
204	Palm Springs MDP line 41	Riverside County Flood Control and Water Conservation District	Palm Springs, Riverside County, California. Line 41 from Golf Center Drive westerly in East Palm Canyon Drive to Cherokee Way.	A storm drain system is needed to help prevent flooding problems in the area. The storm drain sytem would also convey urban runoff. The project works in concern with Eagle Canyon Dam and Palm Springs Line 43 to provide flood protection to property along Highway 111 from Golf Club Drive to Auto Park Road. Project is ready to go, but currently has a \$5,000,000 budget shortfall.	Construct flood control facilities from Golf Center Drive westerly in East Palm Canyon Drive to Cherokee Way.	Project would construction flood control facilities benefitting the communities of Palm Springs and Cathedral City. Line 41 from Golf Center Drive westerly in East Palm Canyon Drive to Cherokee Way.

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205	Eagle Canyon Dam	Riverside County Flood Control and Water Conservation District	The proposed Eagle Canyon Dam and Debris Basin Project site is located in the hills to the southwest of East Palm Canyon Drive (Highway 111) near its intersection with Canyon Plaza Drive in Cathedral City, Riverside County, California. Portions of the project site are also located within the City of Palm Springs and tribal lands of the Agua Caliente Band of Cahuilla Indians.	The area in and around the project site has been historically subjected to intense storm events resulting in flooding and property damage. Significant storm events have occurred in 1916, 1927, 1938, 1965, 1969, 1976, 1995 and 2008. During periods of heavy rainfall, mud and debris-laden floodwaters funnel down Eagle Canyon and damage structures and public infrastructure downstream. Flood control improvements are needed to improve public safety and reduce potential damage to developed land located immediately downstream from the project site. This project's primary purpose is to provide flood hazard mitigation. Specific purposes of the proposed project are to: (a) improve public safety; (b) prevent or reduce potential flood-related damage to existing residences and business located immediately downstream from the project site; (c) prevent or reduce sediment and debris from flowing downstream; (d) remediate potentially hazardous materials resulting from historic illegal dumping	Proposed project would support construction of Eagle Canyon Dam.	<p>The proposed Eagle Canyon Dam project is southerly of Canyon Plaza Drive in the city of Cathedral City, Riverside County, California.</p> <p>The Dam will be an earthfill embankment constructed of locally available materials. The proposed earthen dam is designed to accommodate 100-year (3-hour and 6-hour) storm events. The project would provide protection from flood and debris flows to Palm Springs and Cathedral City. The project would also result in the restoration and reconstruction of areas historically subject to illegal dumping.</p>
206	Whitewater River Levee Restoration	Riverside County Flood Control and Water Conservation District	Whitewater River, Riverside County, California.	Whitewater River has levees which are in need of repair or need increasing in size to protect the public from potential flooding issues.	Whitewater River has levees which are in need of repair or need increasing in size to protect the public from potential flooding issues.	Whitewater River has levees which are in need of repair or need increasing in size to protect the public from potential flooding issues.

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207	Eastern Coachella Valley Water Supply Project	CVWD	This project is located in the eastern Coachella Valley Generally south of Ave 52 and would serve the mobile home communities in that area that currently rely on arsenic contaminated groundwater	A large portion of the Eastern Coachella Valley groundwater basin has levels of arsenic that exceed the MCL for drinking water. The costs for private pumpers to install Arsenic Treatment are prohibitive. Many mobile home parks in the Eastern Coachella Valley receive their water from their private wells with high arsenic levels. Their cumulative populations are in the high thousands. These areas are considered to be disadvantaged communities. The Cost for CVWD to extend its distribution system to these communities could be \$10,000,000 to \$20,000,000. This planning and design project would lay out the most cost effective distribution system and may result in plans and specifications for construction, and would also result applications for grant funding in future DWR funding rounds.	The purpose of this project is to extend CVWD's existing urban water distribution sytem to East Valley disadvantaged communities who's only source of drinking water is private wells with arsenic levels that exceed the Maximum Contaminant level for drinking water. funds will be used for planning and design.	This project consists of planning, design,environmental review and permitting for construction of ductile iron water distribution pipelines to serve safe drinking water to east valley mobile home communities. Funds may also be requested to pay the disadvantaged communities' costs to connect to the system once it is in place
208	Construct Wetland, Riparian, and Pupfish Habitat for CVMSHCP and Natural Community Conservation Plan	CVWD	Near the Salton Sea Delta, on the north shore of the Salton Sea, between Garfield and Arthur Streets, South of Avenue 72.	Provides mitigation for habitat that is periodically altered by flood control and drain maintenace activities.	Establish 66 acres of Rail wetlands, 44 acres of Sonoran Cottonwood-willow riparian forest, 25 acres of pupfish replacement habitat, and 5 acres of emergent wetland and riparian habitat near the Salton Sea Delta to replace habitat in the stormwater and drain channels that is periodically altered by maintenance activities.	This project consists of constructing 3 permanent habitats including 66 acres of wetland for California black rail and Yuma clapper rail, 44 acres of Sonoran cottonwood-willow riparian forest, 25 acres of managed replacement habitat for desert pupfish, and 5 acres of emergent wetland and riparian habitat in the Coachella Valley Stormwater Channel and Delta Conservation area.

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209	Tahquitz Creek Levee Reconstruction	City of Palm Springs	North bank of Tahquitz Creek, extending from the confluence with the Palm Canyon Wash at the Gene Autry Trail bridge approximately 0.75 miles upstream adjacent to the Palm Springs Wastewater Treatment Plant and Demuth Park	The Federal Emergency Management Agency (FEMA) completed digital Flood Insurance Rate Maps (DFIRMs) for Riverside County, adopted August 28, 2008. As part of this process, FEMA required that communities provide evidence to demonstrate that levees meet the minimum requirements established in Title 44, Chapter 1 of the Code of Federal Regulations, Section 65.10. The Tahquitz Creek levee has been identified as a Provisionally Accredited Levee (PAL), Levee ID 16, as the City has been unable to demonstrate that this levee meets all of the requirements set forth in Section 65.10. This concrete lined levee was originally constructed in 1984, and later covered by the City's construction of the Tahquitz Creek Golf Course in 1994. The levee does not meet freeboard and other requirements set forth in Section 65.10 and must be repaired and reconstructed in order to satisfy FEMA's requirements and ensure the levee continues to be shown as providing flood control protection.	Repair and reconstruction of the Tahquitz Creek levee, including 1) regrading of landside slopes to a gradient of approximately 2.7:1 (H:V); 2) the placement of compacted fill in those areas on top of the levee where there is inadequate freeboard; and 3) excavation and replacement required to construct the concrete revetment as necessary to meet the requirements set forth in 44 CFR 65.10.	The Tahquitz Creek levee, a concrete lined levee, was constructed in 1984 to provide flood control protection of the City's Demuth Park and its Wastewater Treatment Plant. In 1994, the City constructed the Tahquitz Creek Golf Course which raised the elevation of the channel within the golf course and covered the concrete lined levee. The top of the levee is a concrete golf cart path and the channel side slopes are part of the golf course. The City has determined that the levee is not compliant with 44 CFR 65.10, as it does not meet freeboard requirements, long-term static stability with seepage, and rapid drawdown condition. A geotechnical analysis of the levee was performed, and it was determined that: 1) the existing concrete liner does not provide adequate revetment protection and must be replaced; 2) the landside slope of the levee must be stabilized with flattening the slopes to meet minimum requirements; and 3) the height must be increased to meet freeboard requirements.

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210	Whitewater River Region and Coachella Valley Stormwater Channel Site Specific Objective Evaluation	Riverside County Flood Control and Water Conservation District	The Coachella Valley Stormwater Channel from the Indio WWTP outfall to the Salton Sea	The Colorado RWQCB approved a Bacterial Indicator Total Maximum Daily Load (TMDL) for the Coachella Valley Stormwater Channel (CVSC) in 2010. However, both Board staff and dischargers recognized that the CVSC seems to have a natural background component and/or other uncontrollable source that contributes to the exceedances of bacterial indicators in the CVSC. Unfortunately, insufficient data exists to confirm the hypothesis. The TMDL implementation plan states, "If non-controllable natural background sources cause violations of this TMDL, Regional Board staff may consider revising water quality objectives for CVSC to address natural background sources of bacteria." This proposed project would conduct the necessary studies and develop the necessary documents to support, if warranted, the development of a Site Specific Objective for the CVSC. A site specific objective would allow dischargers to better allocate resources to this and other critical water needs in the Region.	The proposed project would conduct a monitoring study to determine the contribution of natural background and uncontrollable bacterial indicator sources to water quality conditions in the CVSC. If these sources are found to exceed current Water Quality Objectives, the project will develop the documents necessary to support a Site Specific Objective for the CVSC.	The proposed project will build upon existing data collected to evaluate bacterial indicator contributions from existing dischargers, natural sources and uncontrollable sources. The objective will be to determine if existing natural background and uncontrollable sources of bacterial indicators are causing exceedances of the default water quality objectives for recreational uses that are currently defined in the Colorado River RWQCB Water Quality Control Plan.  IF such sources are found to be causing the exceedances, the project will develop the necessary reports, ceqa documents and revised basin plan language necessary to support the incorporation of a Site Specific Objective for the CVSC into the RWQCB Water Quality Control Plan.
211	Little Tuscan Sewer Improvements	City of Palm Springs	Milo Drive, Janis Drive, Vista Drive, Palermo Drive and Leonard Road	The residential subdivision of approximately 70 homes, located south of Racquet Club Road and west of N. Palm Canyon Dr. on the lower portion of the Chino Cone is without a public sewer system. These 70 homes continue to operate on privately owned septic systems. With many homes constructed 30 or 40 years ago, some septic tanks have failed, and given the rocky terrain, finding suitable replacement leach fields for septic systems can be difficult. Over the long term, impairment of groundwater quality exists due to the potential for septic systems to fail and wastewater to percolate into the water table. Extending public sewers to these homes will allow the properties to connect directly to a publicly maintained sewer system, and avoid the problems associated with poorly maintained or failing septic systems, where untreated effluent is leached directly into the ground. Increasing the public sewer system by 70	Extension of 4,200 linear feet of public sewer lines to over 70 homes to convert privately maintained septic systems to a publicly maintained sewer system. The project includes sewer extension in Milo Drive, Janis Drive, Vista Drive, Palermo Drive and Leonard Road, giving residents the ability to directly connect to a public sewer that is currently unavailable.	Construction of 8" V.C.P. sewers to connect to the City of Palm Springs public sewer system within the 70+ enclave of homes commonly referred to as "Little Tuscan", located on Milo Drive, Janis Drive, Vista Drive, Palermo Drive and Leonard Road. The residential subdivision of approximately 70 homes, located south of Racquet Club Road and west of N. Palm Canyon Dr. on the lower portion of the Chino Cone is without a public sewer system. These 70 homes continue to operate on privately owned septic systems. With many homes constructed 30 or 40 years ago, some septic tanks have failed, and given the rocky terrain, finding suitable replacement leach fields for septic systems can be difficult. Over the long term, impairment of groundwater quality exists due to the potential for septic

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				homes will also increase the amount of effluent available for recycling.		systems to fail and wastewater to percolate into the water table. Extending public sewers to these homes will allow the properties to connect directly to a publicly maintained sewer system.
212	Implementation of Total Maximum Daily Load Best Management Practices	Riverside County Flood Control and Water Conservation District	City of Coachella, adjacent to the Coachella Valley Stormwater Channel, in the County of Riverside, California.	A Total Maximum Daily Load (TMDL) for bacterial indicators was recently adopted by the Regional Water Quality Control Board-Colorado River Region. It calls for the City of Coachella to ensure that discharges into the Coachella Valley Stormwater Channel (CVSC) do not contribute to load of the bacterial indicators in the channel. Therefore, the City of Coachella needs to implement Best Management Practices (BMPs) and solutions to prevent non-storm urban runoff flows from entering the CVSC. The City is in a disadvantaged area that has been disproportionately affected by the economic downturn. The city therefore needs assistance to implement the necessary programs and measures to address bacterial indicator discharges.	Implementation of structural and/or treatment BMPs to help reduce pollutant loading to the CVSC.	<p>The proposed project would assist the City of Coachella with the implementation of Best Management Practices (BMPs) to reduce and/or eliminate discharges of bacterial indicators from within the city to the CVSC, which has been identified as impaired due to bacterial indicators.</p> <p>The City has identified specific projects that can be implemented to achieve these goals. The projects include low impact development approaches to retrofitting urban areas, such as dry wells, infiltration swales and similar.</p>

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213	Evaluate Stormwater Recharge Opportunities within the Desert Hot Springs MDP	Riverside County Flood Control and Water Conservation District	Region encompassed by the Desert Hot Springs MDP, encompassing the city of Desert Hot Springs, in Riverside County, California.	The Mission Springs Water District's water source is 100 percent groundwater, drawn from nine active production wells, providing water service to approximately 23,000 people as well as sewer service to approximately 8,000 people in Desert Hot Springs, Desert Crest Country Club and Dillon Mobile Home Park. The proposed project would evaluate, with the cooperation and partnership of Mission Springs Water District, opportunities to use existing and proposed flood control infrastructure to facilitate stormwater capture and recharge. Stormwater capture could help to offset water demand on the groundwater basin, enhance surface water quality and reduce downstream flood impacts. The Desert Hot Springs area is also a disadvantaged community with limited resources that could benefit from integrated project planning.	The proposed project would evaluate opportunities to capture and recharge stormwater within the Desert Hot Springs Master Drainage Plan MDP area. The project would also identify viable projects that could be funded at a later date	The proposed project would conduct a planning level study to evaluate, with the cooperation and partnership of Mission Springs Water District, opportunities to use existing and proposed flood control infrastructure to additionally facilitate stormwater capture and recharge and surface water quality improvements. The project would also investigate the viability of recharging stormwater into the Mission Creek Subbasin as a source of new water and to offset high TDS Colorado River Water that is currently being percolated. The evaluation will include consideration of retrofit of existing flood control infrastructure, modification of proposed flood control infrastructure plans, and consideration of new and/or supplemental projects. Projects that are determined to be viable will be incorporated into the Desert Hot Springs MDP.
214	BDCP and DHCCP	Desert Water Agency	Sacramento Bay Delta	While significant progress has been made in the Delta, there is more needed. The planning process will run out of money by the end of 2010 and SWP contractors will need to continue the process with funding. The SWP depends on reverse flows in the south delta which faces issues such as fisheries entrained by pumps, delta islands vulnerable to flood, and water quality concerns. SWP supplies have been reduced by more than 20% since 2005. The long term strategy is a Bay Delta Conservation Plan. This project submittal helps fund the Coachella Valley's portion of this project. The amount requested reflects both CVWD and DWA's share of the funding.	The delta conveyance project includes engineering to identify new alternatives to delta conveyance.	The project will convey water around the delta increasing supply for SWP contractors and residents of California. The plan includes tunnels, intakes, fish screens, pump stations, levee retrofits and other upgrades to the delta system.

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215	Perris Dam Remediation Program	Desert Water Agency	Lake Perris is an man-made reservoir built in 1973. It is the southern end of the State Water Project situated between Moreno Valley, and the City of Perris in what is now the Lake Perris State Recreation Area.	DWR has identified potential seismic safety risks in a section of the foundation of Perris Dam. There is no imminent threat to life or property. But, in the interest of ensuring the maximum public safety for those downstream of the lake, DWR has lowered the lake's water level. DWR is moving ahead with its plans to repair Perris Dam. The consulting board released its findings to DWR, the Division of Safety and Dams and the Metropolitan Water District. DWR has thoroughly evaluated the best and most feasible repair options to address the seismic concerns at Perris Dam. The proposed repair plan includes upgrading the dam by replacing the foundation material and reinforcing it with a stability berm placed on top of the improved foundation. This will allow the lake to return to its previous maximum operating pool elevation after construction. Other aspects of the proposed plan include a new outlet tower and emergency outlet release facilities.	Dam remediation will maximize beneficial uses of Lake Perris by restoring the reservoir to pre-drawdown levels and increase seismic safety.	DWR has identified potential seismic safety risks in a section of the foundation of Perris Dam. There is no imminent threat to life or property. But, in the interest of ensuring the maximum public safety for those downstream of the lake, DWR has lowered the lake's water level. DWR is moving ahead with its plans to repair Perris Dam. The consulting board released its findings to DWR, the Division of Safety and Dams and the Metropolitan Water District. DWR has thoroughly evaluated the best and most feasible repair options to address the seismic concerns at Perris Dam. The proposed repair plan includes upgrading the dam by replacing the foundation material and reinforcing it with a stability berm placed on top of the improved foundation. This will allow the lake to return to its previous maximum operating pool elevation after construction. Other aspects of the proposed plan include a new outlet tower and emergency outlet release facilities.



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216	Fargo Canyon Spreading Facility	Indio Water Authority	Fargo Canyon area - specific location of spreading facility to be determined	Several large residential developments are planned for North Indio along the Dillon Road Corridor. This area of future development lies above the Fargo Canyon Sub Area. The Fargo Canyon Sub Area is an unadjudicated basin for which there is limited hydrogeological and water quality data. The IWA's 2007 Water Master Plan identifies the needed distribution facilities to serve this area. The source of supply is expected to be developed through exploration of the Fargo Canyon Sub Area or through an exchange agreement for delivery of IWA's Delta Water. The proximity of the Colorado River Aqueduct (CRA) to lands within Indio's northern sphere of influence presents a physical opportunity for delivery of surface water for storage and/or replenishment. Development of a groundwater storage project will serve as a proactive approach to meeting future water needs for the City of Indio through spreading facilities which will support the Fargo Canyon Sub Area aquifer.	The project proposes a traditional approach to conjunctive use and it is anticipated that agencies within the Valley as well as others outside the Valley will be interested in an additional groundwater storage opportunity which will result in creation of a sustainable supply for future development in the City of Indio.	Through the construction of a new diversion from the CRA, the project will provide for the storing of water within the Fargo Canyon aquifer through spreading. During a 1½ year, surplus Colorado River water or other surface water entitlements may be taken directly from the CRA and spread directly into the Fargo Canyon Spreading Basins. During a 1½ year, annual replenishment deliveries would be reduced by an equivalent amount of 1½ from the new storage account. Water normally delivered to the Valley via Metropolitan's CRA would now be available for delivery to other water purveyors via exchange within Metropolitan's water system. Valley-wide agencies would pump groundwater from the storage account, and thus would not require replenishment. This project presents a proactive approach to meeting future needs as well as providing a storage opportunity for agencies currently lacking adequate storage.
217	Implement projects in the Desert Hot Springs Area Master Drainage Plan	Mission Springs Water District	Projects are located in the service territory of MSWD, specifically the City of Desert Hot Springs, Riverside County, California.	See Flood Control entry for full description. Additionally, project should investigate recharge of flood waters into Mission Creek Subbasin, as a source of "new water" for the basin and to offset high TDS of Colorado River Aqueduct water that is currently being percolated.	See Flood Control entry for full description. Additionally, project should investigate recharge of flood waters into Mission Creek Subbasin, as a source of "new water" for the basin and to offset high TDS of Colorado River Aqueduct water that is currently being percolated.	See Flood Control entry for full description. Additionally, project should investigate recharge of flood waters into Mission Creek Subbasin, as a source of "new water" for the basin and to offset high TDS of Colorado River Aqueduct water that is currently being percolated.

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218	1400 Zone Facilities	Mission Springs Water District	Construction of production well, reservoir and transmission lines for 1400 Zone	<p>MSWD's 1400 Zone has experienced significant growth due to residential infill in the 2004-2007 period, reducing redundancy in this zone to minimal levels. Additionally, the primary wells serving this zone have developed elevated levels of uranium, with one well having been removed from the system and the other fitted for wellhead treatment of uranium at a significant cost.</p> <p>A new Well 42 has been designed and with it is needed a 4 million gallon reservoir and associated transmission lines.</p>	Provide potable water supply within densely populated pressure zone, by replacing existing well which has high uranium levels. Construct storage and transmission facilities for new well.	<p>MSWD's 1400 Zone has experienced significant growth due to residential infill in the 2004-2007 period, reducing redundancy in this zone to minimal levels. Additionally, the primary wells serving this zone have developed elevated levels of uranium, with one well having been removed from the system and the other fitted for wellhead treatment of uranium at a significant cost.</p> <p>A new Well 42 has been designed and with it is needed a 4 million gallon reservoir and associated transmission lines.</p>
219	Smart Water Conservation Programs	Indio Water Authority	Through the IWA Service area, City of Indio, Riverside County	The primary source of water supply in the Coachella Valley is groundwater. The Indio Water Authority currently relies entirely on groundwater to supply water demand. Groundwater levels in the basin have been steadily declining, and overall the water pumped from the Valley basin has exceeded both natural and artificial recharge. Water conservation measures can help mitigate groundwater overdraft by reducing overall demand. The ability to increase efficient water use has a direct impact on the amount of resources needed in the future. AB2175 directs the State to reduce per capita urban water use 20% by 2020, and SBX7 sets an interim target of 10% by 2015. Water conservation measures work directly toward this goal. While conservation programs can certainly reduce water use and waste not all programs have equal effects. Programs should be monitored for savings gained and cost effectiveness. Monitoring data can be used in outreach to promote local water savings.	Maximize local water supplies and reduce groundwater overdraft through specific water conservation programs and education. Monitor and analyze water savings gained from the programs and evaluate cost effectiveness. Use case studies to further promote the programs and education.	The Smart Water Conservation Programs will be used to help residence and stakeholders make smart water conservation decisions and also make conservation equipment more available. Home water audits are an excellent educational tool, and the IWA would like to provide indoor and outdoor audits. Turf conversion to drought tolerant plants is one of the most effective water conservation practices but the costs are prohibitive to many people. This project could make this option possible to many more people. Irrigation systems in the region are poorly designed, aged, and outdated. New irrigation products such as spray heads and smart controllers are available but more education is needed. Smart controllers are costly so different rebate options should be available. Additional programs include supplying consumers with plumbing retrofitting, water efficient shower heads and low flow toilets. Program monitoring will be used evaluate cost effectiveness and to enhance outreach and education.

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220	Identification of Septic Wastewater Plumes in the MSWD Service Area	Mission Springs Water District	Planning area of the Mission Creek and Garnet Hill Subbasins Water Management Plan	In 1996, contaminants from on-site wastewater systems were identified as an issue of significant concern for the MSWD service area in a study by USGS and Michigan Technological University. MSWD has made strides to convert many septic systems to sewer in the intervening years. However, no focused research has been done to identify or monitor any septic wastewater plumes that may exist. This project would provide much needed identification and monitoring to quantify the nature and extent of the threat to the area defined as the planning area in the Mission Creek and Garnet Hill Subbasins Water Management Plan.	Study and analysis of movement of septic wastewater that threatens the Mission Creek and Garnet Hill Subbasins.	Investigate the transport of septic wastewater at key sites. Study rate of wastewater movement and changes in concentration of selected contaminants with depth in the unsaturated zone and the saturated zone to be monitored at each site.
221	College Of the Desert MTC Infrastructure	College of the Desert	61-120 Buchanan Street  Mecca, CA	In the spring, 2006, G&G Coachella Investment, LLC formed the Panorama Development Corporation, LLC to develop the 2,000 home residential and commercial site between Avenue 60 and 62, immediately east of Highway 86 Expressway.  Since the formation of Panorama Development, Mr. Belzberg has engaged numerous consultants to develop a specific plan to the Riverside County's General Plan. For nearly nine months the consultants have worked on developing a specific plan that would be acceptable to the Riverside County planners. The specific plan for a 2,000 plus home development is enormous in complexity, massive in terms of planned developments and has many layers of planning for all future site improvements.  Data – T1 and T3 lines are within access  Electricity – easy access  Natural Gas – within access  Water & Sewer - On Monday, December 4, Panorama's team of civil engineers, COD's civil engineer and EVC master architect and I met	This information will be provided at a later date.	Temporary utilities are available and close by. However, this is an issue, according to CVWD. CVWD has a policy that requires any temporary utilities to be installed for only 1 year. If at the expiration of one year, permanent utilities are not installed, CVWD will step in and install the permanent utilities. I asked if we could negotiate the 1 year time line and was told no – this is policy.  We will connect to water in a 18" line down the middle of Buchanan. However, if there is possibility that Panorama will start the road and street infrastructure before we have our first permanent building ready, and permanent utilities will not be in until at least 2009. We have much to do just for the logistics of timing and interaction among all the developers putting in their developments and infrastructure while we're between interim and permanent facilities.

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				with the staff of CVWD to review final options f		
222	Mission Creek/ Garnet Hill Subbasins Monitoring Program	Mission Springs Water District	Area overlying planning area for the Mission Creek & Garnet Hill Subbasins Water Management Plan	Improve the understanding of local hydrologic and geologic conditions, especially with respect to overdraft conditions in the Mission Creek and Garnet Hill Subbasins and artificial recharge of the subbasins.	Improve the understanding of local hydrologic and geologic conditions, especially with respect to overdraft conditions in the Mission Creek and Garnet Hill Subbasins and artificial recharge of the subbasins.	Improve the understanding of local hydrologic and geologic conditions, especially with respect to overdraft conditions in the Mission Creek and Garnet Hill Subbasins and artificial recharge of the subbasins.

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223	DMMs for CVRWMG Partners	CVRWMG	CVRWMG Region	funding for region-wide range of programs supporting the DMMs in the various partner agencies' Urban Water Management Plans	range of programs supporting the DMMs in the various partner agencies' Urban Water Management Plans	Seeking funding to support a range of programs supporting the DMMs in the various partner agencies' Urban Water Management Plans. May include such programs as plumbing retrofits, smart controller rebates, water efficient fixture rebates, ULFT rebates, education programs and more.
224	Resource Action Programs	Mission Springs Water District	MSWD Service Area, mainly in city of Desert Hot Springs	Desert Hot Springs relies on the Mission Creek Subbasin for their water source. The aquifer is in a state of overdraft, and conservation is warranted. This is an effective conservation program, as evidenced by the RAP "Living Wise" program that MSWD, along with SCE and SoCal Gas, sponsored in 6th grade classrooms in Desert Hot Springs. In the 2008-2009 school year, that classroom program resulted in over 5 million gallons of water saved in the community annually by participating households, with a projected 10-year savings of nearly 50 million gallons of water. Based on the success of the program administered through the school, MSWD would like to bring RAP's conservation program to the residential community at large.	MSWD will sponsor a RAP program which provides conservation kits containing water efficient fixtures such as a low flow showerhead and faucet aerators. Program is administered in part through partner agencies that provide free financial counseling to families in disadvantaged communities. Customers learn about the water saving fixtures they are being supplied with and how, along with good conservation habits, installing the efficient fixtures will reduce their monthly utility bills.	<p>MSWD will sponsor a RAP program which provides conservation kits containing water efficient fixtures such as a low flow showerhead and faucet aerators.</p> <p>Program is administered in part through partner agencies that provide free financial counseling to families in economically disadvantaged communities.</p> <p>Customers learn about the water saving fixtures they are being supplied with and how, along with good conservation habits, installing the efficient fixtures will reduce their monthly utility bills while conserving water.</p> <p>In the 2008-2009 school year, the RAP "Living Wise" program administered through 6th grade classrooms resulted in over 13,000 gallons saved annually per household - an annual community savings of over 5 million gallons of water. Bringing a similar program to adults in the community will result in additional significant savings.</p>

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225	Desert Hot Springs Community Gardens	Mission Springs Water District	City of Desert Hot Springs	Provide a hands-on learning facility to teach sustainable gardening methods and demonstrate efficient irrigation practices.	Construct and install a community garden as part of a Community Garden program led by the City of Desert Hot Springs	<p>Build raised beds for one community garden location and install irrigation equipment needed for each plot in the garden; construct demonstration area in which to teach about soils, irrigation techniques, mulch, plant selection.</p> <p>The City will provide the location and the Toro Company has interest in providing and installing the irrigation equipment. MSWD will provide education programs and oversee construction of the raised beds.</p> <p>The emphasis is on organic gardening and sustainable techniques and water use.</p>
226	IWA Recycled Water Program	Indio Water Authority	The proposed above ground facilities at Valley Sanitary District (VSD) WWTP would be located at the existing WWTP compound at Van Buren Street, Indio. Four City or IWA-owned sites located along or north of 42nd Avenue are currently under consideration for the proposed satellite treatment facility site. Posse Park is one of possible sites, with three other parcels located just north and west.	<p>The IWA proposes to treat wastewater flows from the Valley Sanitary District (VSD) WWTP for re-use on large scale irrigation sites within or adjacent to the City and for possible groundwater recharge of the underlying aquifer. The project goal is to establish a more sustainable and reliable water supply portfolio, which could reduce current and future groundwater pumping.</p> <p>Currently, VSD discharges approximately 6,700 AF/yr of treated effluent to the unlined Coachella Valley Stormwater Channel. It is anticipated that up to 17,400 AF/yr of recycled water could be available at build-out conditions for irrigation and groundwater recharge.</p>	The City of Indio Water Authority (IWA) proposes to treat wastewater flows from the Valley Sanitary District (VSD) Wastewater Treatment Plant (WWTP) for re-use on large scale irrigation sites within or adjacent to the City and for possible groundwater recharge of the underlying aquifer.	<p>The proposed Indio Water Authority (IWA) Recycled Water project would include:</p> <ol style="list-style-type: none"> <li>(1) installation and operation of a tertiary treatment system that complies with Title 22 Standards for recycled irrigation water,</li> <li>(2) installation and/or conversion and operation of pipelines for recycled water conveyance,</li> <li>(3) installation and operation of one or more groundwater recharge treatment facilities, and</li> <li>(4) installation and operation of aquifer storage recovery (ASR) wells or conversion and operation of existing wells to ASR for groundwater recharge.</li> </ol> <p>The project components would be expected to be implemented in phases based upon recycled water availability and market demand.</p> <p>Several treatment options would comply with Title 22 Standards for irrigation</p>

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						waterincluding tertiary filtration, tertiary microfiltration and membrane bioreactors. Title 22 effluent requirements for each treatment option are tailored to ensure the reliability of the specific treatment option.
227	Coachella Valley Groundwater Model	Indio Water Authority	Coachella Valley	A groundwater computer model is a valuable tool for evaluating alternative management alternatives in terms of groundwater flow, pressure and water quality. A model with good predicibility would help planning for recharge efforts (imported water, recycled water), evaluate potential risk for subsidence and liquefaction.	Improve upon existing groundwater model to assess current and future impacts of groundwater pumping and recharge to provide information to the CVIRWMG for groundwater management planning.	The proposed project would build upon the existing groundwater model developed by CVWD. The work would: <ol style="list-style-type: none"> <li>1) Enhance the current knowledge of hydrogeology,</li> <li>2) Compile reliable data describing hydrogeologic properties, groundwater recharge, groundwater pumpage, and groundwater discharge to evapotranspiration,</li> <li>3) Improve model calibration methods, and</li> <li>4) Improve model verification methods.</li> </ol>
228	Desert Cahuilla Wetlands Expansion	Tribal Government	North West Shore of the Salton Sea	<p>Due to the signing of the QSA, the Salton Sea will shrink in size by 2018 due to water transfers and other waters not being delivered to the Salton Sea. Because of this the Pacific Migratory Flyway must be preserved for critical habitat by creating shallow wetlands.</p> <p>Additionally, these shallow wetlands will reduce air emissiveness by keeping the sea sediments wet. These sediments contain selenium, pesticides, high nutrients and salts. If these sediments volatize into the air it will stop agriculture in the valley due to high salts being deposited to nearby crops, it will increase asthma in the valley and possibly drive everyone and their businesses to leave the Coachella Valley. It will destroy tourism and discourage a viable economy.</p>	Increase Habitat within the valley. Protect human health by stabalizing sediments. Protect the agriculture in the Coachella Valley.	<p>We will increase the size of the wetlands by building 100 acre cells. These cells will be shallow (no more than 3 feet deep. Fresh (White Water Storm Channel) and Salt Water (from the Salton Sea) will be used to maintain this project. We will build the project using the natural materials and not importing new materials. We will build on land that the sea has already recededed from.</p> <p>This project is consistant with the States plan for shallow habitat complexes as described in the planning documents of Salton Sea Restoration.</p>

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229	Groundwater Quality Protection Perez Road Sewers	City of Cathedral City	The project is located on Perez Road in Cathedral City, between Date Palm Drive and Campbell Street. The Perez Road Corridor is predominately commercial, with numerous multi-tenant buildings. Businesses range from food service establishments to auto repair to retail. The corridor is within the Desert Water Agency Service Area.	<p>Perez Road is a major commercial corridor within the City of Cathedral City that developed using septic tanks rather than sanitary sewers. It is necessary to install sewers to assist businesses experiencing failing septic systems. Project limits for sewer installation are from Date Palm Drive to Campbell Street and from Kieley Road to Cathedral Canyon Channel. The installation of a sewer line is in accordance with Desert Water Agency's South Area Master Plan, from Date Palm Drive to East Palm Canyon including connection to the Desert Water Agency (DWA) booster pump station.</p> <p>Septic tanks disposal systems south of the Whitewater Channel in Cathedral City have been identified as a significant threat to public potable groundwater resources. This project will permanently remove these known pollution sources (septic tanks) and will sustain and improve local and regional water supply reliability.</p>	Eliminate septic tanks that threaten contamination of groundwater supply, by expansion of DWA wastewater collection system and connection to booster pump station.	Replace existing septic tanks with sanitary sewers in the vicinity of Perez Road from Date Palm Drive to Campbell Street and from Kieley Road to Cathedral Canyon Channel. The project includes 6,820 feet of 8" diameter sewer and 4,324 feet of 15" sewer. The project will eliminate over 80 existing septic tanks and provide sanitary sewer service to 98 individual parcels.
230	Groundwater Quality Protection South City Improvement District (SCID)	City of Cathedral City	Coachella Valley Water District Service Area	<p>There are thousands of septic tanks that lie east of the Whitewater Channel in the Coachella Valley that have been identified as a significant threat to public potable groundwater resources. This project will permanently remove these known pollution sources (septic tanks) and will sustain and improve local and regional water supply reliability.</p> <p>Cathedral City is confident that this project will proceed with full community support and participation. Long-term attainment and maintenance of state and Federal drinking water quality standards will also be achieved as a result of this endeavor.</p>	The project will permanently remove known pollution sources (septic tanks). It will sustain and improve local and regional water supply reliability and proceed with full community support and participation. The project contributes to the long-term attainment and maintenance of state and federal drinking water quality standards.	<p>The South City Improvement District involves constructing municipal wastewater collection systems and eliminating septic tanks that overlie regional aquifers. The project will build over five miles of wastewater pipelines and eliminate approximately 500 septic tanks—extending the municipal wastewater collection system to over 700 properties.</p> <p>Septic tanks have infiltrated the region at a fast pace due to rapid growth in the area. The rapid spread of septic tanks has led to increased levels of total dissolved solids and nitrate salts in regional groundwater.</p>



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231	Groundwater Quality Protection and Floodplain Management - Eagle Canyon Dam and Lines 43 and 41	City of Cathedral City	Riverside County Flood Control & Water Conservation District	<p>The project will alleviate current deficiencies in the existing storm water drainage systems, and protect development downstream of Eagle Canyon from debris and flooding during significant rain events. The project site is located in Flood Hazard Zone A, as designated on FEMA Flood Insurance Rate maps. Flood Hazard Zone A is defined as areas of a 100-year flood, with base elevations that have not been determined. The project is designed to improve conveyance of the existing storm water drainage systems. When constructed, the project will protect development downstream of the project from flood events.</p> <p>The construction of the debris basin would reduce the potential for mudflow. The dam will provide flood detention, recharge and flood hazard mitigation for the developed portion of Cathedral City located downstream.</p>	<p>The project will provide flood detention and flood hazard mitigation for the developed portion of Cathedral City located downstream of the canyon. Storm water flows from the wash would be conveyed in 3300 linear feet of 42" drainage pipeline (Line 43), which extends to East Palm Canyon Drive (Highway 111) for approximately 1,000 LF, terminating at the West Cathedral Channel.</p>	<p>The proposed project would include the construction, operation, and maintenance of an earthen dam, debris catchment and underground storm drain. The project will provide flood detention and flood hazard mitigation for the developed portion of Cathedral City located downstream of the canyon. The outlet works would be ungated and the dam would therefore only hold water for brief periods of time following significant flood events. The debris basin would keep sediment and debris from flowing downstream, and would be cleaned out on a periodic basis to prevent buildup of materials and storm water.</p> <p>Storm water flows from the wash would be conveyed in 3300 linear feet of 42" drainage pipeline (Line 43), which extends to East Palm Canyon Drive (Highway 111) for approximately 1,000 LF, terminating at the West Cathedral Channel.</p> <p>Prior to construction of the project, the Project Proponent anticipates remediation of potentially hazardous materials resulting from illegal dumping.</p>

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232	Water, Sewer and Drainage - North City Specific Plan	City of Cathedral City	Coachella Valley Water District Service Area	<p>In 2007, Cathedral City decided to create a bold new vision for its expansion and enhancement by developing a plan for approximately 5,000 acres of existing and recently annexed properties located to the north of Interstate 10. The major features include: Preservation of desert habitat, two major Mixed Use-Urban Districts at the eastern and western gateways to Cathedral City, two major Mixed Use-Neighborhood Districts, a major freeway-oriented Business Park and a unique Edom Hill Industrial Park for clean manufacturing with an emphasis on renewable energy and sustainable products. A primary goal of the North City Specific Plan is to provide for sustainably-designed infrastructure in new development. Several of the goals and policies discuss specific objectives related to water efficiency, storm water retention, and use of reclaimed water. As such, the development of both public and private infrastructure should strive to use state-of-the-art technologies.</p>	<p>The Specific Plan provides a sustainable approach to site development and landscape design. Current technologies and best management practices should also be followed to create projects that are responsive to environmental conditions and assure that development respects the natural systems present and minimizes long-term negative impacts.</p>	<p>A primary goal of the North City Specific Plan is to provide for sustainably-designed infrastructure in new development. Ensure that an adequate infrastructure system is in place for future development in North City.</p> <p>To conserve precious water resources, an area-wide reclaimed water system would be desirable. Per the CVWD Master Plan, a new sewer system will be installed to the southeast of the Specific Plan area that will direct the flow on the north side of the I-10 freeway to the Thousand Palms area.</p> <p>There is currently no storm drain infrastructure within the Specific Plan area. CVWD will own and maintain future storm drain systems. Two major storm drain system backbone lines are recommended: (1) To serve the Edom Hill-Light Industrial District (2) To serve all new development along I-10. Two major channels are recommended to carry the runoff to a detention system or to the Whitewater Wash: (1) Morongo Wash and (2) Long Canyon/Willow Hole.</p>

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233	Bridge Drainage System Design for 3 Whitewater River Bridges	City of Cathedral City	Coachella Valley Water District, Riverside County Flood Control and Water Conservation District Service Areas and Army Corps of Engineers Navigable Rivers Jurisdiction	Cathedral City is in the developmental phase for constructing a new 4 lane bridge at Cathedral Canyon Drive as well as widening to six lanes the Ramon Road Bridge and the Date Palm Drive Bridge. All bridges are over the Whitewater River and within 3 miles of each other. Cathedral Canyon Drive Bridge is to replace a low water crossing and the widening of the other two bridges are to improve traffic circulation and emergency response during times of floods and accidents or other life threatening situations.	To avoid corrosion and erosion, the design must include proper placement of outfalls, including prevention of flow from splashing or being blown back onto support members. In addition, water should be prevented from running down a crack at the paving notch joint, between pavement and bridge, and undermining an abutment or wingwall.	<p>Bridge deck drainage is accomplished in the same manner as drainage of other curbed roadway sections, bridge decks are often less effectively drained because of lower cross slopes, uniform cross slopes for traffic lanes and shoulders, parapets that collect relatively large amounts of debris, drainage inlets and piping that are relatively small, and clogging of inlets and drainage systems. Bridge inlets collect flow into relatively small ductile cast-iron or welded-steel chambers. By contrast, pavement systems have features that are much larger pre-cast, cast-in-place, or masonry structures. Such weight and size is incompatible with bridge structures. Bridge drains are typically steel tubes that must withstand vibrations and deflections better than the storm drains associated with pavement drainage. Requirements in the design of deck drainage systems differ in the following respects from roadway drainage systems:</p> <p>Near total interception may be a desirable upgrade of expansion joints</p>
234	Master Drainage Plan Implementation - Ramon Road Corridor	City of Cathedral City	Coachella Valley Water District Service Area	<p>Ramon Road in the City of Cathedral City experiences moderate flooding, inundating the south side of the roadway during all rain storm events at Sky Blue Trail. However, at Shifting Sands Trail all travel lanes in both directions are inundated during all rain storm events.</p> <p>Providing one travel lane free of inundations for the 10-year storm event in each direction was the criteria established as the minimum level of flood protection required along Ramon Road.</p>	Ramon Road experiences moderate flooding, inundating the south side of the roadway during all rain storm events at Sky Blue Trail. However, at Shifting Sands Trail all travel lanes in both directions are inundated during all rain storm events.	Address intercepting runoff flows along Ramon Road between the White Water River and Date Palm Drive by utilizing the combination of storm drain pipe, and detention basin systems. However, due to the significant size of drainage facilities required to intercept all the flows reaching Ramon Road further studies of viable alternatives to intercept runoff flows along Ramon Road between the White Water River and Canyon Vista Road, east of existing high point along Ramon Road should be accomplished. The logic in looking at the set of alternatives is based on considering the high point east of Avenida Valdez as the

Project Id	Project Title	Organization	Describe Project Location	Describe Need for Project	Project Summary	Project Description
						terminus point for the Ramon Road system connecting at the Whitewater River. These additional alternatives also provide the City the opportunity to develop a phased implementation plan to intercept runoff flow tributary to Ramon Road at Date Palm Drive via a future system along Date Palm Drive.
235	Groundwater Quality Protection - West Cathedral City Septic Tank Replacement	City of Cathedral City	These projects are located in the western part of Cathedral City north and south of East Palm Canyon Drive. The four un-sewered areas include a 24 acre, 200 unit, mobile home park, 25 acres of commercial property, and 48 acres of residential property.	These project areas are a listed priority for the Regional Water Quality Control Board Colorado River Basin Region 7. The projects provide a permanent solution to reducing the amount of nitrates, bacteria, viruses and Total Dissolved Solids (TDS) migrating towards the Coachella Valley's underground aquifer, which provides the drinking water supply in the region. This is a groundwater non-point source pollution reduction project providing sewer improvements in Cathedral City to protect drinking water in the Coachella Valley.	These project areas are located in the western part of Cathedral City north and south of East Palm Canyon Drive. Sanitary sewer service is not available and development has proceeded with septic tanks for sewage disposal. The four un-sewered areas include a 24 acre, 200 unit, mobile home park, 25 acres of commercial property, and 48 acres of residential property.	These projects are located in the western part of Cathedral City north and south of East Palm Canyon Drive. The four un-sewered areas include a 24 acre, 200 unit, mobile home park, 25 acres of commercial property, and 48 acres of residential property.  The project areas are a listed priority for the Regional Water Quality Control Board Colorado River Basin Region 7. The projects provide a permanent solution to reducing the amount of nitrates, bacteria, viruses and Total Dissolved Solids (TDS) migrating towards the Coachella Valley's underground aquifer, which provides the drinking water supply in the region. This is a groundwater non-point source pollution reduction project providing sewer improvements in Cathedral City to protect drinking water in the Coachella Valley.
236	Master Drainage Plan Implementation - Cathedral City South	City of Cathedral City	Project location is that portion of the City of Cathedral City south of Ramon Road to the south City limits.	There is currently no storm drain infrastructure in the project area and the Master Plan for Drainage was last updated in the early 1990's. The plan requires updating to incorporate existing conditions, current and proposed development and the latest technologies. The planned improvements will include detention and retention basins, pipelines, and BMPs for treatment. The improvements will provide a permanent solution to reducing the amount of nitrates, bacteria, viruses and Total Dissolved Solids (TDS) migrating towards the Coachella Valley's underground aquifer, which provides the drinking water supply in the region. This is	Review previous planning studies and develop new plan for storm drain infrastructure in the southern portion of Cathedral City. Coordinate plan with CVWD and Riverside County Flood Control.	The project will prepare a master drainage plan for the southern portion of Cathedral City. The area currently does not have any drainage infrastructure. The planned improvements will include detention and retention basins, pipelines, and BMPs for treatment. The improvements will provide a permanent solution to reducing the amount of nitrates, bacteria, viruses and Total Dissolved Solids (TDS) migrating towards the Coachella Valley's underground aquifer, which provides the drinking water supply in the region. This is a

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				a groundwater non-point source pollution reduction project providing drainage improvements in Cathedral City to protect drinking water in the Coachella Valley.		groundwater non-point source pollution reduction project providing drainage improvements in Cathedral City to protect drinking water in the Coachella Valley.
237	Flood Control and Recycling of Storm, Non Storm Run Off Water - Desert Cove Golf Course	City of Cathedral City	Coachella Valley Water District, Riverside County Flood Control & Water Conservation District	<p>The proposed Desert Cove Golf Course will provide resolution to existing flood control deficiencies, provide the same level of flood protection with substantial cost savings and provide economic development. The flood control plan does not affect the hydrology of the Whitewater River basin or the flood plain hydraulics. The flood control improvements occur beneath the finished surface of the golf course and above the top banks of the river/channel on the Whitewater River only.</p> <p>The Basis of Design Reports approved by both CVWD and RCFC&amp;WCD contained detailed analysis of (1) hydrology, (2) floodplain hydraulics, (3) flood protection measures, (4) shear stress calculations, (5) freeboard calculations, (6) mitigation measures, (7) engineering design criteria inherent in flood control improvement design.</p>	The project consists of a 158 acre - 18 hole golf course located in the Whitewater River Storm Channel and the East Cathedral Canyon Wash including a 6000 SF Clubhouse and a 14,000 SF maintenance facility.	The Desert Cove flood control plan has 7 distinct elements of flood control improvement types. The plan was designed to resolve existing flood control deficiencies and mitigate increases in flow depth and/or velocity. (1) Hybrid Bermuda Turf grass channel lining/armoring - resisting flow velocity induced erosion, (2) Soil cement lined ponds - stabilize 14 acres of the river channel and serve as water reservoirs for the capture and recycling of water, (3) Turf Reinforcement mats - to stabilize 1.5 acres, (4) Buried soil cement grade control structures - prevent under mining of slope lining in the event of 100 flood, (5) Soil cement fill on top of the southerly bank - mitigate overtop in the 100 year flood, (6) Construct a floodwall atop the northerly bank - mitigate overtop in the 100 year flood, and (7) Reinforced concrete slope protection toe-extension - resolve and existing condition of the East Cathedral Channel and mitigate proposed conditions North Cathedral channel.
238	Ramon Road Corridor - Improve Flood Protection	City of Cathedral City	Coachella Valley Water District, Riverside County Flood Control & Water Conservation District	In a 3.9 Square Mile area that is 90% developed there are few drainage structures. There is one private detention basin and one retention basin and a number of nuisance flow and dry well inlet facilities. The existing roadways act as the main flow conveyance system. There are three major intersections along Ramon Road which are significant collection points - Shifting Sands, Canyon Vista Road and Date Palm Drive. Ramon Road experiences moderate flooding, inundating the south side of the roadway during all rain storm events at Sky Blue Trail. However, at Shifting	Providing one travel lane free of inundations for the 10-year storm event in each direction was the criteria established as the minimum level of flood protection required along Ramon Road. The RCFC&WCD recommends 100-year flood protection for all dwelling units and subdivisions.	Implement improved flood protection along Ramon Road from Date Palm Drive to the Whitewater River. The project drainage area extends from the Union Pacific Railroad right of way to the north, Ramon Road to the South, the Whitewater River Levee to the west and Date Palm Drive to the east. The Whitewater River serves as the backbone drainage infrastructure facility providing flood protection in the Coachella Valley. Due to the significant size of drainage facilities required to intercept all flows

Project Id	Project Title	Organization	Describe Project Location	Describe Need for Project	Project Summary	Project Description
				Sands Trail all travel lanes in both directions are inundated during all rain storm events.		reaching Ramon Road, additional alternatives provide the City the opportunity to develop a phased implementation plan to intercept runoff flow tributary to Ramon Road at Date Plam Drive via a future system along Date Palm Drive.
239	Palm Springs Unified School District - Storm Drain Outflow Transport Contamination	City of Cathedral City	Coachella Valley Water District	Results of soil and water quality tests taken in April and May 2009, at the Cathedral City Elementary School detention basin's storm drain pipe outflow, showed there were total coliform, E. coli, and potential human pathogens present. Due to these results, the detention basin, which is in the school's playground area, was fenced off to protect the children from contact with the contamination. Because the detention basin is part of the school playground, the source of the contamination needs to be identified and eliminated to allow the coninued use of the area by students.	Detention Basin contamination from unknown sources upstream from the Cathedral City Elementary School require field research, development of corrective actions and detailed planning to correct a public health and safety hazard.	The source of the contamination is not known. The first phase of this project will conduct field research to establish the source or sources and develop corrective actions to eliminate the problem. Because the upstream residential and commercial areas are in the process of connecting to a new sanitary sewer system, some septic tank systems are still in use. If the contamination is coming from failures of the existing septic tank systems and leach fields, then subsidizing the cost to connect those properties to the sewer system could solve the problem. Once the source of the contaminatio has been determined and the contamination stopped, the existing catch basins, storm drain piping, distribution boxes, and drywells would have to be cleaned and disinfected. If surface contamination flowing down the curb and gutter is the cause, then a group of filtration systems could be designed and constructed to accept nuisance and storm water.
240	Groundwater Protection-Cathedral City Cove Drainage System 4	City of Cathedral City	Cathedral City Cove Area.	This project is required to complete the Cathedral City Cove Sewer (Septic Tank Removal) Project. This phase of the overall Cove Sewer project was postponed due to lack of funding.	Construct new storm drain pipe to serve an area on the south side of Cathedral City Cove.	The project will construct 18", 24" and 36" diameter storm drain pipe and appurtenances. The constructed system will convey stormwater to the east Cathedral Canyon Channel which, in turn, discharges to the Whitewater River. BMPs will be implemented to remove gross pollutants.

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241	Cathedral City North City Specific Plan - East Sub-Region	City of Cathedral City	Coachella Valley Water District Service Area	<p>In 2009 and 2010, Cathedral City decided to create a new vision for its expansion and enhancement by developing a plan for annexation of properties located north of Interstate 10 to Ramon Road and to Cook Street in the Thousand Palms area. This annexation plan links with the North City Specific Plan to establish strong economic, transportation and lifestyle connections between the North City and the existing City development to the south, and between North City and the rest of the Coachella Valley along the northern corridor of Interstate 10 for approximately 6 miles.</p> <p>The current near term vision concentrates economic development efforts from Date Palm Drive to Ramon Road and bounded by Varner Road and Interstate 10 for a length of approximately 3 miles for the disadvantaged communities of Cathedral City and Thousand Palms.</p>	The planning provides for a sustainable approach to site development and landscape design. Current technologies and best management practices should also be followed to create projects that are responsive to environmental conditions and assure that development respects the natural systems present and minimizes long-term negative impacts.	<p>A primary goal of the North City Specific Plan East - Subregion is to provide for sustainably-designed infrastructure in new development. Ensure that an adequate infrastructure system is in place for future development in the East-Subregion.</p> <p>To conserve precious water resources, an area-wide reclaimed water system would be desirable. Per the CVWD Master Plan, a new sewer system will be installed to the east of the Specific Plan area that will direct the flow on the north side of the I-10 freeway to the Thousand Palms area.</p> <p>There is currently no storm drain infrastructure within the planning area. CVWD will own and maintain future storm drain systems. Two major storm drain system backbone lines that are recommended in the North City Specific Plan would be continued eastward to the Thousand Palms area and sized for the future planned area.</p>
242	Palm Springs Line 43 and 43a	RCFC&WCD	Project connects Eagle Canyon Dam in Cathedral City to West Cathedral Canyon Channel.	Proposed project works in concert with Palm Springs Line 41 and Eagle Canyon Dam to provide critical flood protection to property along Highway 111 from Golf Club Drive to Auto Park Road. project will remove debris and stormwater flow threats from this area and support removal of designated Zone 1 floodplains. Project will also support water quality improvements in downstream receiving waters due to reduction of unconfined flooding of urban areas.	Project proposes to construct a storm drain connecting the proposed Eagle Canyon Dam to West Cathedral Canyon Channel. Project will reduce flood hazard for properties adjacent to this reach of HWY 111.	This underground stormdrain will extend from the existing West Cathedral Canyon Channel west to East Palm Canyon Boulevard (HWY 111) then northwest in East Palm Canyon Boulevard to Via Capri Street then southwest approximately 600 feet to the outlet of the future Eagle Canyon Dam.

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243	Coachella Valley Salt and Nutrient Management Plan	CVRWMG	This project addresses the entire Coachella Valley Groundwater Basin.	This project will include development of a Salt and Nutrient Management Plan for the groundwater basin in response to the State Water Resource Control Board's Recycled Water Policy.	This project will include development of a Salt and Nutrient Management Plan for the groundwater basin in response to the State Water Resource Control Board's Recycled Water Policy.	<p>This project will include development of a Salt and Nutrient Management Plan, including:</p> <ol style="list-style-type: none"> <li>1. Determine the constituents of concern and area to be addressed with stakeholders. Coordinate with the Regional Board and develop/expand the conceptual model of the watershed.</li> <li>2. Evaluate existing beneficial uses, water quality criteria and objectives for surface and groundwater for understanding constraints and opportunities for change.</li> <li>3. Collect, aggregate and analyze historic and current water quality data for the beneficial uses and objectives review and the antidegradation analysis.</li> <li>4. Develop water balance, salt and nutrient balance and capacity to model future groundwater quality at various draft objectives.</li> <li>5. Develop implementation plan to meet objectives and protect beneficial uses while expanding the use of recycled water and water conservation practices.</li> <li>6. Document the efforts for inclusion in Basin Plan amendment and perform environmental analysis and coordination with Board.</li> </ol>



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244	Desert Edge Geothermal Water Conservation and Preservation	Riverside County, Supervisor Benoit	Southeast of Desert Hot Springs, west of Sky Valley, north of Interstate 10, centered on Township 3 South Range 5 East, Sections 10 and 11, 3.5 square miles of unincorporated Riverside County.	<p>Desert Edge is a community of elderly, low/fixed income and disabled persons in the unincorporated area of Riverside County. Historically undercounted by the U.S. Census, Desert Edge has been recently recognized as a Census Designated Place with approximately 7,000 dwelling units per the County of Riverside and planned future development. The housing density is very high, with 24 mobile home and recreational vehicle parks clustered around hot water wells along the Mission Springs fault line.</p> <p>Desert Edge's population and economy is dependent on the hot mineral well water which is pumped from the ground water into hot pools for therapy. The age and frailty of the residents and visitors creates a greater health risk should effluents and contaminants from septic systems and commercial/industrial waste contaminate the groundwater. Limited income for health related risks further places this community in the category of disadvantaged. A sewer system is desperately needed.</p>	Proposed development west of Mountain View Avenue will provide a sewer system to this unincorporated area of the County of Riverside. Extension of the sewer system east of Mountain View, along with proposed 18th Avenue improvements, to Bennett Road (east boundary of Desert Edge) would meet the waste water removal needs of the community.	<p>A sewer system extension from a planned wastewater facility near Mountain View Avenue/Varner Road to Desert Edge east along 18th Avenue would meet the immediate needs for wastewater removal. A sewer system will prevent groundwater contamination from septic systems, leach lines and commercial/industrial runoff into the ground. Groundwater contamination poses a significant health threat to the community of Desert Edge, and seasonal/recreational visitors. Lack of sewer system prevents improvements to existing mobile home and recreational vehicle parks and proposed developments, and thus, has hindered the economy.</p> <p>The community is disadvantaged by age, health and income and lack of economic viability as a result of limitations placed on proposed development and existing facilities that are inadequate. Many facilities are in dire need of improvements to meet a basic standard for quality of life of disenfranchised and retired persons.</p>
245	Pierce Community Infrastructure - Regional Water Treatment Facility (North)	Pueblo Unido CDC	<p>The proposed project is located southerly of Avenue 66 and northerly of Avenue 70 in the Oasis Community, in a portion of Section 21, Township 7 South, Range 8 East, San Bernardino Base and Meridian (See Figure 1)</p> <p>The Community of Oasis is at an elevation of</p>	An initiative driven by community leaders that reside along Pierce Street in the unincorporated community of Oasis, California, The Pierce Street Community Infrastructure Project is addressing serious safety concerns regarding unacceptably high levels of arsenic and fluoride in their local onsite water well systems. Arsenic has been linked to bladder, lung and skin cancer, and may cause kidney and liver cancer. Arsenic is also harmful to the central and peripheral nervous systems, as well as heart and blood vessels, and causes serious skin problems. It also may cause birth defects and reproductive problems. State and federal environmental regulations stipulate safe drinkable water with arsenic level of 10 parts	Funding for the proposed project will cover engineering, environmental reports and construction costs to provide safe and reliable drinking water to existing mobile home parks in the vicinity and address the high levels of arsenic and fluoride at onsite wells.	Agricultural Worker families represent the local labor force that contributes approximately 500 million dollars a year in agriculture to the region. Farm workers constitute the back bone of our national food system sustainability. But despite their remarkable contribution, these hard working families is the largest disadvantaged community in the region plagued with extreme rates of poverty, unemployment, virtually non-existent access to critical social and economic development services, and lack of affordable and safe housing. The major barrier is the lack of basic infrastructure that has been detrimental in bringing

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			<p>approximately -60 feet below mean sea level. Temperature records from the area indicate a monthly average maximum temperature of 104 degrees Fahrenheit (F) during the summer months and a monthly average minimum temperature of 38 degrees F during the winter months. Precipitation records indicate an average of 3.03 inches per year.</p> <p>The proposed project is to provide water service to the existing Duroville mobile home park that consist of 257 units , Oasis mobile home park that consist of 400 units, and 10 Polanco parks that consist of 83 units with a total of 770 spaces. The target community consists of agricultural workers and low income families. There is also a need for sewer service in this community.</p>	<p>per billion. Currently, arsenic lab results in the area have found between 21 to 50 parts per billion.</p>		<p>new resources and opportunities to improve the quality of life.</p> <p>The proposed Pierce Community Infrastructure – Regional Water Treatment Facility consist of extending approximately 20,000 linear feet of pipeline from the nearest connection point located at Avenue 74 and Harrison Rd. The pipeline will be extended east along Av. 74, and north along Pierce St</p>

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246	St. Anthony of the Desert - Water Treatment Facility	Pueblo Unido CDC	The proposed project is located east of Lincoln Street, west of Johnson Street, north of Avenue 68th, and south of State Highway 111 in the unincorporated community of Mecca in a portion of Section 21, Township 7 South, Range 8 East, San Bernardino Base and Meridian (See Figure 1)	An initiative driven by La Union Hace La Fuerza, a tenant improvement committee that resides at the park, St. Anthony of the Desert Water Supply facility is addressing serious safety concerns regarding unacceptably high levels of arsenic and fluoride at the onsite water well system. Arsenic has been linked to bladder, lung and skin cancer, and may cause kidney and liver cancer. Arsenic is also harmful to the central and peripheral nervous systems, as well as heart and blood vessels, and causes serious skin problems. It also may cause birth defects and reproductive problems. State and federal environmental regulations stipulate safe drinkable water with arsenic level of 10 parts per billion. Currently, arsenic lab results in the area have found range of 21 to 50 parts per billion.	The proposed St. Anthony of the Desert Water Treatment Facility Project is a decentralized small community water drinking system that will utilize Reverse Osmosis technology to remove high levels of arsenic and supply drinking water to 650 residents at the park.	<p>Agricultural Worker families represent the local labor force that contributes approximately 500 million dollars a year in agriculture to the region. Farm workers constitute the back bone of our national food system sustainability. But despite their remarkable contribution, these hard working families is the largest disadvantaged community in the region plagued with extreme rates of poverty, unemployment, virtually non-existent access to critical social and economic development services, and lack of affordable and safe housing. The major barrier is the lack of basic infrastructure that has been detrimental in bringing new resources and opportunities to improve the quality of life.</p> <p>Funding for the proposed project will cover engineering, environmental reports, local permit fees and construction costs to provide safe and reliable drinking water to resident at St. Anthony of the Desert and effectively address high levels of arsenic and fluoride at the onsite well.</p>

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247	Pierce Community Infrastructure – Water Extension Supply (South Section)	Pueblo Unido CDC	<p>The proposed project is located southerly of Avenue 74, east of Harrison Rd, and west of Pierce Street in the Oasis Community, in a portion of Section 21, Township 7 South, Range 8 East, San Bernardino Base and Meridian (See Figure 1)</p> <p>The Community of Oasis is at an elevation of approximately -60 feet below mean sea level. Temperature records from the area indicate a monthly average maximum temperature of 104 degrees Fahrenheit (F) during the summer months and a monthly average minimum temperature of 38 degrees F during the winter months. Precipitation records indicate an average of 3.03 inches per year.</p>	<p>An initiative driven by community leaders that reside along Pierce Street in the vicinity of Oasis, California, The Pierce Street Community Infrastructure Project is addressing serious safety concerns regarding unacceptably high levels of arsenic and fluoride in their local onsite water well systems. Arsenic has been linked to bladder, lung and skin cancer, and may cause kidney and liver cancer. Arsenic is also harmful to the central and peripheral nervous systems, as well as heart and blood vessels, and causes serious skin problems. It also may cause birth defects and reproductive problems. State and federal environmental regulations stipulate safe drinkable water with arsenic level of 10 parts per billion. Currently, arsenic lab results in the area have found between 21 to 50 parts per billion.</p> <p>The proposed water extension supply will provide safe reliable drinking water for this area, and it will improve the overall health environment conditions of the residents.</p>	<p>The proposed Pierce Community Infrastructure – Water Extension Supply consist of extending approximately 9,915 linear feet of pipeline from the nearest connection point located at Avenue 74 and Harrison Rd. The existing pipeline is 30” inches in diameter. The intention is to connect at this point, and then south along Harrison Rd, then east along Avenue 74 to Pierce Street, then south and north along Pierce Street as indicated in the attached Figure 1. The project will provide safe reliable drinking water to approximately 1,300 residents.</p>	<p>Agricultural Worker families represent the local labor force that contributes approximately 500 million dollars a year in agriculture to the region. Farm workers constitute the back bone of our national food system sustainability. But despite their remarkable contribution, these hard working families is the largest disadvantaged community in the region plagued with extreme rates of poverty, unemployment, virtually non-existent access to critical social and economic development services, and lack of affordable and safe housing. The major barrier is the lack of basic infrastructure that has been detrimental in bringing new resources and opportunities to their desire to improve the quality of life.</p> <p>Funding for the proposed project will cover engineering, environmental reports and construction costs to provide safe and reliable drinking water to existing mobile home parks in the vicinity and address the high levels of arsenic and fluoride at onsite wells.</p>

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248	Harrison Street (Sunbird and surrounding cluster)	Pueblo Unido CDC	There are a series of mobile home parks on Harrison Street clustered between Ave 62 to Ave 68 and Ave 74 to Ave 82. There are approximately 158 mobile home units in the area, the largest cluster being the Sunbird Mobile Home Park. This cluster of mobile homes is home to approximately 1,100 residents.	<p>The mobile home parks in this area provide housing to low-income families, primarily farmworkers and other working families. This region has been identified as one of those suffering from the naturally occurring arsenic contamination in the ground water supply.</p> <p>To date, none of the mobile home parks in this area provide an alternate source of drinking water, nor do they provide treatment to the drinking water. In fear of jeopardizing their health, residents purchase vended water from machines, or purchase bottled water, which is a financial burden for families given they must still pay their monthly water bills which they use for mostly bathing and minimal household use (i.e. washing dishes etc).</p> <p>Connecting these mobile home parks to the CVWD water system and sewer systems is the most viable solution for these residents in order to secure a safe and reliable drinking water source and a safe wastewater system.</p> <p>Project Type</p>	Build an extension and Harrison Street to connect the impacted mobile home parks to the CVWD main lines to provide drinking water to residents. In addition given the major septic system leaks that have occurred in this area, there is a need to add sewer system.	A connection to the CVWD main line needs to be constructed to connect these mobile home parks to CVWDs water. There are 158 mobile home units, that are home to 1,100 residents. There needs to be a planning, Engineering and Construction phase to this project. Aside from the drinking water infrastructure, there is also a need to convert the current septic systems into sewer. Currently places like sunbird mobile home park suffer from serious septic system leaks which could also contribute to the groundwater contamination. Both the water quality and wastewater issues are a public health issue for the residents.

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249	Pierce Community Infrastructure - Sewer Sanitary Collection System (North)	Pueblo Unido CDC	The proposed project is located south of Avenue 66 and north of Avenue 70 in the Oasis Community, in a portion of Section 21, Township 7 South, Range 8 East, San Bernardino Base and Meridian (See Figure 1)	<p>Existing mobile home parks in the community of Oasis along Pierce Street, typically utilize individual on-site wastewater facilities that are inadequate and do not meet current minimum standards and are in need of replacement.</p> <p>The presence of high groundwater and poor percolation rates in the vicinity, can negatively impact the operation of an onsite wastewater treatment system, especially when shallow groundwater wells are used. The elevated groundwater can cause the system to fail and significantly degrade the surrounding groundwater quality that is the mainstream use for drinking water. CVWD analyzed water quality data from wells and found the water quality in the area indicate high levels of arsenic, fluoride, TDS, and nitrate. The project's connection to the CVWD's wastewater collection system ensures public health, preserves valuable water resources and diminishes the possibility for ground water contamination.</p>	<p>CVWD's Water Reclamation Plant No. 4 located north of the existing community has adequate capacity to provide for the generated flows of the proposed project as well as existing customers.</p> <p>Once the proposed wastewater facilities are constructed they will be transferred to CVWD. CVWD will own, operate and maintain the onsite and off-site sewage collection system. CVWD provides sanitation (wastewater) service to approximately 100,000 customers. CVWD's wastewater system includes six water reclamation facilities, 35 lift stations, 150 miles of sewage force mains and 1,101 miles of gravity sewer main lines. A monthly sanitation charge will support ongoing operation and maintenance expenses.</p>	<p>Funding for the proposed project will cover construction costs to provide sewer sanitary collection system to existing mobile home parks in the vicinity and address the substandard septic systems, and sewage lagoons.</p> <p>Construcion:</p> <ol style="list-style-type: none"> <li>2,640 feet of 8-inch gravity sewer line from Oasis Park easterly along Avenue 70 to Pierce Street</li> <li>5,270 feet of 12-inch gravity sewer from the intersection at Avenue 70 and Pierce Street northerly along Pierce Street to Avenue 68, connect to Polancos and Duro mobile home parks at Avenue 68</li> <li>Sewage lift station at the northeast corner of Avenue 68 and Pierce Street</li> <li>5,200 feet of 6-inch sewer force main from the lift station northerly along Pierce Street to Avenue 66</li> <li>1,000 feet of sewage force main from Pierce Street and Avenue 66 to CVWD's 10-inch force main at the Coachella Valley Stormwater Channel. The existing force main will transfer the sewage to WRP-4</li> </ol>

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250	South Mecca Plan	South Mecca Group	Project located adjacent to the unincorporated community of Mecca, CA, comprised of those lands generally within a 1.5 mile radius from the intersection of Johnston and Avenue 66, excluding those properties included in The Mecca Specific Plan (SP00377).	Project requires infrastructure design and construction to facilitate the orderly extension of services from the urban core which is the Mecca community in order to provide jobs, housing, schools and recreation. Project area is immediately adjacent to the existing developed community of Mecca, CA. All recent community infrastructure improvements have been developed along 66th Street. Prudence would dictate that the logical path of development of all future extensions of the urban core would occur radially from these community assets. In order to accomplish this future infrastructure needs must be anticipated.	In order to serve the potable water needs for the future residents of Mecca expansion and extension of existing services will need to be designed and constructed.	The Project will accommodate future logical development activity in the Mecca area. Several years ago the County of Riverside was engaged in a process to update its general plan to reflect future development needs. That effort was stalled due to the County's lack of funding. Notwithstanding, the land owners in the immediate vicinity of Mecca have participated in all community planning activities and expect that any future expansions of the Mecca community would include those adjacent parcels. This objective is further supported by the recent and future capital investments made by the County, including the new library, fire station, commercial center, the soon to be constructed boys and girls club and the future grade separation at 66th street, allowing residents of Mecca to travel safely over the railroad tracks on their way to the new K-12 school at 66th and Tyler.
251	Surface Water Treatment Study	City of Coachella Water Authority	Potential water treatment plant would be located approximately 3 miles east of downtown Coachella, near the Coachella Canal.	The project will include development of a Surface Water Treatment Study to recommend a capital improvements plan for a new water treatment plant that treats canal water from the Coachella Canal to potable water standards. Water demands in the eastern part of the City of Coachella are planned to increase in the long-term future, and surface water treatment may be a viable and cost-competitive alternative to groundwater.	The project will include development of a Surface Water Treatment Study to recommend a capital improvements plan for a new water treatment plant that treats canal water from the Coachella Canal to potable water standards.	This project will include development of a Surface Water Treatment Study, including: 1. Tabulate the current and projected City-wide potable water demands and supplies over a 30-40 year time horizon. 2. Perform a source water characterization of Canal water delineating water quality and treatability characteristics. 3. Develop siting and process alternatives for a water treatment plant. 4. Evaluate alternatives based on economic and non-economic factors and select preferred alternative. 5. Develop projected capital and life-cycle costs for the preferred alternative. 6. Prepare capital improvements and phasing plan for water treatment plant and future expansion of City water distribution system.

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252	Stormwater Master Plan	City of Coachella Water Authority	the area contained within the City limits of Coachella	The City of Coachella is a low-lying area situated below sea level and is subject to flooding on a regular basis. The project will develop a stormwater improvement master plan that will establish a program of capital improvement projects to reduce flooding, provide stormwater detention, and route stormwater to the Whitewater Channel, which is the regional conduit that drains stormwater runoff from the Coachella Valley into the Salton Sea.	This project will include development of a stormwater master plan to establish a capital improvements program for stormwater projects that will mitigate flooding issues.	The project will include development of a stormwater master plan, including: 1. Summary of existing storm water management system, storm drain gravity and pumping network, and synopsis of existing problems with flooding. 2. Stormwater runoff and flood routing hydraulic analysis to identify existing system deficiencies. 3. Development of stormwater conveyance, pumping, and detention alternatives to correct system deficiencies; development of a stormwater BMP (including stormwater quality) program to complement permanent facilities 4. Identification of preferred alternative based on cost and non-economic factors. 5. Prepare capital and life cycle cost estimates for the preferred alternative. 6. Prepare a schedule for the various implementation phases of the preferred alternative. 7. Summarize potentially available funding sources.
253	Recycled Water Feasibility Study	City of Coachella Water Authority	The source of recycled water and location of tertiary treatment would be the Avenue 54 Wastewater Treatment Plant on Avenue 54 just west of the Whitewater Channel. The recycled water would be to an array of locations throughout City of Coachella, City of Indio, City of La Quinta, and other unincorporated parts of Riverside County.	The project will include development of a recycled water feasibility study to provide tertiary wastewater treatment at the Avenue 54 Wastewater Treatment Plant in the City of Coachella and implement a recycled water distribution system that will distribute recycled water to public and private entities for landscape irrigation, industrial use, groundwater recharge, agricultural in-lieu exchanges with groundwater and canal water, and habitat revitalization.	This project will include development of a recycled water feasibility study to provide tertiary wastewater treatment in the City of Coachella and recycled water to a variety of in-City uses and outside customers.	Project Description: The project will include development of a recycled water feasibility study, including: 1. Define the existing and projected quantities of secondary effluent available for tertiary treatment and recycling over a 25 year time horizon. 2. Define the study area and conduct a recycled water market assessment which defines potential recycled water users, quantifies estimated demand for those users, summarizes water quality needs, and accounts for on-site retrofits. 3. Describe the latest regulatory framework governed by State mandates and laws concerning recycled water. 4. Develop a plan for low-demand, wet season discharge planning which provides for storage and/or reliable year-round disposal of tertiary effluent. 5. Develop and compare alternatives for tertiary



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						<p>treatment technologies to implement at the existing Avenue 54 Wastewater Treatment Plant. 6. Short-list viable alternatives which represent various combinations of treatment and recycled water distribution for use within CWA's service area and outside CWA's service area. 7. Document an alternatives selection process in which a preferred alternative is identified. 8. Describe the facilities required for the preferred alternative and develop a timeline for installation of the new facilities. 9. Prepare a capital and life-cycle cost estimate for the preferred alternative. 10. Delineate necessary environmental documentation, interagency agreements, operating permits, market assurances, and financing requirements.</p>
254	Short Term Arsenic Treatment Program	Pueblo Unido	Valley wide Program with focus on the east valley	<p>The Coachella Valley has long endured lack of critical infrastructure, specifically, drinking water for farmworker and low-income families. High levels of arsenic that is geologically (naturally) occurring in the underground source, represents an alarming unhealthy conditions for the residents, and an urgent need for immediate technical solutions.</p> <p>Farmworker families have enabled our local agricultural industry to be one of the few that have remained strong despite our challenging economy. According to the 2008 Riverside County Agricultural Report the industry made a new profit record of 1.3 billion dollars. It also sustains our food system, and provides an enormous support for our local and regional economies. Despite this significant contribution, our communities are still plagued by pervasive poverty and lack of basic infrastructure.</p> <p>The large majority of farmworker and low-income families live in Polanco mobile home</p>	Provide short term implementation of treatment for Arsenic contamination of waters that are not readily connectable to municipal systems. Point of Entry and Point of Use systems are proposed.	<p>The CVATP envisions short term projects and long term connection projects. The long term connection projects are presented in other projects entered into the database. This project description focuses on short term projects primarily point of entry and point of use treatment for arsenic. These systems also reduce hardness, nitrates and other contaminants, if present. These systems have been implemented in the Coachella Valley; they are effective and have low operating costs. These systems are most appropriate for areas that will not be connected to municipal supply in the next 5 years. Further evaluation in the work plan will evaluate the locations, timing and type of system.</p> <p>Pueblo Unido CDC will be coordinating the development and implementation of this program under its existing Agricultural Worker Housing Rehabilitation Program (AWHRP).</p>

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				<p>parks (up to 12 units), and in fewer large mobile home parks with an onsite well. Generally, these wells are permitted and logged with the Riverside County Environmental Health Department and the Coachella Valley Water District. A program for arsenic treatment in the Coachella Valley is needed to address the long and short term needs for provision of safe drinking water to rural and remote areas of the valley. Our experience working with this geographical area indicates us that the best viable solution in providing drinking water can be addressed using two main approaches: a) municipal service for cluster communities near to existing water supply systems or in the path of development, and decentralized system to service remote agricultural communities where municipal service is financially unfeasible. This program is not intended to replace municipal service but to provide water quality improvements to disadvantaged communities who cannot be served by municipal services. The program outlined here is focused on the short term projects patterned</p>		<p>AWHRP provides technical assistance and training to farmworker and low-income families to improve the existing infrastructure and bring the Polanco parks up to Riverside Code compliance. The scope of the work includes engineering redesign, redevelopment of domestic water distribution, fire suppression, waste water and electrical system, and road improvements. Additionally, the program has training and education component that consists of helping farmworker families understand the proper monitoring of the quality of the water and functioning of decentralized wastewater systems. The proposed CVATP will be an outstanding resource and it will effectively fit -as a critical component- of the AWHRP. AWHRP examples of currently redevelopment projects include St. Anthony of the Desert that is effectively operating 1500 gallons per day point-of-entry, and three Polanco parks that will require point-of-use systems.</p>
254	Sunbird Mobile Home Park Septic to Sewer Conversion	Coachella Valley Water District	Sunbird Mobile Home Park is located west of Harrison Street, on Echols Road, between Avenues 64 and 66 in Thermal, California.	<p>The purpose of the sewer pipeline project is to provide sewer facilities to the Sunbird Mobile Home Park (Sunbird) in order for Sunbird to discontinue it's use of a septic system. The project will provide a permanent solution to reducing the amount of nitrates, bacteria, viruses and Total Dissolved Solids (TDS) migrating towards the aquifer, which is the source of the drinking water supply for the Coachella Valley region. This is a groundwater non-point source pollution reduction project providing sewer improvements in Thermal to protect drinking water in the Coachella Valley.</p>	<p>Sunbird Mobile Home Park is located in the community of Thermal and uses a septic system for sewage disposal. There are approximately 86 units and one community center located on 10 acres. This project would provide sewer facilities to the mobile home park so that the septic system could be eliminated.</p>	<p>The proposed project involves installing approximately 13,000 linear feet of 8-inch and 10-inch diameter gravity sewer pipeline and installing capacity upgrades to CVWD's existing Lift Station 55-21 to serve approximately 86 units and one community center. The proposed gravity sewer pipeline would extend from Sunbird Mobile Home Park, east along Echols Road, to Harrison Street. It would then continue south along Harrison Street to Avenue 66, continue east on Avenue 66 and connect to an existing sewer in Polk Street. The Polk Street sewer pipeline conveys flows to CVWD's lift station 55-21 then eventually to CVWD's Water Reclamation Plant 4 on Fillmore Street via an 18-inch diameter force main. The project will provide a</p>

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						<p>permanent solution to reducing the amount of nitrates, bacteria, viruses and Total Dissolved Solids (TDS) migrating towards the aquifer, which is the source of the drinking water supply for the Coachella Valley region. This is a groundwater non-point source pollution reduction project providing sewer improvements in Thermal to protect drinking water in the Coachella Valley.</p>
255	Irrigation Pipeline Replacements	Coachella Valley Water District	<p>The irrigation pipeline projects are located in the agricultural area of the Eastern Coachella Valley (Avenue 66 between Van Buren and Harrison Streets and Polk Street/Avenue 52 area).</p>	<p>The Irrigation Pipeline Replacement project is necessary to prevent wasteful irrigation practices and to ensure that limited Colorado River supplies are efficiently used to meet demand and to help reduce the burden on the overdrafted Coachella Valley groundwater basin. Replacing leaking irrigation pipelines will provide a source of supply for municipal treatment of Colorado River Supplies.</p>	<p>The Irrigation Pipeline Replacement program will prevent wasteful irrigation practices by replacing approximately 6,800 feet of existing, leaking irrigation pipelines to ensure that limited Colorado River supplies are efficiently used to meet demand and to help reduce the burden on the overdrafted Coachella Valley groundwater basin.</p>	<p>The project involves replacing the following four irrigation pipeline sections to reduce leaks and wasteful irrigation practices:</p> <ol style="list-style-type: none"> <li>1. Lateral No. 123.45-6.0, phase 2. Replace 1,320 feet of an existing 12-inch diameter concrete pipeline with a new 12-inch diameter polyvinyl chloride (PVC) pipeline. The irrigation pipeline begins 1,320 feet west of Harrison Street and extends north 1,320 feet.</li> <li>2. Lateral No. 123.45-6.0, phase 3. Replace 1,350 feet of an existing 12-inch diameter concrete pipeline with a new 12-inch diameter polyvinyl chloride (PVC) pipeline. The irrigation pipeline connects to Lateral No. 123.45-6.0, phase 2 and extends east 1,350 feet to Harrison Street.</li> <li>3. Lateral No. 102.3, phase 1. Replace 1,500 feet of an existing 20-inch diameter concrete pipeline with a new 24-inch diameter polyvinyl chloride (PVC) pipeline. The irrigation pipeline begins approximately 2,600 feet west of Fillmore Street and extends another 1,500 feet to the west along Avenue 52.</li> <li>4. Lateral 102.3, phase 2. Replace 2,640 feet of an existing 16-inch diameter concrete pipeline with a new 12-inch</li> </ol>

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						diameter polyvinyl chloride (PVC) pipeline. The irrigation pipeline connects to Lateral 102.3-6.0, phase 1 and extends south another 2,640 feet.

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256	Mid-Valley Pipeline, Phase 2	Coachella Valley Water District	The Project includes constructing connections from the Mid-Valley Pipeline to up to three golf course developments. The golf courses may include Desert Horizons in Indian Wells, The Lakes Country Club in Palm Desert, Marriott Shadow Ridge in Palm Desert and Chaparral Country Club in Palm Desert.	This project is a continuing effort to have Coachella Valley golf courses use an alternate water supply (i.e., recycled water and/or Colorado River water) rather than pump their water supply from the overdrafted Coachella Valley aquifer via private wells. The Coachella Valley aquifer is annually overdrafted by approximately 100,000 to 150,000 acre-feet per year. If non-potable water is made available to golf courses in lieu of groundwater, the overdraft could be significantly reduced. The sources of non-potable water available for golf course irrigation include recycled municipal effluent and Colorado River Water. The Mid-Valley Pipeline Final Concept Paper by GEI Consultants, October 2005, identified 50 golf courses that could be served by a non-potable distribution system which would provide recycled municipal effluent from CVWD's Palm Desert Water Reclamation Plant No. 10 and Colorado River water from the Coachella Canal.	The Mid-Valley Pipeline is a proposed non-potable water distribution system to provide recycled municipal effluent and Colorado River water for golf course irrigation in lieu of groundwater. There are over 100 golf courses in the Coachella Valley using an average of approximately 1,000 AFY each. This project involves connecting up to 4 golf courses, which could reduce demand on ground water by approximately 4,000 AFY annually.	The Mid Valley Pipeline is a non-potable water distribution system designed to convey recycled water and Colorado River water to Golf Courses for irrigation in lieu of groundwater. This is a multi-phase project estimated at a total cost of approximately \$75 million. Phase 1 is complete and consists of a booster station at the Coachella Canal in Indio, approximately 7 miles of 54-inch pipeline along the Whitewater River Stormwater Channel, and 90 acre-feet of storage reservoirs at CVWD's Water Reclamation Plant No. 10 (WRP 10). Phase 1 pumps Colorado River water from the canal to the existing WRP 10 recycled water distribution system which serves 8 golf courses. Colorado River water augments the recycled water supply in summer months when golf course irrigation demand exceeds recycled water supply. Phase II is estimated to cost \$2 million and consists of expanding CVWD's WRP 10 distribution system to serve 4 golf courses with an average demand of 1000 AFY each. Additional phases are proposed to be developed to ultimately connect up to 50 golf courses to the Mid-Valley Pipeline.
257	Shady Lane Sewer Improvement Project	City of Coachella Water Authority	Project is located south of 54th Avenue and east of Shady Lane near the address of 54596 Shady Lane, Coachella, CA. Project is in the sphere of influence of the City's wastewater collection system. Project service area represents an 8.8 acre underserved	Wastewater effluent from project community is collected onsite by failing septic tanks. Failing septic tanks compromise the integrity of an onsite private well, which decreases quality of the community's only potable water supply.	Proposed project connects 86 disadvantaged households to the City's existing wastewater collection system and abates failing onsite wastewater disposal systems. Project provides effluent for expanded nonpotable water reuse.	Proposed sewer improvements include installation of approximately 3,300 linear feet of 8-inch diameter gravity sewer main, approximately 500 linear feet of 4-inch diameter force main, approximately 14 manholes, and 86 lateral service connections with a diameter of 4 inches. Wastewater will flow by gravity westerly in the community towards Shady Lane, and then northerly to south of 54th Avenue. A new manhole in Shady Lane immediately south of 54th Avenue will serve as a wet well for sewer pumps to lift the flow through a short force main to a new manhole installed in the

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			mobile home community of 86 lots.			existing sewer main in 54th Avenue.
258	Coachella Water Conservation Program	City of Coachella Water Authority	Within the city limits and sphere of influence of the City of Coachella.	<p>The 20x2020 Plan determined that California residents need to reduce the amount of water each person uses per day (i.e., per capita daily consumption) in order to continue to have enough water support the growing population. This reduction of 20 percent per capita use by the year 2020 is supported by legislation passed in November 2009 (SBx7-7 Steinberg) and has been incorporated into the Urban Water Management Planning act. To comply with the 20x2020 Plan, the Urban Water Management Planning Act requires that water suppliers calculate a baseline water use and baseline reduction targets of 10 percent by 2015 and by 20 percent by 2020.</p> <p>Assembly Bill (AB) 1420 further amended the Urban Water Management Planning Act to condition eligibility for water management grants and loans on implementing fourteen demand management measures (DMMs) listed in Water Code Â§10631(f). These DMMs correspond to the fourteen best management practices (BMPs) listed and described in the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU).</p>	The Coachella Water Conservation Program is a multifaceted program consisting of a suite of conservation programs and activities designed to increase efficiency, reduce future water demand, and assist the City of Coachella in meeting the requirements of the 20x2020 Plan.	The Coachella Water Conservation Program is designed to bring water conservation activities to an accessible level to a wide range of constituents throughout the region, through outreach, water audits, and various mechanisms to assist in implementation of water conservation methods.

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259	Drinking Water Hexavalent Chromium Removal Demonstration on Facilities	Coachella Valley Water District	<p>The project request includes work to identify representative locations within the Whitewater River (Indio) and Mission Creek Subbasins to demonstrate hexavalent chromium (Cr6) removal from community water system sources with variable water quality characteristics found in the Coachella Valley. A source location in Palm Desert, California where pilot testing is occurring is used below.</p>	<p>Hexavalent chromium (Cr6) occurs naturally throughout most of the Coachella Valley at levels above the California public health goal of 0.02 micrograms per liter (ug/L). Approximately one-third of California's monitored community water system drinking water sources with Cr6 levels at or above 10 ug/L occur in the Coachella Valley. California Department of Public Health Services is developing a drinking water maximum contaminant level (MCL) for Cr6 that is expected to be promulgated as early as mid-2014. Historically, California drinking water MCLs become effective when promulgated increasing the likelihood that a large number of community water system sources in the Coachella Valley will exceed the Cr6 MCL until treatment facilities are installed.</p> <p>Bench and pilot testing of Cr6 removal technologies is ongoing at several community water system sources within the Coachella Valley as part of a CVWD and Water Research Foundation funded project (Water Research Foundation Project #4445) to identify effective Cr6 removal technologies and develop a uniform approach to prepare drinking water Cr6 compliance plans. Available information indicates variable water quality characteristics found in Coachella Valley sources can impact the effectiveness of Cr6 removal technologies. Constructing representative Cr6 removal demonstration facilities will facilitate more timely compliance with the pending California drinking water MCL for Cr6.</p>	<p>Complete project siting studies, environmental assessments, design and construction of Cr6 removal demonstration facilities at 5 locations representative of variable water quality characteristics where elevated levels of naturally occurring Cr6 is found in Coachella Valley groundwater.</p>	<p>This project would use the results of ongoing bench and pilot Cr6 removal tests to identify the best available technology for meeting the Cr6 drinking water MCL for variable water quality conditions found in Coachella Valley groundwater sources. Five representative sources would be identified based on regional water quality differences. Environmental assessments and design work would be completed for each site. Cr6 removal facilities would be constructed at each site to demonstrate effective Cr6 removal and supply potable drinking water to local communities.</p> <p>Technologies currently under assessment as part of Water Research Foundation Project #4445 include reduction coagulation filtration (RCF), weak-base anion exchange (WBA), absorption, and strong-base anion exchange (SBA). Different technologies may be needed at representative community water system sources in the Coachella Valley due to the impact of variable water quality characteristics on technology effectiveness. Waste management considerations at each representative site are an important driver in technology selection and developing an effective Cr6 compliance plan.</p> <p>CVWD has constructed three full-scale facilities to remove naturally occurring arsenic from groundwater in the eastern Thermal subarea within the Coachella Valley. These facilities are also effective at removing Cr6 from the unique water quality conditions occurring in this area. Experience gained implementing this arsenic compliance strategy will benefit the project.</p>

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260	Arsenic and Fluoride Wellhead Treatment/Removal Feasibility Study	City of Coachella Water Authority	Project is located within the city limits and sphere of influence of the City of Coachella.		Determine the cost benefit of using activated alumina to treat/remove fluoride and arsenic from all City owned wells.	Project involves development of a study as a byproduct of a regional wellhead treatment pilot program.
261	Non-potable water Use Expansion	Coachella Valley Water District	Easten Coachella Valley within the area known as Improvement Distrcit No. 1 for non-potable irrigation water distribution.	<p>Non-Potable canal water and recycled water are significant water supply sources for the Coachella Valley. One of the underlying principals of Coachella Valley Groundwater Management is to reduce overdraft, by reducing groundwater pumping. This may be achieved by conversion of groundwater pumpers to non-potable water.</p> <p>Agricultuire accounts for approximately 70% of the water use in the Coachella Valley. About 20 percent of that demand or 66,000 AFY is supplied by groundwater pumping. In addition at least 9 golf courses in the eastern Coachella Valley use and estimated 9,000 AFY of groundwater.</p> <p>This project will provide funding incentives for major groundwater pumpers in the eastern Coachella Valley to connect to the existin non-potable irrigation system and discontinue groundwater use.</p>	Identify major groundwater pumpers with access to existing non-potable irrigation system and connect them to the irrigation system so that they are no longer dependent on groundwater which is currently in overdraft. Pumpers who will be targeted for conversion are mostly agriculture and golf whos water supply needs are limited to non-potable water supply.	CVWD recently connected two farming groups to canal water for a total savings of almost 10,000 afy. A third location of expansion of canal water delivery is the Oasis area which did not receive canal water when the original irrigationsystem was constructed by the Bureau of Reclamation. In addition agriculture exists within the Cities of Coachella and Indio that could be converted from groundwater to canal water.
262	Environmen tal Justice and Equity Through Water Pollution Prevention in Eastern Coachella Valley	The Esperanza Youth and Family Center	The project will be implemented in the cities of Coachella, Thermal, Oasis, and Mecca.	From our community involvement in environmental justice work in Eastern Coachella Valley, there are appears to be a high concentration of water pollutants that are being released at high concentration in the drinking water of Eastern Coachella Communities. The most frequent water pollutants found are arsenic, chromium-6 and nitrates water pollutants. Arsenic is a dangerous water pollutant that can cause increase risks of cancer in the skin, lungs, bladder, and kidney as well as other skin changes such as hyperkeratosis, and pigmentation changes. In the case of chromium-6, the EPA has proposed to classify	The principal objectives of the project are to provide scientific documentation to support the need for reduced pollution of water in environmentally burdened areas; as well as the need to foster partnerships that involve meaningful open dialogue between local government officials and industrial facility and community representatives. The program will also have a community based component with the Environmental Youth	Our program seeks to develop an educational program about the health effect of water contamination in the health of residents living in Easter Coachella Valley. Our program will develop a community survey to gather information about residentsâ€™ knowledge, attitudes, beliefs, practices, behaviors, and concerns about water pollution. The survey will be distributed the first four months to residents living in identified areas of water pollution in Eastern Coachella Valley. In addition, we will gather community concerns through interviews with residents, local officials,



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				<p>chromium-6 as a likely carcinogenic to humans when ingested. Moreover, humans are subject to nitrate toxicity, with infants being especially vulnerable to methemoglobinemia. Methemoglobinemia can lead to generalized lack of oxygen in organ tissue due to nitrate metabolizing triglycerides present at higher concentrations than at other stages of development. Methemoglobinemia in infants is known as blue baby syndrome. According to permitting data, there are 24 permitted water systems in East Coachella Valley that exceed the maximum containment levels for arsenic, and there could be over 100 unpermitted water systems exceeding these allowable arsenic levels and other pollutant water contaminants.</p> <p>This information is important and beneficial to both the environmentally-burdened community members in East Coachella Valley and industrial and agricultural representatives and community representatives because it provides the scientific documentation that supports the need to reduce pollution at the source by reducing these water pollutants.</p>	<p>Alliance of the Eastern Coachella Valley, in which high school teen volunteers study environmental water issues related to the water pollution of Eastern Coachella Valley. The program stresses interaction with community members, and community groups, as well career development for teens. The purpose of the partnerships would be to use educational information to find innovative approaches in regards to water pollution of these communities that would be incorporated into the CVRWGMG water plan.</p>	<p>and government agency staff. Other measures include local media coverage, community meetings, and community forums. Furthermore, we will compile and Environmental Health Education and Water Pollution Needs Assessment that includes environmental investigation, information about cancer, and other health concerns, community survey results, conclusions and recommendations, site maps, fact sheets, photographs, and table. Finally, we will develop an educational program covering the following important aspects: 1) The health effects of water contamination in Eastern Coachella Valley, 2) Exacerbation of existing health conditions in Eastern Coachella Valley, 3) Psychological effects of water contamination in Eastern Coachella Valley, 4) Start the process to develop a Water Pollution Prevention Plan for Eastern Coachella Valley underserved communities.</p> <p>Our program will start the process to develop a Water Pollution Prevention Plan for Eastern Coachella Data taking in consideration the research we performed in the initial months of the project. The program will look for additional sources of funding to develop a Water pollution Prevention Plan for Eastern Coachella Valley. The program will reserve space/conference rooms at local community organizations recommended by community members. These conference rooms will be utilized in the performance of the Environmental Forums. After collecting and analyzing the</p>

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263	Avenue 64 at Dyke 4 Recharge Water Prooject	Torres Martinez DCI	Avenue 64 and Dyke 4 Recharge area.	<p>These 33 homes, a church with 50 parisioners, a park, a ball field and a cemetary are receiving discharge water from the Colorado River recharge project and there is no way to blend the water. Bottled water has been delivered for 10 years due to the levels of contaminants in the water.</p> <p>The homes are virtually receiving raw Colorado River water due to the recharge from CVWD (Coachella Valley Water District). Currently the TDS is off the charts high and the Ammonium Perchlorate is at a 6.9 level. No water treatment is provided except maintenance of a chlorine residual for disinfection. The bacjkup well also functions in a basic way. It is only operable manually; there are no automatic controls. It is not disinfected when it is operated - it pumps directly into the old water storage tank with no chlorine injection. There is no flow meter, and the well is not vented.</p> <p>Water Outages; The Tribe reports water outages several times per month. The community is served by ground - level water storage tanks, which provides pressure to the system with booster pumps and a hydropneumatic tank. There is no gravity fed water supply. There is no single cause for the water outages. Sometimes they are related to power surges or loss of commerical power. Sometimes they are related to failure of the booster pumps or failure of the primary well pump (currently offline).</p> <p>The recurring water outages are not only an invonvenience to homeowners in the subdivision; they represent a real risk to human health. When a water system has an outage and loses postive pressure, groundwater, drainage water, or sewer collected near water pipes can infiltrate into the water distribution system. Given the failing septic systems in the community there</p>	<p>The homes will be hooked up to an existing water line provided by Coachella Valley Water District at the Avenue 62 water trunk. This water is filtered and blended. This project will eliminate virtually raw Colorado River water into the homes. Because it is sitting on a recharge site, there is no way to eliminate the contaminates. The ammonium perchlorate was recently tested and the results were at 6.9 ppb exceeding California State Standards.</p>	<p>The homes will be hooked up to an existing water line provided by Coachella Valley Water District at the Avenue 62 water trunk. This water is filtered and blended. This project will eliminate virtually raw Colorado River water into the homes. Because it is sitting on a recharge site, there is no way to eliminate the contaminates. The ammonium perchlorate was recently tested and the results were at 6.9 ppb exceeding California State Standards.</p>

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				<p>is a good chance that raw sewage can infiltrate into the water distribution system.</p> <p>This is a 100% Tribal project.</p>		
264	Torres Martinez Sewer Extension Project Avenue 64	Torres Martinez DCI	Avenue 64 and Dyke 4 Recharge Area - Thermal Subbasin	This housing community sits directly adjacent to the Dyke 4 recharge area and needs to be taken off of septic tanks and put onto the adjacent nearby sewer connections.	This project will take 30 homes off of septic tanks that have regular septic failures and hook them up to a reliable sewerage line operated by the Coachella Valley Water District. This is crucial because these homes are located at the head of the watershed to the valley where CVWD has a recharge project that supplies the lower valley drinking water, agricultural water and commercial usage.	<p>This project will take 30 homes off of septic tanks that have regular failures and hook them up to a reliable sewerage line operated by the Coachella Valley Water District. This is crucial because these homes are located at the head of the watershed to the valley where CVWD has a recharge project that supplies the lower valley drinking water, agricultural water and commercial usage.</p> <p>This project would be located entirely on Torres-Martinez tribal lands, and would serve tribal members.</p>
265	Groundwater Quality Protection Project - Sub-Area D2	Mission Springs Water District	The project is located within the Northeast portion of MSWD's service area, more specifically, North of 8th Street, East of Cactus Drive, West of Bernardo Way and South of 16th Street.	Eliminate septic tanks that threaten contamination of groundwater supplies, by expansion of MSWD wastewater collection system and wastewater treatment plant. Protect hot mineral water which is the economic basis of the community's spa industry.	Complete construction of wastewater collection system in Assessment District 12 Sub Area D2 which will connect 564 parcels to the MSWD system and abate 382 on-site septic systems.	Area D2 is part of a larger assessment district, which voters passed in 2004. In creating the Assessment District, voters provided \$28 million of match funding which expires in 2014. Engineering design of the 10 sub areas that make up the assessment district is complete and funds are needed for construction. The project will abate septic systems and protect both the drinking water supplies and the hot water that is the basis of the spa economy for the city of DHS and the Coachella Valley. In some parts of the city, the septic tank density is 2.3 to 2.8 times the density recommended by the Regional Water Quality Control Board.
266	Groundwater Quality Protection Project	Mission Springs Water District	MSWD Service Area	Eliminate septic tanks that threaten contamination of groundwater supplies, by expansion of MSWD wastewater collection system and wastewater treatment plant. Protect hot mineral water which is the economic basis of the community's spa industry.	Complete construction of wastewater collection system in Assessment District 12 Sub Areas A, G, H, I, J, and K which will connect 2,700 parcels to the MSWD system and abate over 1,200 on-site septic systems.	Areas A, G, H, I, J, and K are part of a larger assessment district, which voters passed in 2004. In creating the Assessment District, voters provided \$28 million of match funding which expires in 2014. Engineering design of the 10 sub areas that make up the assessment district is complete and funds are needed for construction. The project will abate septic systems and protect both the

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						drinking water supplies and the hot water that is the basis of the spa economy for the city of DHS and the Coachella Valley. In some parts of the city the septic tank density is 2.3 to 2.8 times the density recommended by the Regional Water Quality Control Board.
267	Well Replacement	Mission Springs Water District	The project is located in the Northwest portion of MSWD's service area, more specifically, near the intersection of Little Morongo Avenue and Pierson Boulevard.	MSWD is experiencing uranium contamination in concentrations greater than 20 pCi/L in the northerly portions of its service area. As such, MSWD has limited production from Well 28 and placed it on standby.	Well 42 will replace lost capacity at Well 28 due to uranium contamination.	Drill replacement well.
268	Little Morongo Regional Wastewater Treatment Plant	Mission Springs Water District	The project is located within the Southeast portion of MSWD's service area, more specifically along the West side of Little Morongo Road, between 19th Avenue and 20th Avenue.	The proposed project will eliminate septic tanks that threaten contamination of groundwater supplies, by the implementation of a new assessment district, expansion of MSWD wastewater collection system, and the construction of a Regional Wastewater Treatment Plant. The RWWTP is needed to for existing facilities and to prepare for proposed industrial and commercial developments in the area.	The proposed project will include the design and construction of a 1.0 MG Regional Wastewater Treatment Plant. At this time, funding is requested for the design phase of the RWWTP.	MSWD has identified a 2.3 square mile area, located off I-10 Freeway and Indian Canyon Drive, to be part of a new sewer assessment district in order to eliminate on-site sewer disposal systems and construction of a Regional Wastewater Treatment Plant. The creation of the Assessment District will provided future match funding to complete the proposed project and wastewater collection system. Feasibility studies has been completed for the RWWTP and the District is moving forward withj plant design.  The project will abate septic systems and protect both the drinking water supplies and the hot water that is the basis of the spa economy for the city of DHS and the Coachella Valley. In some parts of the city, the septic tank density is 2.3 to 2.8 times the density recommended by the Regional Water Quality Control Board.

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269	Little Tuscany Sewer Improvements	Palm Springs	In the City of Palm Springs at Milo Drive, Janis Drive, Vista Drive, Palermo Drive and Leonard Road.	<p>The residential subdivision, categorized as a Disadvantaged Community (DAC) of approximately 70 homes, located South of Racquet Club and West of N. Palm Canyon Drive on the lower portion of the Chino Cone is without a public sewer system. These homes continue to operate on privately owned septic systems. With many homes constructed 30 to 40 years ago, some septic tanks have failed. Given the rocky terrain, finding suitable replacement leach fields for septic systems can be difficult. Over the long term, impairment of groundwater quality exists due to the potential for septic systems to fail and wastewater to percolate into the water table. Providing public sewers to these homes will allow property owners to connect directly to a publicly maintained sewer system, and avoid the problems associated with poorly maintained or failing septic systems, where untreated effluent is leached directly into the ground potentially contaminating groundwater. By capturing and containing the additional wastewater from this community, the City can effectively provide better assurance of water quality for the region and increase the amount of effluent available for recycling.</p>	<p>Installation of approximately 4,200 linear feet of public sewer system with lateral connections up to the property line to approximately 70 homes converting privately maintained septic systems to a publicly maintained sewer system. The project is located along the streets of Milo Drive, Janis Drive, Vista Drive, Palermo Drive and Leonard Road giving residences of this area the ability to directly connect to a public sewer.</p>	<p>Construction of 8" V.C.P. with 4" laterals up to property lines connecting to the City of Palm Springs public sewer system within the 70+ enclave of homes commonly referred to as "Little Tuscany", located on Milo Drive, Janis Drive, Vista Drive, Palermo Drive and Leonard Road. This residential subdivision of approximately 70 homes, located South of Racquet Club Road and West of N. Palm Canyon Drive on the lower portion of the Chino Cone is without a public sewer system. With many homes constructed 30 to 40 years ago, some septic tanks have failed, and given the rocky terrain, finding suitable replacement leach fields for septic systems can be difficult. Over the long term, impairment of groundwater quality exists due to the potential for septic systems to fail and wastewater to percolate into the water table. Installation of public sewers to these homes will allow the properties to connect directly to a publicly maintained sewer system.</p>

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270	1. Project Title: Pierce Community Infrastructure - Sewer Sanitary Collection System (North)	Pueblo Unido CDC	The proposed project is located south of Avenue 66 and north of Avenue 70 in the Oasis Community, in a portion of Section 21, Township 7 South, Range 8 East, San Bernardino Base and Meridian (See Figure 1)	Existing mobile home parks in the community of Oasis along Pierce Street, typically utilize individual on-site wastewater facilities that are inadequate and do not meet current minimum standards and are in need of replacement. The presence of high groundwater and poor percolation rates in the vicinity, can negatively impact the operation of an onsite wastewater treatment system, especially when shallow groundwater wells are used. The elevated groundwater can cause the system to fail and significantly degrade the surrounding groundwater quality that is the mainstream use for drinking water. CVWD analyzed water quality data from wells and found the water quality in the area indicate high levels of arsenic, fluoride, TDS, and nitrate. The project's connection to the CVWD's wastewater collection system ensures public health, preserves valuable water resources and diminishes the possibility for ground water contamination.	CVWD's Water Reclamation Plant No. 4 located north of the existing community has adequate capacity to provide for the generated flows of the proposed project as well as existing customers. Once the proposed wastewater facilities are constructed they will be transferred to CVWD. CVWD will own, operate and maintain the onsite and off-site sewage collection system. CVWD provides sanitation (wastewater) service to approximately 100,000 customers. CVWD's wastewater system includes six water reclamation facilities, 35 lift stations, 150 miles of sewage force mains and 1,101 miles of gravity sewer main lines. A monthly sanitation charge will support ongoing operation and maintenance expenses.	Funding for the proposed project will cover construction costs to provide sewer sanitary collection system to existing mobile home parks in the vicinity and address the substandard septic systems, and sewage lagoons. Construction: 1. 2,640 feet of 8-inch gravity sewer line from Oasis Park easterly along Avenue 70 to Pierce Street 2. 5,270 feet of 12-inch gravity sewer from the intersection at Avenue 70 and Pierce Street northerly along Pierce Street to Avenue 68, connect to Polancos and Duro mobile home parks at Avenue 68 3. Sewage lift station at the northeast corner of Avenue 68 and Pierce Street 4. 5,200 feet of 6-inch sewer force main from the lift station northerly along Pierce Street to Avenue 66 5. 1,000 feet of sewage force main from Pierce Street and Avenue 66 to CVWD's 10-inch force main at the Coachella Valley Stormwater Channel. The existing force main will transfer the sewage to WRP-4

Project Id	Project Title	Organization	Describe Project Location	Describe Need for Project	Project Summary	Project Description
271	San Antonio del Desierto - Sewer Sanitary Collection System Extension	Pueblo Unido CDC	The existing San Antonio del Desierto (St. Anthony Trailer Park) consists of a 95 unit mobile home park serving farm worker and low income families. It is located on a 32-acre site at 67-075 Highway 111 just south of the unincorporated community of Mecca, east of Lincoln Street, and North of Avenue 68th.	The main purpose of this project is to replace the existing substandard onsite wastewater lagoons system at the site and provide sewer sanitary system to the residents. Currently, the wastewater lagoons are in close proximity with the existing park creating an environmental health issue for the residents. Additionally, the lagoons are out of the property boundaries which add an ownership conflict in providing sewer sanitary services. The project has an approved Conditional Use Permit which requires as condition of approval to connect to the Coachella Valley Water District force main located about 5,200 feet north of the existing mobile home park within two years after CUP's approval. Additionally, the conditions of approvals include the abandonment of existing sewer lagoons.	CVWD's Water Reclamation Plant No. 4 located west of the existing mobile home park has adequate capacity to provide for the generated flows of the proposed project as well as existing customers. Once the proposed wastewater facilities are constructed they will be transferred to CVWD. CVWD will own, operate and maintain the onsite and off-site sewage collection system. CVWD provides sanitation (wastewater) service to approximately 100,000 customers. CVWD's wastewater system includes six water reclamation facilities, 35 lift stations, 150 miles of sewage force mains and 1,101 miles of gravity sewer main lines. A monthly sanitation charge will support ongoing operation and maintenance expenses.	The project proposes the installation of a gravity sewer pipeline, lift station and a sewer force main pipeline that will collect wastewater from the San Antonio del Desierto which population is about 700 people. The proposed project will provide sewer service to the residents and transfer the wastewater to the Coachella Valley Water District (CVWD) Water Reclamation Plant No. 4 (WRP-4). The proposed pipelines will be installed within the road rights-of-way along Lincoln Street. The gravity sewer pipeline begins at the San Antonio del Desierto & Lincoln Street and extends southerly to the intersection of Avenue 68 connecting to the proposed lift station on a half-acre site within the intersection of Lincoln Street and Avenue 68. A sewer force main pipeline will extend from the lift station northerly along Lincoln Street to Avenue 66 and connect to an existing 18-inch sewer force main pipeline, located at the intersection of Avenue 66 and Lincoln Street Pierce Street (east of the Coachella Valley Storm Water Channel) which ultimately connects to WRP-4.
272	Cathedral City South City Improvement District (SCID) Groundwater Protection Project	City of Cathedral City	Coachella Valley Water District (CVWD) Service Area:  The project is within four (4) Disadvantaged Neighborhoods within the City of Cathedral City South City Improvement District area: 1. Square Mile 2. Whispering Palms, 3. Corregidor, and 4.	The Cathedral City South City Improvement District Groundwater Protection project will improve regional groundwater quality by providing design and engineering for a sewer system that will ultimately eliminate the use of 450 aged, on-site septic systems within four disadvantaged neighborhoods in Cathedral City. Over the past 15 years, the City of Cathedral City has initiated and successfully implemented similar groundwater protection projects to permanently eliminate over 3,000 aged septic systems. The South City area is the last remaining 'unsewered' areas within Cathedral City.  Cathedral City needs \$397,000 to match a	Cathedral City South City Improvement District (SCID) Groundwater Protection project will protect groundwater in the Coachella Valley by providing design and engineering for 450 aged septic systems to permanently eliminate pollutants within Cathedral City disadvantaged neighborhoods that have had no access to a public sewer system.	The project will provide design and engineering for approximately four miles (23,000 linear feet) of 8" sewer main pipeline at an approximate depth of 8-10 feet with 4" and 6" laterals and manholes within public right-of-way serving 450 homes in Cathedral City disadvantaged neighborhoods that have had no access to a public sewer system.  The California State Colorado River Basin Regional Water Quality Control Board, Region 7 (RWQCB-7) Strategic Plan has stated goals to reduce septic system usage in order to protect area ground water. RWQCB-7 studies have shown

Project Id	Project Title	Organization	Describe Project Location	Describe Need for Project	Project Summary	Project Description
			Sunny Lane.	<p>Federal EPA Grant of \$485,000 that was awarded in 2011 to the South City septic groundwater projection/septic elimination project. The City relied on Redevelopment Agency funds for the required local match; however, due to the State of California's elimination of Redevelopment Agencies, the City has been left with no matching funds. The City's budget is extremely tight and has had to face two rounds of lay-offs in the past two years. Cathedral City is requesting IRWM funding so that the \$485,000 Federal EPA grant will not be lost. Keeping the EPA grant will benefit the disadvantaged neighborhoods in the City, as well as the region.</p>		<p>that effluent from septic systems in Cathedral City neighborhoods is contributing to groundwater quality degradation through high concentrations of Nitrates, Total Dissolved Solids (TDS), Bacteria and Viruses in the groundwater supply within the Coachella Valley underground aquifer.</p> <p>This aquifer is the main source of drinking water for residents in the Coachella Valley in Riverside County. The groundwater from the Coachella Valley Aquifer provides municipal, industrial and agricultural water supply in the region.</p> <p>The project will provide a sewer system to replace the 450 aged and poorly maintained septic systems identified as a source of contamination to the groundwater in the Coachella Valley Underground Aquifer. This project provides consistency with RWQCB-7 Watershed Strategic Plan by permanently removing septic systems in Cathedral City from use, stopping further leach activity in the area, and preventing the release of contaminants into the area's groundwater.</p> <p>This project will lead to a permanent reduction of Nitrate, TDS, as well as bacterial and viral contamination in the area's groundwater and underground aquifer.</p>



## Appendix VI-I: Integrated Flood Management Planning Study

This appendix includes the draft report from the Integrated Flood Management Planning Study conducted as part of the 2014 Coachella Valley IRWM Plan update process.



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COACHELLA VALLEY  
INTEGRATED FLOOD MANAGEMENT  
PLANNING STUDY  
FINAL

January 2014

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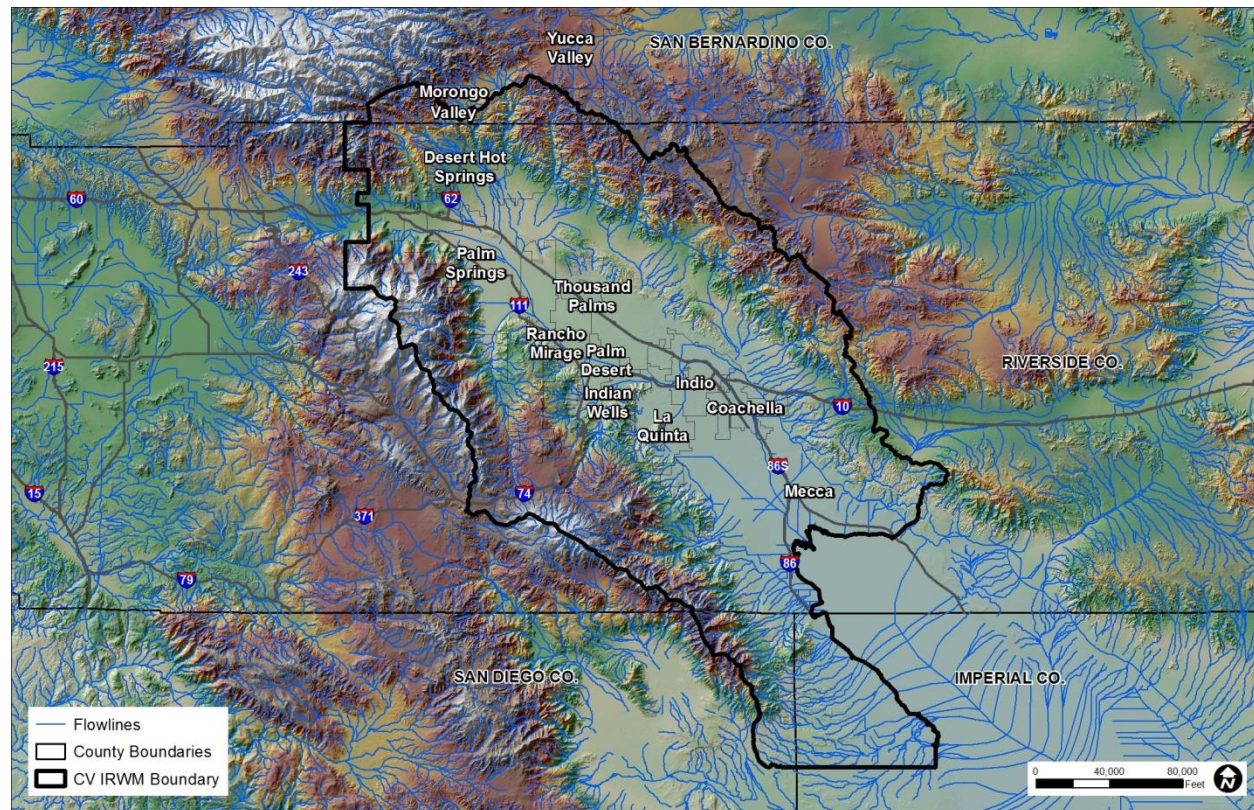
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# 1 Introduction

## 1.1 Background

The Coachella Valley Integrated Regional Water Management (IRWM) region has the potential to experience flooding problems because of the physical features of the area and metrological conditions, which can result in significant losses and economic damages. The desert is conducive to flooding due to unique soil and topography characteristics, winter and summer rainy seasons, and numerous natural washes and channels. During a rainstorm, the normally dry waterways can quickly become raging rivers causing widespread overland flooding when unchecked. The topographic characteristics, as well as the extreme rainfall events for the Coachella Valley, can result in generating floodplain conditions which dominate the existing flood hazards. Figure 1-1 shows the topography of the region.



**Figure 1-1: Coachella Valley IRWM regional drainage patterns and hydrography**

From a meteorological perspective, the occasional high intensity thunderstorms and tropical rainfall events can develop a flashy response from the tributary mountainous watersheds resulting in flash flooding. In addition, the Coachella Valley is surrounded by rugged mountainous watersheds and mouths of steep canyons that have resulted in the formation of numerous alluvial fans. The alluvial fan is one of the primary physiographic features which dominates the flooding

conditions. Regional flood hazards can generally be divided between the (1) alluvial fan and (2) valley floor area, which carries large amounts of debris and sediment as well as unconfined flood flows which undergo unpredictable changes in direction. These physical characteristics, combined with the intense rainfall events, generate flood hazards that are different from conventional riverine floodplains.

Effective floodplain management planning and mitigation of flood hazards is extremely complex with multiple issues and different watershed responses. The Coachella Valley region is comprised of multiple regional watershed units which are unique in their hydrologic responses, as well as their floodplain functions, which lend the flood management planning assessments to a watershed approach. However, flood and stormwater runoff generated from watersheds can also represent a valuable water resource that can be managed successfully, rather than just being typically viewed as a hazard. This *Integrated Flood Management Planning Study* (IFM Study) has been prepared as a companion document to support the addition of multi-benefit floodplain management into the *Coachella Valley Integrated Regional Water Management (IRWM) Plan Update* as a key water resource element in regional water planning. There is not a one size fits all solution, but comprehensive planning is required on a watershed basis to develop an implementable system-wide answer. Integrated Flood Management (IFM) combines land and water resources development in a floodplain, with a view to maximize the efficient use of the floodplains and minimize loss of property and life.

This IFM Study is not a traditional watershed/flood management planning document since it does not provide specific regional flood mitigation projects as a conventional master plan would provide. However, this IFM Study is intended as a “guidance document” to facilitate an integrated water resources approach to flood management and promote this planning technique. This assessment is based on readily available information to perform planning level risk assessment in order to provide high level recommendations. In addition, it defines general applicable strategies, as well as provides planning level tools, to guide flood management decision making. This approach embraces protection of the natural integrity of the floodplain and ensuring that maximum value will be realized from effort to protect life and property. The focus of integrated planning is on balancing the community flood management needs with the environmental constraints and watershed resources. A sustainable flood and water management approach would recognize the:

- Interconnection of flood risk management actions within broader water resources management, ecosystems, and land use planning
- Value of coordinating across geographic and agency boundaries
- Need to evaluate opportunities and potential impacts from a system perspective
- Importance of environmental stewardship and sustainability
- Need for system flexibility and resiliency in response to changing conditions, such as climate change and population growth

## 1.2 Integrated Flood Management Approach

IFM is an approach that varies from traditional flood protection with a focus on maximizing the efficient use and net benefit of a floodplain while promoting public safety. IFM is a process that promotes an integrated, rather than fragmented, approach to flood management, and that recognizes the connection of flood management actions to water resources management. IFM requires the holistic development of a long-term strategy, balancing current needs with future sustainability. Incorporating sustainability means looking to identify opportunities to enhance the performance of a watershed system as a whole.

An integrated strategy usually requires the use of both structural and non-structural solutions. Depending on the characteristic of an individual watershed, various resource management strategies may be used such as: land stewardship, conjunctive water management, conveyance, ecosystem restoration, forest management, land use planning and management, surface storage, urban runoff management, and watershed management. It is important to recognize the level and characteristics of existing risk and likely future changes in risk. Integrated flood management also includes the recognition that flood risk can never be entirely eliminated and that resilience to flood risk can include enhancing the capacity of people and communities to adapt to and cope with flooding.



**Figure 1-2: IFM combines three major areas of watershed planning**

The benefit of using a regional and system-wide approach is that it takes into account a wide range of causes and effects, reducing potential negative unintended consequences in nearby regions. Regional approaches allow for the best use of public resources by increasing the number of issues considered. This also promotes system flexibility and resiliency by developing solutions that provide the best benefit to the overall system or region. In contrast, localized and narrowly focused projects may solve an issue or problem while transferring the problem up or downstream. One of the benefits of using an IFM approach is the potential to access funding sources that might not have

been available to single-benefit projects. This can lead to achieving sufficient and stable funding for long-term flood management.

### 1.3 California Statewide Flood Management Program Study

California Department of Water Resources (DWR) has recently completed the initial phase of a Statewide flood management planning study which is similar in many respects to this flood management planning study for the Coachella Valley IRWM Plan. The database development for this study mirrored the Statewide information process and resulted in the similar database, as well as inventory of issues. The results of the initial Statewide study are available to the public. This report, *California's Flood Future: Recommendations for Managing the State's Flood Risk* (Flood Future Report) presents an overview of the flood threats facing the state, approaches for reducing flood risk, and recommendations for managing California's flood risk. The Flood Future Report is the first statewide report to be developed through collaboration between DWR and the United States Army Corps of Engineers (USACE). This report is the first product of DWR's State Flood Management Planning (SFMP) Program. The SFMP Program was developed under the FloodSAFE Initiative to expand the focus of California's flood management planning statewide in compliance with Public Resources Code (PRC) Section 75032. The SFMP Program was funded under Proposition 84 as part of the DWR FloodSAFE Initiative and IRWM Program.

Both the SFMP and this IFM Study reviewed flood management projects and how these faced increased stakeholder involvement, land use constraints, changing regulatory requirements, and new environmental considerations. These issues have led to an increase in the cost of flood management. Addressing these issues will require a move away from the traditional approach to developing flood management projects. Specific issues impacting flood management projects which were identified and provide a useful background in developing IFM guidance planning include the following:

- **Projects require extensive stakeholder involvement, which increases project planning costs.** Stakeholders have become more educated about project development and environmental requirements. Successful projects require proper engagement of a diverse set of stakeholders. The cost associated with stakeholder engagement activities must be included in planning and implementation costs.
- **Different methodologies and inadequate data make risk assessment complex and costly to complete.** Insufficient data on the specifics of flood hazards in many areas makes it difficult to assess the level of problems. Much of the available data is based on FEMA flood hazard mapping, but this does not identify the chronic flood problems which current on a frequent basis and on smaller storm events other than a 100-year event. In addition, the data related to existing drainage facilities and the original design capacities is not readily available in digital format which makes it difficult to perform rapid assessments at a regional scale.
- **Land use decisions may not adequately prioritize public safety.** Uninformed residents and policymakers can make decisions that inadvertently put people and property at increased risk. In some cases, providing adequate space for flood management facilities to

meet existing and future needs during the development approval process would reduce flooding impacts. Internal and intra-agency coordination is important when local agencies make development decisions. Improving coordination within and between agencies could inform the potential land use decisions to considerations in General Plans, flood managers are not always included in land use discussions.

- **Delayed permit approvals and complex permit requirements are obstacles to flood risk reduction.** Many agencies wait years for permits, resulting in poorly maintained projects and missed funding opportunities for new projects. Often, agencies face conflicting or confusing requirements regarding project permits. Also, regulatory requirements to renew existing permits or obtain new permits frequently require extensive mitigation. This mitigation can greatly increase project costs and cause project delays.
- **Flood management projects are not prioritized from a “watershed” system-wide or multi-benefit perspective.** State and Federal flood management funding has traditionally been provided to local projects by analyzing a narrowly focused and localized set of benefits. In addition, funding levels for flood management are often set without regard to a system-wide prioritization of needs.
- **Flood risk funding as well as long term funding for operations and maintenance.** Funding for flood projects is based upon the potential that a significant flood will occur, rather than providing for day-to-day flood management needs. Inadequate funding for flood management maintenance, operations, and improvements makes flood risk reduction difficult or impossible for many local agencies. Agencies at all levels are facing funding constraints. Local agency funding is often based on available funds, which have been impacted by the economic downturn. Reductions in Federal funding have occurred, resulting in potential reductions in funding levels for flood risk studies and projects

## 1.4 Work Program and Objectives

The objectives of this IFM Study are to (1) develop planning level tools, (2) plan formulation processes, and (3) guidance documentation for regional collaborative planning of watershed and flood risk management using IFM techniques. Developing solutions for effectively managing flood risks requires a “watershed approach” which allows holistic strategies that can also address “beneficial uses” as well as watershed functions. The goal is to provide the forum and guidelines to allow for improved regional flood management planning on a watershed basis, as well as defining the global strategies that can be used by all the watershed stakeholders to form the foundation in developing prospective projects for funding.

This IFM Study is organized as follows:

- (1) Chapter 1 provides an overall introduction to the IFM Study and concepts.
- (2) Chapter 2 explains the flood management database developed for this study.
- (3) Chapter 3 includes a regional assessment of flood hazards.
- (4) Chapter 4 presents information on the watersheds within the IRWM region.
- (5) Chapter 5 provides an overview of IFM guiding principles.
- (6) Chapter 6 provides a general overview of IFM strategies.

(7) Chapter 7 specifies which IFM strategies are appropriate to Coachella Valley.

## 1.5 Watershed Stakeholder Involvement

Stakeholder outreach was performed as part of the study process in order to involve different agencies, community groups, and other watershed stakeholders in the development of the IFM Study. This included the development of the initial feedback on the information database and providing an opportunity to discuss current issues with existing flood hazards, as well as implementation of floodplain management projects. Several workshops were held with interested stakeholders that provided local input, project background, guidance, and specialized technical information. The effort was aimed at developing a strategic plan that will result in understanding watershed guidance needs and flood protection strategy that are compatible with both the physical, political, environmental, and regulatory constraints. The stakeholder workshops were divided into two different periods during the overall study process and included different objectives to solicit input from the stakeholders as well as provide information on the progress of the study:

### **Workshop No.1 – Background /Inventory of Watersheds / Mapping Assessments**

- Logistics – Held on January 15, 2013 at CVWD with 20 stakeholders, including CVWD, Riverside County Flood Control and Water Conservation District (RCFCWCD), Coachella Valley Mosquito and Vector Control District (CVMVCD), Salton Community Services District, Coachella Valley Association of Governments (CVAG), Agua Caliente Band of Cahuilla Indians, and local city representatives
- Topics – Discuss the overall objective of the program and how integrated flood management can be developed and work effectively for the stakeholders. Define the meaning of integrated flood management. Focus discussion will include developing an understanding of the existing flood programs, common issues in each of the different watersheds, obstacles and constraints encountered with flood management, priority flood hazards in the different watersheds, understanding how flood risks are evaluated.
- Feedback – Additional data sources and inventory from the stakeholders, defining lines of communication, understanding the needs within the different watershed for flood management, existing and future planned project for flood management, current flood management planning process.
- Deliverable – Watershed mapping worksheet with mapped flood hazards

### **Workshop No.2 – Review DRAFT IFM Planning Tools / Guidance Document**

- Logistics – Held on September 18, 2013 at CVWD with 15 stakeholders, including CVWD, RCFCWCD, CVMVCD, Salton Community Services District, CVAG, and local city representatives
- Topics – Present the DRAFT Guidance Document which will focus on the planning and the underlying principles and alternative strategies, planning tools, and processed GIS mapping database information.
- Feedback – Input and comments on the DRAFT document

## 2 Flood Management Database

### 2.1 Data Needs

A wide range of data was required to develop a minimum “baseline” database that would assist in developing background and understanding in order to characterize the existing watershed and flooding conditions. The general categories and types of data that were researched as part of the initial baseline included the following:

- **Watershed** – Data related to characterizing the watershed conditions, including hydrologic parameters
- **Hydrology** – Studies and information related to estimates of the surface hydrology quantities and watershed response for different storm events
- **Meteorological** – Information related to the types of rainfall events characteristic of the region and the historical rainfall magnitudes including frequency as well as aerial distribution
- **Flood Control Facilities** – Existing regional flood control facilities within the watershed that have been constructed
- **Urban Drainage Facilities** – Existing local drainage facilities that have been installed
- **Drainage Facility Master Plans** – Watershed plans for proposed drainage facilities
- **Floodplain Mapping** – Studies delineating the existing floodplain boundaries, which define the limits of flood hazards
- **Historical Flooding** – Locations where existing flooding has historically occurred from storm events and locations chronic flood locations
- **Flood Damage Estimates** – Monetary estimates of the amount of flood damage associated with different storm events
- **Geomorphology** – Historical information on landform changes within the watershed and particularly trends for changes within the alluvial creeks of the floodplains
- **Erosion/Sedimentation** – Different erosion/sedimentation processes occurring within the watershed including historical trends related to locations of sedimentation and erosion hazards
- **Biological** – Existing biologic resources and habitat within the floodplain
- **Environmental / Regulatory** – Existing environmental permitting requirements related to restrictions for modifications within the active floodplains

Table 2-1 provides a detailed listing of the data and information collected as part of this planning study.

**Table 2-1: Data and Information Collected**

<b>Flood Hazards / Floodplain Analysis</b>
Historical Flooding Locations / Issues
FEMA Floodplain Mapping / DFIRM
FEMA Technical Backup / Floodplain Models
FEMA FIS (Riverside County)
Floodplain Hydraulic Models (other than FEMA)
<b>Environmental Documentation</b>
Coachella Valley MSHCP documentation
<b>Biology / Wildlife</b>
Plant Community Maps
Critical Habitat Maps
Animal Communities Maps
Riparian Habitat Maps
Prior Reports, Studies, or Data on Biological Resources, Species Occupation & Wildlife Movement
<b>Water Quality</b>
Point Sources
Non-Point Sources
Municipal NPDES Permit
<b>Previous Watershed Hydrology / Hydraulic Studies</b>
Municipal Drainage Master Plans
Development Drainage Master Plans / Hydrology Studies
Flood Control Deficiency Studies
Hydrology Studies – Proposed Developments
Development Drainage Master Plans / Hydrology Studies
Hydraulic Studies – Roadway Bridges / Culvert Crossings
USACE Regional Watershed Studies or Flood Control Planning Studies
<b>Land use</b>
General Plan - land use
Future Land use Plans
Census Population Demographic data
<b>Available GIS Mapping Data Layers</b>
Soils
Geologic Features
Property Ownership / Property Boundaries / APN
Existing Land use
Planned Development
Utilities
Roadways
Vegetation
Jurisdictional Boundaries (ACOE, CDFG, etc.)
Habitat / Wildlife / Endangered Species / Conservation Areas
FEMA Flood Hazard Zones
Existing Condition Floodplain Boundaries
Government / Civic Boundaries



**Table 2-1: Data and Information Collected**

Right of Way Data
Traffic Circulation Elements
County / City Maintained Flood Control / Stormwater Facilities
Alquist - Priolo
<b>Mapping / Right-of-Way</b>
Topographic Mapping - Digital DTM
Aerial Photography – Rectified Digital Color
Property Ownership / Property Boundaries / APN

The specific studies that were reviewed and used as part of this IFM study are referenced throughout this report and indicated with parenthetical citations. The data sources that were used for select GIS mapping as part of the IFM study are listed below in Table 2-2.

**Table 2-2: GIS Mapping Data and Detailed Source Information**

Dataset	Source	Scale
Soils	Natural Resource Conservation Service, USDA	County
Geologic Features	U.S. Geological Survey, California Geological Survey	State
Property Ownership / Property Boundaries / APN	County of Riverside Parcel Assessment Areas	County
Existing Land Use	Southern California Council of Governments, Combined 2008 Counties Riverside, San Bernardino, and San Diego	County
Planned Development	County of Riverside Active GIS Files	County
Utilities		
Roadways	County of Riverside Active GIS Files	County
Vegetation	Coachella Valley Multi Species Habitat Conservation Plan (CVMSHCP)	County
Jurisdictional Boundaries (ACOE, CDFG, etc.)	National Hydrography Dataset	State
Habitat / Wildlife / Endangered Species / Conservation Areas	Coachella Valley Multi Species Habitat Conservation Plan (CVMSHCP)	County
FEMA Flood Hazard Zones	FEMA Digital Flood Insurance Rate Maps, 06065C	County
Flood Awareness Areas	Department of Water Resources	County
Existing Condition Floodplain Boundaries		County
Government / Civic Boundaries	County of Riverside Active GIS Files	County
Right of Way Data	County of Riverside Parcel Assessment Areas\City of Desert Hot Springs	County
Traffic Circulation Elements	City of Desert Hot Springs	City
County / City Maintained Flood Control / Stormwater Facilities	Riverside County Flood Control District Flood Facilities	County
Irrigation Facilities / Drain line	Coachella Valley Water District	County
Alquist - Priolo	U.S. Geological Survey, California Geological Survey	State
Topographic Mapping - Digital DTM	U.S. Geological Survey, Digital Elevation Model, 1 arc second	State
Aerial Photography – Rectified Digital Color	ESRI, World Imagery Service	County

## 2.2 Data Sources

The information about watershed characteristics and existing flooding was gathered in order to establish a database of the baseline flood problem conditions in the region and was obtained in the following ways:

- **Existing flood documents** - A search was conducted for existing flood-related documents. This included flood control plans, stormwater/flood evaluation studies, surface flow studies, Federal Emergency Management Agency (FEMA) maps, drainage plans, master plans, general plans, flood assessments, and other documents related to climate change and wetlands.
- **Historical Flooding** - Locations of historical flooding, flood damage, and chronic flooding areas based on eye witness accounts, maintenance efforts, and newspaper articles. This information was obtained through phone calls, emails, outreach efforts, and periodical searches.
- **Data requests** - Specific data requests were made to participating municipalities and floodplain management agencies for records of current, ongoing flood problems in their respective municipal and unincorporated areas. A similar request for available data was also solicited to the watershed stakeholders related to existing reference documentation, studies, and data related to watershed flood information. An attempt to maximize the initial information gathering effort by contacting multi-agency and/or multi-regional entities with known flood management responsibilities in the Coachella Valley. In addition, stakeholder outreach provided an opportunity to initiate relationship building between watershed stakeholders utilizing the floodplain managers' forum. Once provided, this information was used to develop maps of flood hazards and watershed information
- **Existing GIS databases** - Available digital geographic information databases were consulted through a variety of agencies. In particular, the local database generated through the Coachella Valley Association of Governments was utilized as the initial data source, as well as CVWD and RCFCWCD.

## 2.3 Data Gaps

Available information was limited to fulfill the data needs, particularly in a geographic information format to facilitate regional planning. Flood infrastructure information is very limited and it is difficult to obtain digital mapping to inventory existing facilities on a regional basis or within local municipalities. There was not a GIS or CAD database of all the drainage and flood control facilities within the Coachella Valley, although this is an item which is being developed. In many cases, agencies did not have a complete inventory of infrastructure that they owned and/or maintained. In addition, it was difficult to find information related to locations of flood deficiencies, problem "hot spots," and recurring problem areas. Some of the issues in the development of a comprehensive database sufficient for watershed planning on a system wide basis include:

- Database utilized for the current study is limited to primarily to the available GIS data

- Data inventory conducted at a regional scale
- Existing flood hazards data limited to FEMA and DWR database
- Not sufficient information to identify locations of flood problem sources and deficiencies
- Insufficient information to generate a comprehensive inventory of existing flood protection infrastructure

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## 3 Existing Flood Hazards

### 3.1 Coachella Valley Flooding Characteristics and Issues

The Coachella Valley's desert environment, along with watershed/basin characteristics, result in unique flooding conditions and issues which are much different from more common riverine floodplains. The hydrologic response of the watershed units associated with high intensity type rainfall events as well as the channel processes/geomorphology trends influence the flooding characteristics. These different characteristics of the watersheds and floodplains are important to understand since these define and limit potential flood management solutions.

#### Watershed

The Coachella Valley IRWM Region is essentially comprised of the **Whitewater River watershed** with all of the tributaries on the west and east side of the Coachella Valley draining to the Whitewater River Stormwater Channel, which traverses the Coachella Valley floor. The watershed has a drainage area at its outlet into the Salton Sea of approximately 1,500 square miles. It is bounded on the west by the San Jacinto Mountains and the Santa Rosa Mountains and on the north and east by the Little San Bernardino Mountains; by the peninsular Tehachapi Mountains on the Northwest; together with the San Gabriel and the San Bernardino Mountains on the Southwest. The valley is approximately 15 miles wide along most of its length.

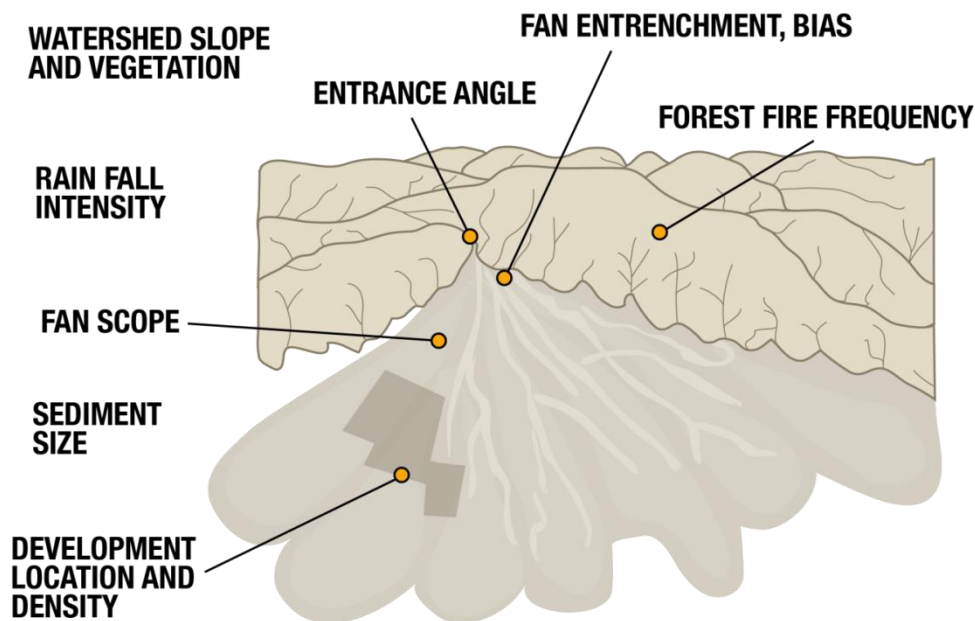
The adjacent mountains which ring the valley can reach up to 10,830 feet in elevation (San Jacinto Peak) and discharge to the valley floor which provides a dramatic change in elevation. The valley floor elevation at Palm Springs is approximately 470 feet and in Mecca it is 250 feet below sea level. The valley floor is extremely flat compared to the mountain watershed and alluvial fan/foothill areas. Approximately 28% of the area within the IRWM boundary has slopes ranging from 0-3% which is the generally valley floor. Approximately 54% of the Coachella Valley IRWM area has slopes which are greater than 10% which reflects the amount of mountainous/foothill area.

Watershed boundaries and surface drainage patterns are difficult to define within the flatter down-valley portions of the watershed and on the alluvial fans. The majority of the urbanization has occurred within the valley floor or on the lower portions of some of the different alluvial fans. The majority of the agricultural uses are in the southern portion of the valley while the urbanization has occurred north of the agricultural uses.

#### Floodplain / Geomorphology

Much of the valley floor is subject to inundation and shallow flooding with unpredictable flow paths. The sides of the Coachella Valley have been formed by coalescing alluvial fans below the foothills which generally lack defined natural channels and are subsequently subject to unpredictable sheet flow patterns on the fans. However, many of the fans have regional flood control systems which include engineered dikes and channels to provide flood protection (Digital Desert, 2012).

Alluvial fans are an erosional feature - unpredictable flow paths/braided channel patterns; not channelized, difficult to provide control structures, sheet flows are common, development exists on the alluvial fans themselves. Flood dynamics of an idealized alluvial fan can be characterized by several zones which are defined beginning from the apex as: (1) channelized zone, (2) braided zone, and (3) sheet flow zone (see Figure 3-1) (French, 1996).



**Figure 3-1: Definition of Alluvial Fan Characteristics**

Published FEMA mapping of regional flood hazards may not accurately define the limits and floodplains and magnitudes of the flood hazards. Multiple alluvial fans coalesce or overlap which is common below the foothill canyons which are known as bajadas and create complex flooding patterns. Most of the surface waters, because of the arid conditions, are ephemeral streams which only flow in direct response to precipitation (French, 1996)..

Existing roadways may modify and concentrate flows in the shallow floodplain areas, particularly in the valley floor. Channel migration/erosion/sediment deposition is common. Location of the stream channel on a fan is often erratic due to the rapid expansion of the width and highly variable sediment load. Shallow flooding often occurs along highly unpredictable flow paths because the source of the flow may be variable, topographic relief may be low, channels may shift or may be nonexistent, or sediment and debris may be deposited or removed during or after a flood altering the flow path. Sheet flooding occurs on the lower valley floor, which are the lower fringes of the alluvial fans that have limited topographic relief and difficult to define the level of flood hazards (Anderson-Nichols & Company, 1981).

### Drainage Infrastructure

There is significant regional flood infrastructure in different areas of the valley; however, there are also many areas which are lacking any regional flood control facilities. The primary regional facilities include (1) dikes constructed on some locations of both the east and west side of the valley along alluvial to intercept flows, (2) Whitewater River channel which includes engineered earthen channel with concrete slope lining in many areas as well as leveed sections and grade control structure, (3) debris basins on some of the alluvial fans and corresponding channels (Bechtel, 1990 1991, 1997, 2003; FEMA, 2008).

Urban drainage facilities located within the urbanized portions have limited hydraulic capacity and are not designed to accommodate regional overland flooding that exceeds the smaller urban watershed. Urban drainage facilities generally consist of local retention/detention basins, street drainage inlets, underground storm drain pipes, and culverts. Detention and retention is utilized significantly for the smaller urban drainage watersheds.

### Metrologic / Hydrologic Response

Precipitation can vary considerably within the watershed and location, based on elevation. Average annual precipitation in the Coachella Valley ranges from about 20 inches in the mountains to less than 4 inches on the valley floor. Rainfall-runoff watershed response varies based on elevation within the watershed and corresponding soil types. Typically frequent wildfires in Southern California can result in burn conditions that can result in changes to the surface soil layer that can dramatically reduce infiltration and increase runoff. Larger storm events may result in higher flooding from “cascading” watersheds where watershed boundaries may coalesce and combine because of limited hydraulic capacity or undefined floodplains. This affect is particularly evident in flooding with the valley floor watershed areas because of the limited topographic relief. Flashy storms include high flow volumes, low frequency, and high volumes of sediment transfer. Steep and short watersheds, combined with brief intense storms, results in flashy systems where discharge can vary by several orders magnitude over short time period (French, 2012).

Rainfall is caused by three types of storms in the Valley which include (1) low-pressure systems originating in the Gulf of Alaska or near the Hawaiian Islands, (2) low pressure system originating from the tropics during the late summer and early fall, and (3) cloudbursts or thunderstorm covering small areas and originating from convective uplifting occurring during the summer and early fall. Most storms greater than 1-inch of precipitation in one day are from frontal or low-pressure systems that are most prevalent during December through March. The largest historical rainfall event recorded was in Indio from a thunderstorm preceding the occurrence of a tropical storm from off the west coast of Mexico from which 6.45 inches of rain fell in a period of 6-hours (ACOE, 1980, 1983, 1997).

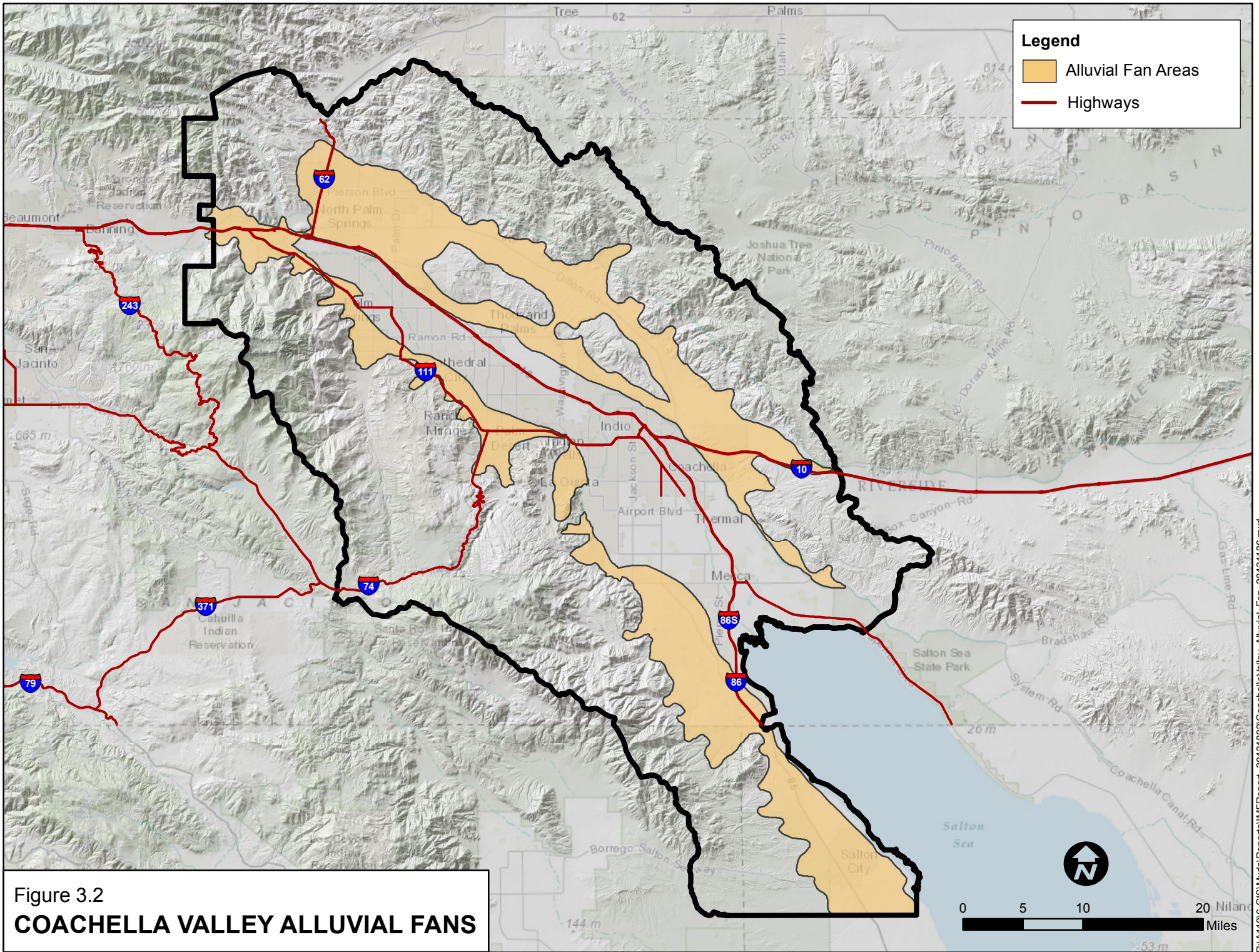


Figure 3.2  
**COACHELLA VALLEY ALLUVIAL FANS**



## 3.2 Existing Floodplain Management Programs and Agencies

Regional flood protection within the Coachella Valley is divided between CVWD and RCFCWCD, with the majority of the valley within the CVWD service area. The different cities within the valley are responsible for the local urban drainage facilities as well as the administrators of floodplain management activities. The responsibility for drainage in the eastern part of Riverside County is borne by a combination of the County Transportation Department, CVWD, the various cities and a variety of local entities. There are some regional facilities where both CVWD and RCFCWCD share jurisdiction, such as the Whitewater River channel system in the Palm Springs and Cathedral City area.

The Coachella Valley Stormwater District (part of CVWD) was formed in 1915 to control regional flooding. CVWD protects 590 square miles from flooding and within CVWD's boundaries there are 16 stormwater protection channels. The entire system includes approximately 135 miles of channels built along the natural alignment of dry creeks that naturally flow from the surrounding mountains into the Whitewater River. The backbone of the stormwater protection system is a 50-mile storm channel that runs from the Whitewater area north of Palm Springs to the Salton Sea. The western half of the channel runs along the natural alignment of the Whitewater River that cuts diagonally across the valley to Point Happy in La Quinta (near Highway 111 and Washington Street). Because the riverbed flattens out naturally in the eastern valley, downstream from Point Happy a man-made storm channel funnels flood waters to the Salton Sea.

The RCFCWCD was created in July 1945 by an Act of the California State Legislature. Following the devastating floods of 1938, the Riverside County Board of Supervisors saw the need for a regional drainage authority and petitioned the California State Legislature to create such a body. On July 7, 1945, the Legislature took the appropriate action and the RCFCWCD was born. In establishing the District, the Legislature not only formed an entity charged with keeping county residents safe from flood hazard but also established an independent tax revenue stream for funding. The District (2700 sq. mi.) is located in the western portion of Riverside County (7200 sq. mi.). It extends easterly far enough to include the cities of Palm Springs, Cathedral City and Desert Hot Springs. The mission of the District is to “protect people, property and watershed from damage or destruction from flood and storm waters and to conserve, reclaim and save such waters for beneficial use.”

## 3.3 History of Flooding

Historical references indicate that relatively large winter floods occurred in or near the Whitewater River Basin in 1825, 1833, 1840, 1850, 1859, 1876, 1884, 1889 and 1891. More authoritative records since 1891, including newspaper and eyewitness accounts, show that moderate to large winter floods occurred in January 1909, February 1927, March 1938, December 1940, January 1943, November 1965, January and February 1969, January, February, and March 1978, January and February 1980, March 1983, and January 1993. From the little information available, the floods of 1927 and 1938 appear to have been the largest general floods since 1891 in this region. Several general summer storms have also produced significant flows in the region. The most notable of these storms are the tropical storms of September 1939 and September 1976. In addition,

numerous local summer storms have occurred; however, because of the relatively small areal extent of these storms and the large percentage of undeveloped area within the region, little attention has been given to any, except for a few unusually intense thunderstorms which have occurred in the more populated areas (ACOE, 1980, 1983, 1997; FEMA, 2008).

The September 1939 storm, one of the largest observed thunderstorms in the region, occurred in the vicinity of Indio and has been defined as the local "Standard Project Storm" (SPS) for the Coachella Valley area.

(a) **Storm and Flood of September 24 - 26, 1939.** The September 1939 storm originated off the west coast of Mexico as a tropical hurricane. The hurricane intensity was gradually lost as the storm approached southern California from the south. As the storm reached southern California and crossed the greater Los Angeles area, it veered towards the northeast. According to the National Weather Service records, this is one of only two known tropical storms that have passed over the region with such intensity. Most eastern Pacific tropical cyclones die out before they reach the latitude of southern California. The total storm precipitation in the Whitewater River basin varied from 9.65 inches at Raywood Flat to 1.51 inches at Palm Springs. At Indio, in a thunderstorm preceding the occurrence of the main storm, 6.45 inches fell in a period of 6 hours. No estimates of runoff during the thunderstorm storm at Indio are available. Runoff during the main storm was generally light over the Whitewater River basin (ACOE, 1980, 1983, 1997).



**Figure 3-3: Damage after the 1936 Flood in the Coachella Valley**

(b) **Storm and Flood of January 18-29, 1969.** Between January 18 and 25, 1969, a series of very heavy storm hit southern California as a strong flow of warm and very moist tropical air moved into the area from out of the southwest. This was followed by a period of cooler and less intense storminess on January 27 to 29. Except for a brief lull on January 22 and 23, almost continuous, heavy rains, with high snow levels, soaked the coastal and mountain portions of southern California from January 27 to 29. Except for a brief lull on January 22 and 23, almost continuous, heavy rains, with high snow levels, soaked the coastal and mountain portions of southern California from January 18 through 26, climaxed by an extraordinary downpour on January 25. Total precipitation for January 18 to 29 in the Whitewater River basin ranged from less than one inch on the desert floor from Indio to the Salton Sea to more than 31 inches in the south slopes of Mt. San Gorgonio. About 5.7 inches fell in 40 hours at the Mission Creek rain gage maintained by RCFCWCD. At the U.S. Geological Survey (USGS) gaging station at Mission Creek near Hot Desert Springs (DA=35.6 mi<sup>2</sup>) a peak discharge of 1660 cfs was recorded on January 25 (ACOE, 1980, 1983, 1997).



**Figure 3-4: Whitewater River at Indian Avenue as it appeared on March 23, 1965. Indian Avenue was destroyed by flood waters cutting back from a sand and gravel pit on the downstream side.**

(c) **Storm and Flood of October 22, 1974.** An extremely high intensity thunderstorm occurred in the area easterly of Desert Hot Springs on October 22, 1974 as the result of an influx to the Coachella Valley of moist, unstable tropical air from Mexico. Precipitation occurred over most of the Coachella Valley, but the most intense rainfall apparently occurred in the uninhabited lower reaches of Wide Canyon east of Desert Hot Springs. Based on field interviews and RCFCWCD's recording rain gage at Desert Hot Springs, the duration of the storm was determined to be approximately 1.5 hours in the Wide Canyon area. Precipitation at Desert Hot Springs, west of Wide Canyon Dam, began about 4:45 PM Pacific Daylight Time (PDT). Flooding and resultant property damage was widespread in the area between Long and Wide Canyons, and Willow Hole (ACOE, 1980, 1983, 1997).

The most severe flooding and property damage resulted from flows generated in the Little San Bernardino Mountains, specifically Long and Wide Canyons. Aerial photographs taken at the time show the wide extent of the flooding, from the canyons to Willow Hole and the unpredictable fanning and braiding of flood flows on alluvial cones and flood plains. The discharge from Long Canyon at the USGS gage was 790 cfs. Slope-area computations by RCFCWCD indicate the discharge was probably much higher further downstream just below the mouth of the canyon; however, due to the unstable nature of the alluvial streambed, a precise determination of the flow rate could not be made.

(d) **Storm and Flood of September 9 to 11, 1976.** This unusually widespread and heavy summer storm occurred when Tropical Storm Kathleen, from off the west coast of Mexico, traveled northward through the western Imperial Valley and dumped very intense rain along the eastern

slopes of the San Jacinto Mountains and the southern and eastern slopes of Mt. San Gorgonio. Total precipitation for the storm - most of it falling within 12 to 18 hours - ranged from 1.8 inches to 2.8 inches in the center of the Coachella Valley to 14.4 inches just south of San Gorgonio Peak (ACOE, 1980, 1983, 1997).

**(e) Storm and Flood of August 15 to 17, 1977.** Tropical storm Doreen moved northerly up the Sea of Cortez, across Baja California, and passed about 60 miles west of San Diego on a north-northwest course during the period of August 15 to 17, 1977. Thunderstorms triggered by Tropical Storm Doreen caused flash floods, high winds and power outages to Riverside County. Preceding this storm, moist air was forced into California desert regions, producing intense local rainfall on Monday afternoon, August 15 (ACOE, 1980, 1983, 1997).

The heaviest rainfall fell at the top of the Palm Springs mountain tramway and foothill areas. The gage at Desert Hot Springs recorded 4.49 inches of rain in 1 day. Desert Hot Springs maximum short duration values were broken, with 1.18 inches recorded in 1 hour and 3.85 inches in 12 hours. Business and residential flooding were most prevalent in the communities of Indio, Palm Desert, Thousand Palms and Desert Hot Springs. The peak discharges recorded at the Mission Creek, Long Canyon, and Deep Canyon gages are 463, 350, and 410 cfs, respectively.

**(f) Storm and Flood of September 10, 1977.** A late summer storm, characterized by short periods of locally intense rain, lightning, hail, and strong winds, hit the desert areas on September 10, and caused mud slides, a broken dike, washed-out roads, and flooded homes. The scattered nature of the heavy rain was demonstrated by the fact that only (ACOE, 1980, 1983, 1997).

### 3.4 Flood Hazard Identification

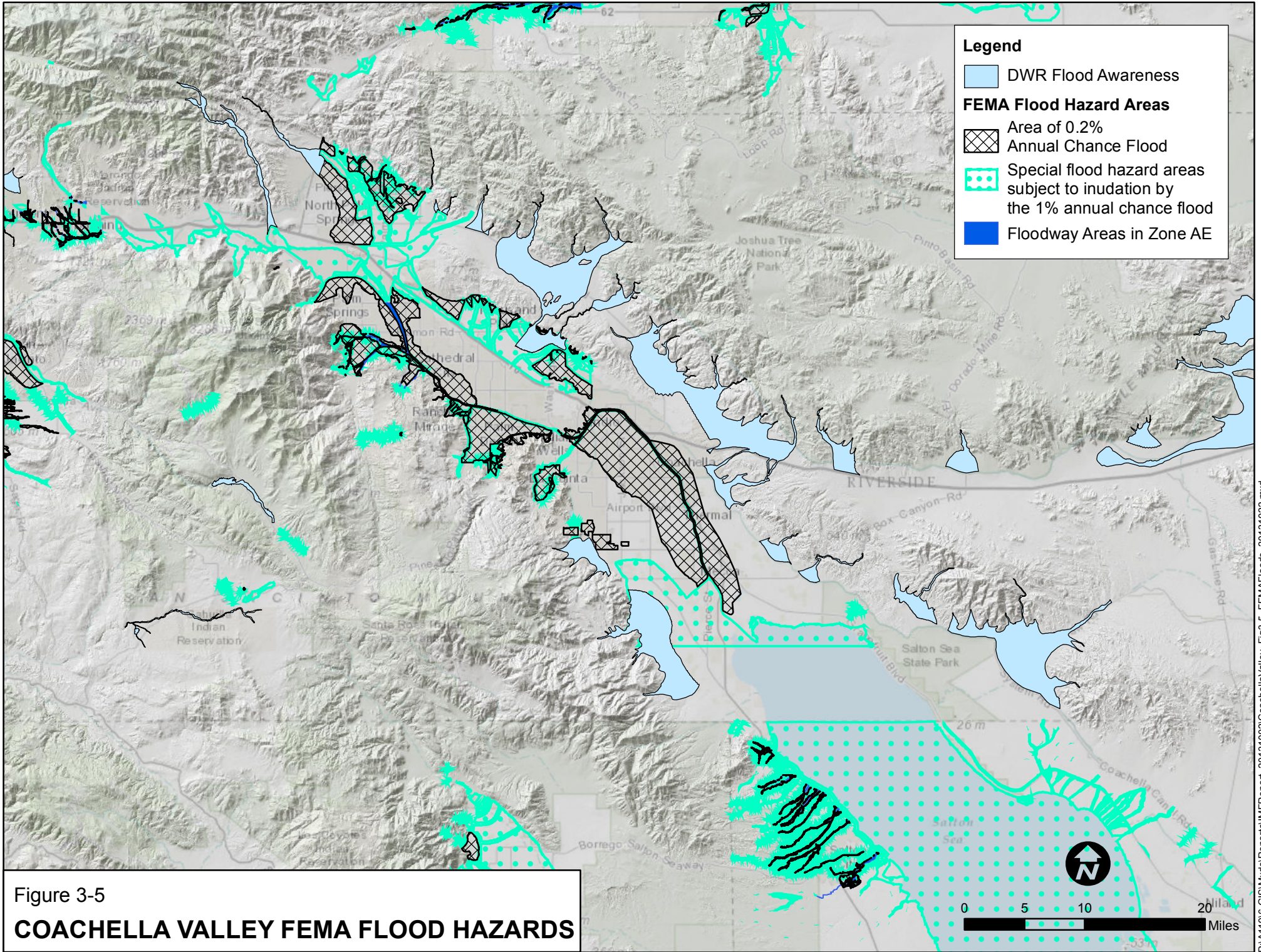
Regional mapping of the existing flood hazards for the Coachella Valley region has been prepared by FEMA as part for the National Flood Insurance Program (NFIP), which requires each community to identify 100-year recurrence interval flood prone areas as part of adopting floodplain management regulations. In addition, additional mapping for some of the areas not covered by the published FEMA flood hazard mapping has been prepared by DWR through their "Flood Awareness Mapping" which provides identification of floodplain limits through approximate methods (see Figure 3-5). The intent of the Awareness Floodplain Mapping project by DWR is to identify all pertinent flood hazard areas by 2015 for areas that are not mapped under FEMA NFIP and to provide the community and residents an additional tool in understanding potential flood hazards currently not mapped as a regulated floodplain. The flood hazard areas generally align with the Region's identified floodplains, which are shown in Figure 3-6.

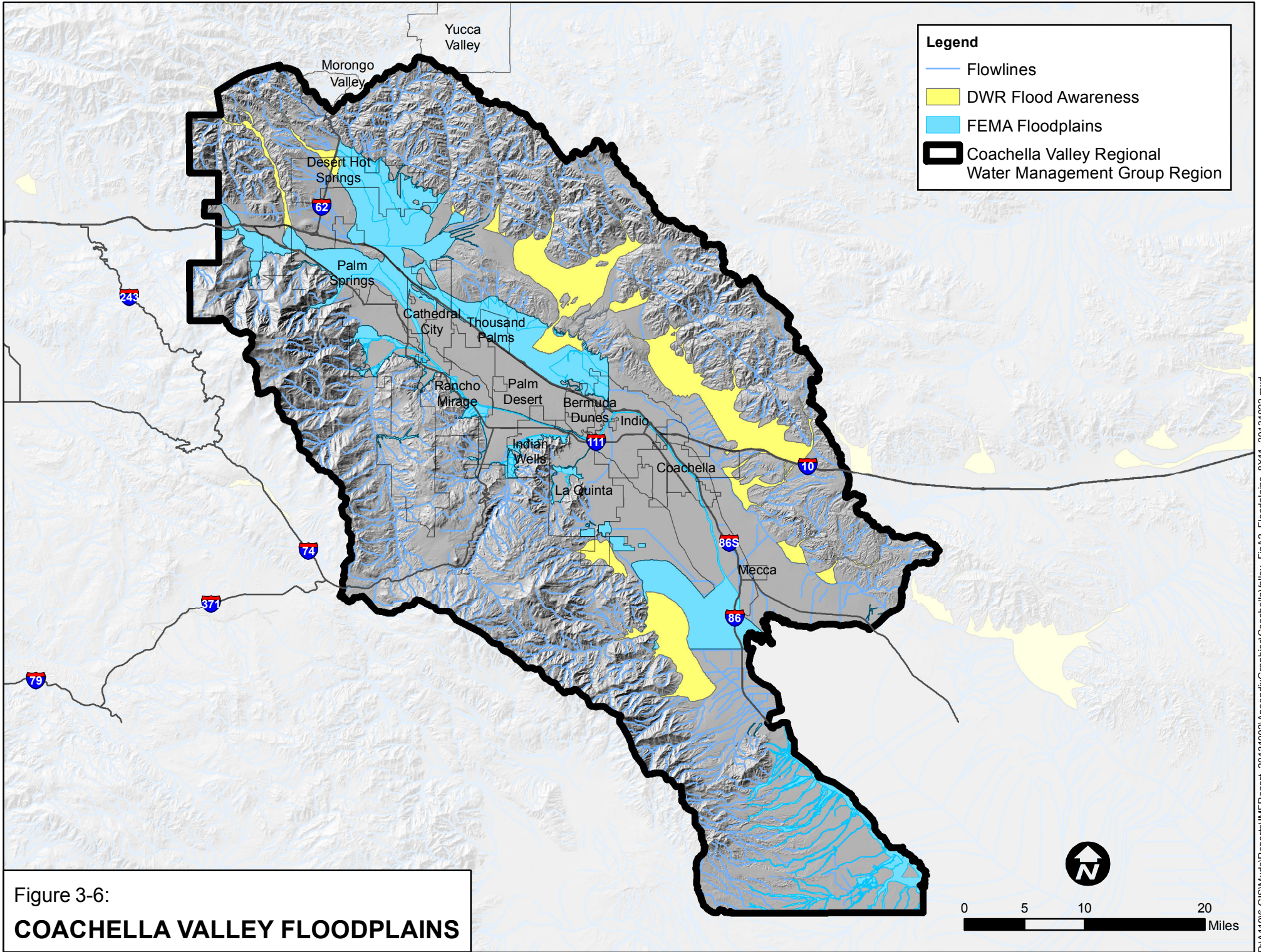
The minimum federal flood protection goals and requirements are administered by FEMA NFIP. The NFIP, originally established in 1968, provides low-cost federally subsidized flood insurance to those communities that participate in this program. Participation in the program requires that the community adopt floodplain regulations which meet the requirements of the NFIP defined in *44CFR Chapter 1 Part 59* which include mapping of existing flood hazards. Hydrologic-hydraulic studies are required to analyze the delineation of the 100-year recurrence interval floodplain limits. The

published FEMA flood hazard maps provide an approximation of the regional floodplain limits based on the standards for FEMA alluvial fan hazards. The mapped flood hazards focus on regional flood hazards and do not evaluate localized flooding, particularly in urbanized areas, so there can be areas which may flood in even small storm events but may not be within a mapped flood hazard zone.

FEMA is the federal entity responsible for producing Flood Insurance Rate Maps (FIRMs). The flood risk information presented on the FIRM is based on historic, meteorological, hydrologic, and hydraulic data, as well as open-space conditions, flood-control works, and development within the study area. The FEMA flood hazard zones represents the areas susceptible to the 1% annual chance flood (commonly referred to as the “100-year flood”), and the 0.2% annual chance flood (“500-year flood”). The 1% annual chance flood has at least a 1% chance of occurring in any given year. FEMA designates this area as a Special Flood Hazard Area (SFHA) and requires flood insurance for properties in this area as a condition of a mortgage backed by federal funds.

FIRMs are the mapped product of engineering studies, called Flood Insurance Studies (FISs). The effective date of the first FIS for the Unincorporated Areas of Riverside County was April 15, 1980, with the initial coordination meetings with FEMA in December 1974. Since that time, the FIS for the County has been updated multiple times. The most recent revision being August 28, 2008 is a “countywide” study update which includes various communities within the Coachella Valley including Desert Hot Springs, Coachella, Cathedral City, Indian Wells, Indio, La Quinta, Palm Desert, Rancho Mirage, as well as the unincorporated areas of the County (FEMA, 2008). The existing published FEMA flood hazard mapping illustrates general characteristics of the floodplain and provides an understanding of the extent of the existing flood potential. It is apparent that there are uncertainties and discrepancies in the flood hazard mapping, particularly where there are dramatic changes in the mapping at local government boundaries where there are not any hydraulic influences. The mapping should be used cautiously because of its approximate nature and it does not necessarily define the magnitude of flooding, but just the approximate extent of the floodplain.







### 3.4.1 General Trends from Flood Hazards Mapping

General trends regarding the floodplain that can be developed from the mapping which include:

- (1) floodplains are very well defined in the lower mountains/foothill canyon areas where there are incised streams within the canyons,
- (2) valley floor and alluvial fans result in wide floodplains with locations of flow redistributing and splitting to other channels downstream,
- (3) linear floodplain boundaries for locations of shallow flooding in several locations is associated with freeway and railroad embankments in some area; however in some areas appears it is not necessarily associated with a physical boundary, but actual political boundaries for local government jurisdictions reflecting different time periods when the mapping was performed or methodology used in alluvial fan analyses,
- (4) shallow flooding floodplains encompass many portions of valley floor areas,
- (5) all the floodplains illustrate that the general surface drainage patterns are directed to the center and down valley,
- (6) the larger unconfined floodplains are within the Desert Hot Springs area, north Palm Springs, Thousand Palms / north Indio area, and the Thermal area,
- (7) all the alluvial fans also reflect unconfined shallow floodplain areas,
- (8) the uncertainty associated with the unconfined flooding patterns on the alluvial fans and also in the down valley floor would suggest utilizing the 500-year floodplain to evaluate potential overflow areas in the 100-year flood,
- (9) the I-10 freeway/railroad appears to block the flows from the eastern valley watershed and direct them down-valley until Indio,
- (10) below Indio the central portion of the valley could have significant amount of down valley flooding from channel overflows, and
- (11) the central portion of the valley between Indio and Cathedral City (bounded to the east by the railroad and Whitewater River to the west) does not have regional flood hazards.

### 3.5 Defining Flood Risk

Flood risk can be defined by three different components which include (1) “flood hazard” which is generally the probability of occurrence of a particular flood event, (2) the “exposure” of human activity to the flood which is equated to the flood damage potential, and (3) the specific “vulnerability” or the lack of resistance to damaging/destructive forces. Flood risk can be mathematically calculated as the product of hazard, exposure, and vulnerability. Understanding these definitions is an important foundation in flood management planning. A smaller flood that causes less damage occurs more frequently than a very severe flood that can cause much great damage. However, from a loss prevention standpoint, it may be more beneficial to protect for the more frequent events. The assessment of community vulnerabilities can be evaluated through review of existing codes, plans, policies, programs, and regulations used by local jurisdictions to determine whether existing provisions and requirements adequately address the flood hazards that pose the greatest risk to the community.

**Flood Risk** – likelihood of consequence from inundation. Identifies the cause and the frequency of the problem (how often)

**Flood Exposure** – relationship between the flood hazard on the effect on loss of property, life, and environmental resources.

**Vulnerability** – identifies level of exposure expected (how flooding adversely affects people and property)

### 3.5.1 Flood Event-Specific Factors Influencing Flood Damage

Although there are many issue that effect flood damage, there are several key factors associated with the flood characteristics which influence the amount and severity of the flood damage. In addition, Figure 3-8 provides a general outline of the types of flood losses and the assessment of the type of damage. A description of the primary factors that influence on the severity of flood damage includes the following:

**Flood depth:** The height flood waters reach is an important consideration affecting flood losses. Structures are more susceptible to damage as flood depths increase. Generally, the valley floor areas and the alluvial fans in the Coachella Valley are subject to lower flood depths and more mountainous regions where narrow floodplains and step terrain along the stream corridor prevails are subject to greater flood depths during flood events.

**Flood duration:** The longer flood waters are in contact with building components (such as structural members, interior finishes, and mechanical equipment), the greater the potential for damage. The duration of flooding is very specific to the nature of an event. However, the structures closest to a flooding source (such as a river, bay, or canal) are more likely to sustain longer durations of flooding and be more vulnerable to flood damage. As flood waters recede, these structures will remain flooded for longer durations than structures located along the edge of the floodplain, increasing the potential for damage.

**Velocity:** The velocity of flood waters is an important factor impacting potential flooding damage. Flowing water exerts forces on the structural members of a building, increasing the likelihood of significant damage. In addition, flowing waters can increase erosion and scour around the foundation of a structure, which can further increase the vulnerability of a building to flood damage.

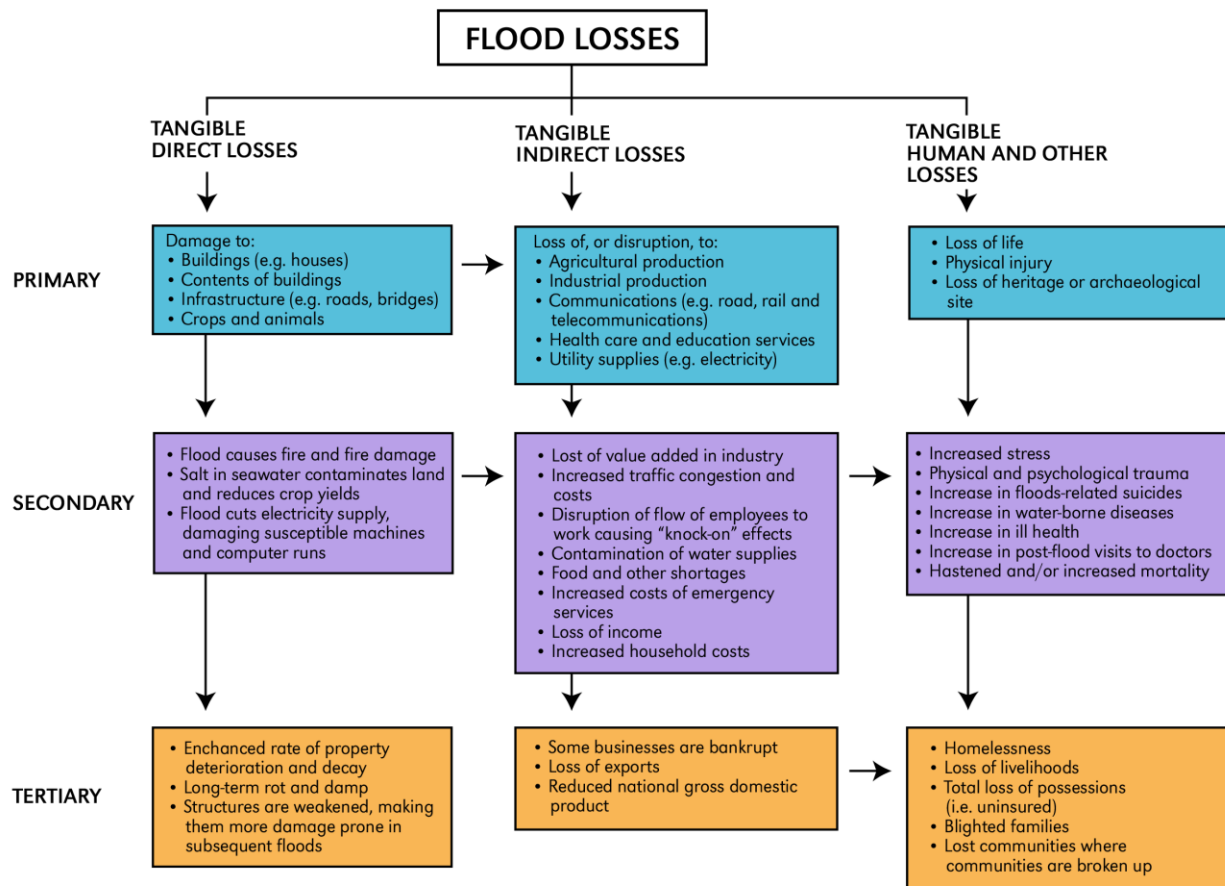


Figure 3-7: Illustration of different types of flood losses and the associated impacts

### 3.5.2 Repetitive Flood Damage Losses

A “repetitive loss property” is one for which two flood insurance claim payments of at least \$1,000 have been paid by the NFIP within any 10-year period since 1978 (e.g., two claims during the periods 1978-1987, 1979-1988, etc.). These properties are important to the NFIP because they cost \$200 million per year in flood insurance claim payments throughout the country. Repetitive loss properties represent only one percent of all flood insurance policies in the country, yet historically they account for nearly one-third of the claim payments (over \$4.5 billion to date). Mitigation of the flood risk to these repetitive loss properties will reduce the overall costs to the NFIP as well as to individual homeowners. FEMA programs encourage communities to identify the causes of their repetitive losses and develop a plan to mitigate the losses. Repetitive flood damage loss illustrates areas of an existing recurring chronic flood hazard which should be targeted as a priority to be addressed. The Coachella Valley is vulnerable to specific “hot spot” areas that have experienced repeated flooding since there generally occur based on natural water flow patterns.

### 3.6 Assessment of Flood Risks

Assessment of the flood risk is a complex problem that can only be solved through interdisciplinary research. In general, a two-step approach is utilized. First, we must characterize the flood hazard using a selected set of indicator maps, like the spatial distribution of flow velocity, water height, speed of propagation, duration, etc. Second, we estimate how the flood hazard indicators interfere with human activities in the flooded area. Agricultural activities will suffer damage in different ways than for instance an industrial zone or an urban area.

An initial assessment of the magnitude of the existing “flood risk” which correlates directly to the potential amount of flood damage can be developed through quantifying encroachment of different land uses within the floodplain. Any area located within 100-year floodplain flood hazard area is considered to be at high risk of flooding. An overlay the land use plan with the mapped flood hazard zones can be generated. The FEMA flood hazard zone “A” is the 100-year floodplain designation, although there are different types of this flood hazard for insurance purposes. The mapping indicates that the majority of the areas have land use zoning which is compatible with the floodplain being zoned primarily “open space.” However, it is important to note the amounts of other general land uses within the floodplain, particularly the more urban type of uses which would result in more extensive flood damage. The magnitudes of the general land use designations within the flood hazard zones have been developed utilizing the existing database available. This generalized mapping overlay can be utilized as an effective planning tool as part of the initial plan formulation. The land use areas which have a high dollar value within flood hazard zones would indicate locations to target and prioritize projects. Other benefits of this mapping assessment include:

- Identification of flooding vulnerable structures based on flood inundation hazards
- Approximate magnitudes of potential flood losses
- Potential critical public lifeline facilities and infrastructure that could be impaired by flooding
- Identification of key transportation facilities, including roadways that could reduce public access and emergency response
- Identification of the different land uses encroaching within the 100-year flood hazard zones as well as quantifying the amount of these areas for different land use

Figures 3-8, 3-9, 3-10, and 3-11 of this IFM Study illustrate the mapped floodplain risk and exposure assessment based on the amount of land use within the published mapped flood hazard zones. The precise risks to the different land uses would require detailed analyses of different flooding depths for different flood frequencies to determine how risk varies within the floodplain, but this data was not available for this study.

### 3.6.1 Land Use Located within Flood Hazards – Total Distribution

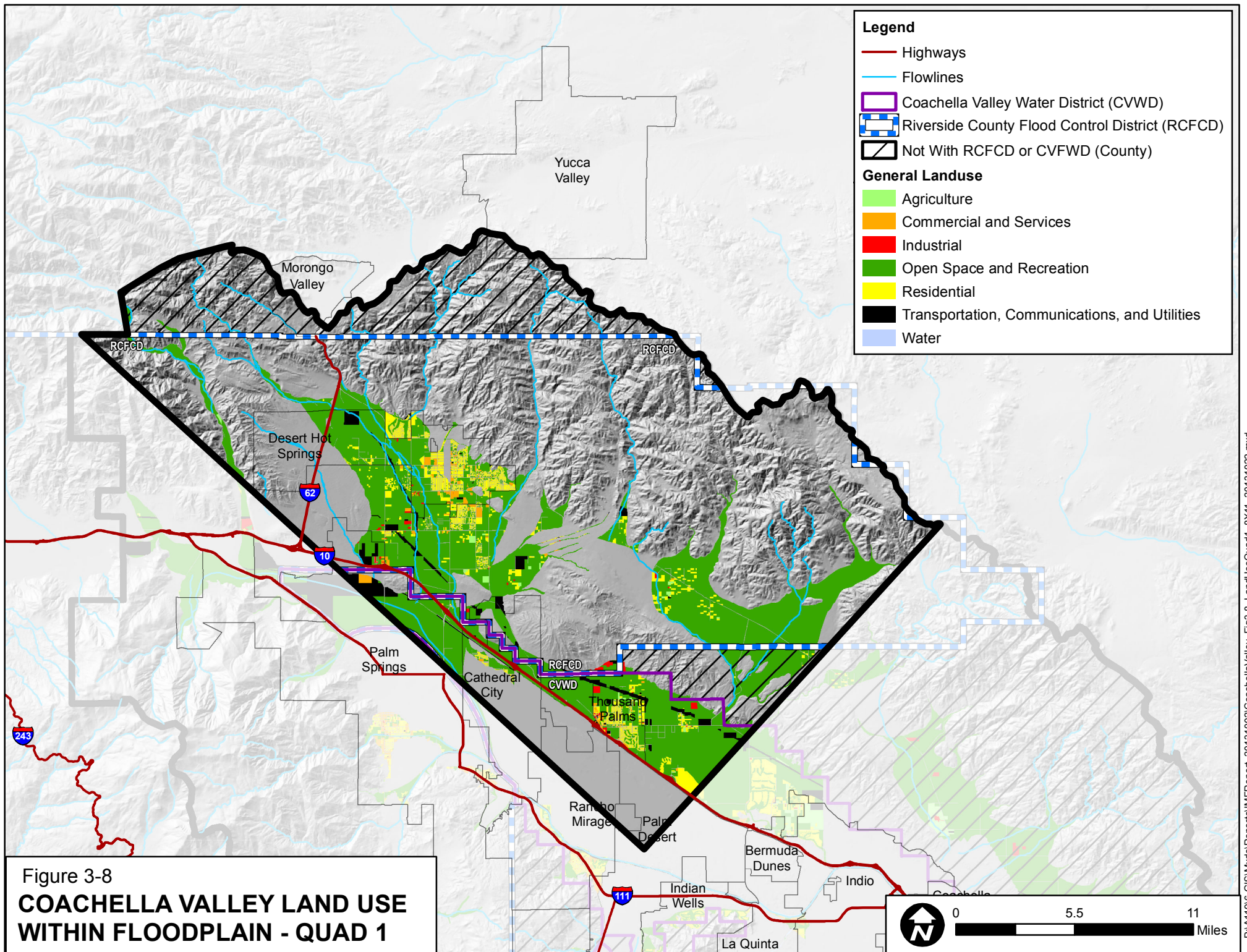
The land use mapping database of the different land use within the Coachella Valley were overlaid with the existing flood hazard mapping to determine the amount of land uses within the floodplain. The land use reflects both the existing and proposed land uses for the valley based on the different “general plan” data from the Cities and County. The total amounts within the valley were accounted for within the four different mapping quadrants, as well as the grand total for the valley. The results of this assessment are shown in the tables and charts on the following pages.

The comparison of the different information presented in both the tabular and graphical summary of the data indicates the following general trends:

- Southwestern portion of the valley has the largest amount of residential area within the mapped floodplain areas
- The northeast quadrant has the largest amount of mapped floodplain acreage which is because of the Morongo/Mission alluvial fan and the Mid-Valley floodplain on the eastern side of the valley.
- The largest land use within the floodplain for all the quadrants is open space and this is desired outcome or trend from a floodplain management perspective.

**Table 3-1: Total of Land Use types located within mapped flood hazard zones for entire Coachella Valley**

<b>Grand Total – Entire Valley Area</b>	
<b>Land Use</b>	<b>Acres</b>
Agriculture	16,076
Commercial and Services	2,178
Industrial	1,120
Open Space and Recreation	110,901
Residential	12,875
Transportation, Communications, and Utilities	13,332
Water	183
<b>Total</b>	<b>156,664</b>



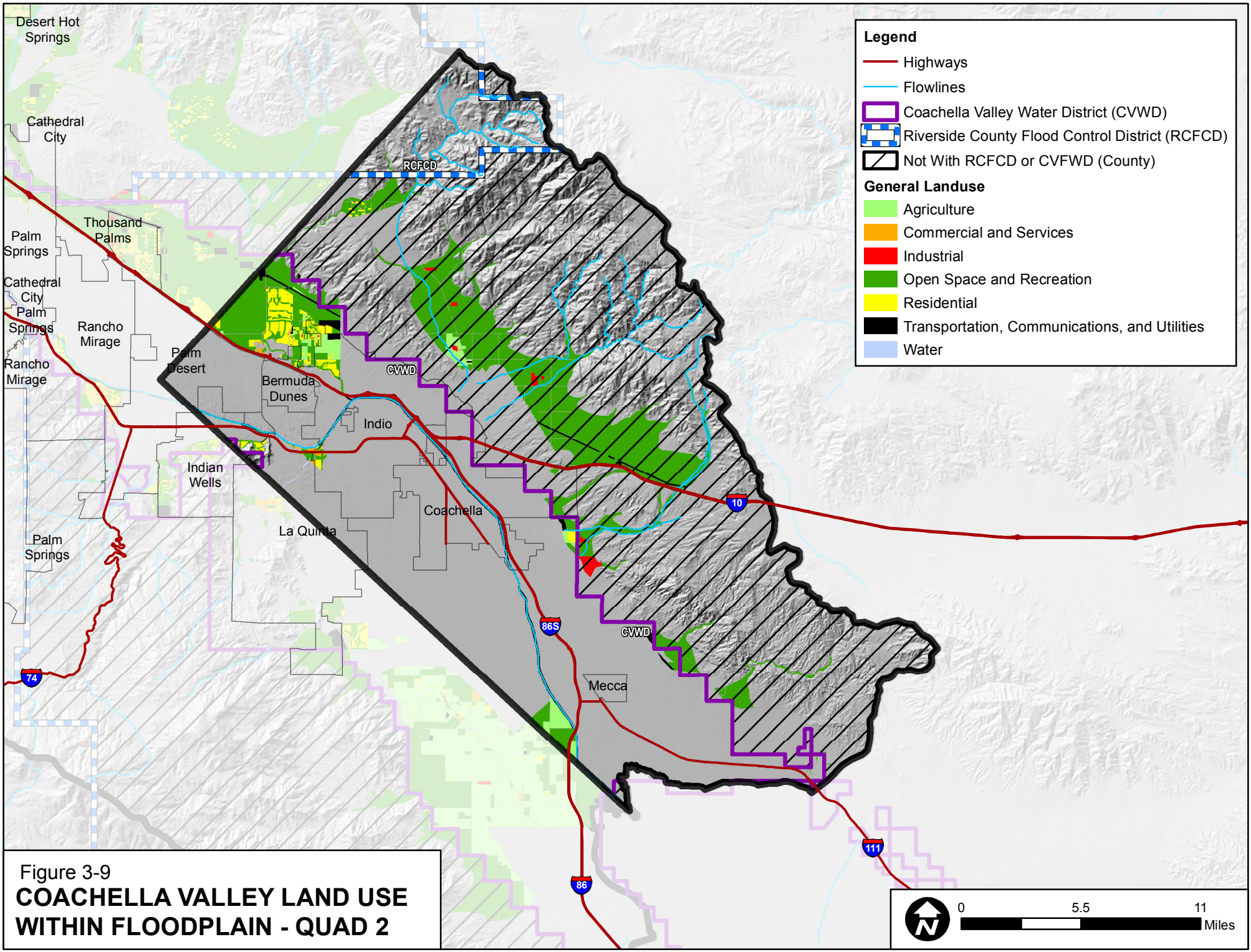


Figure 3-9  
**COACHELLA VALLEY LAND USE  
 WITHIN FLOODPLAIN - QUAD 2**

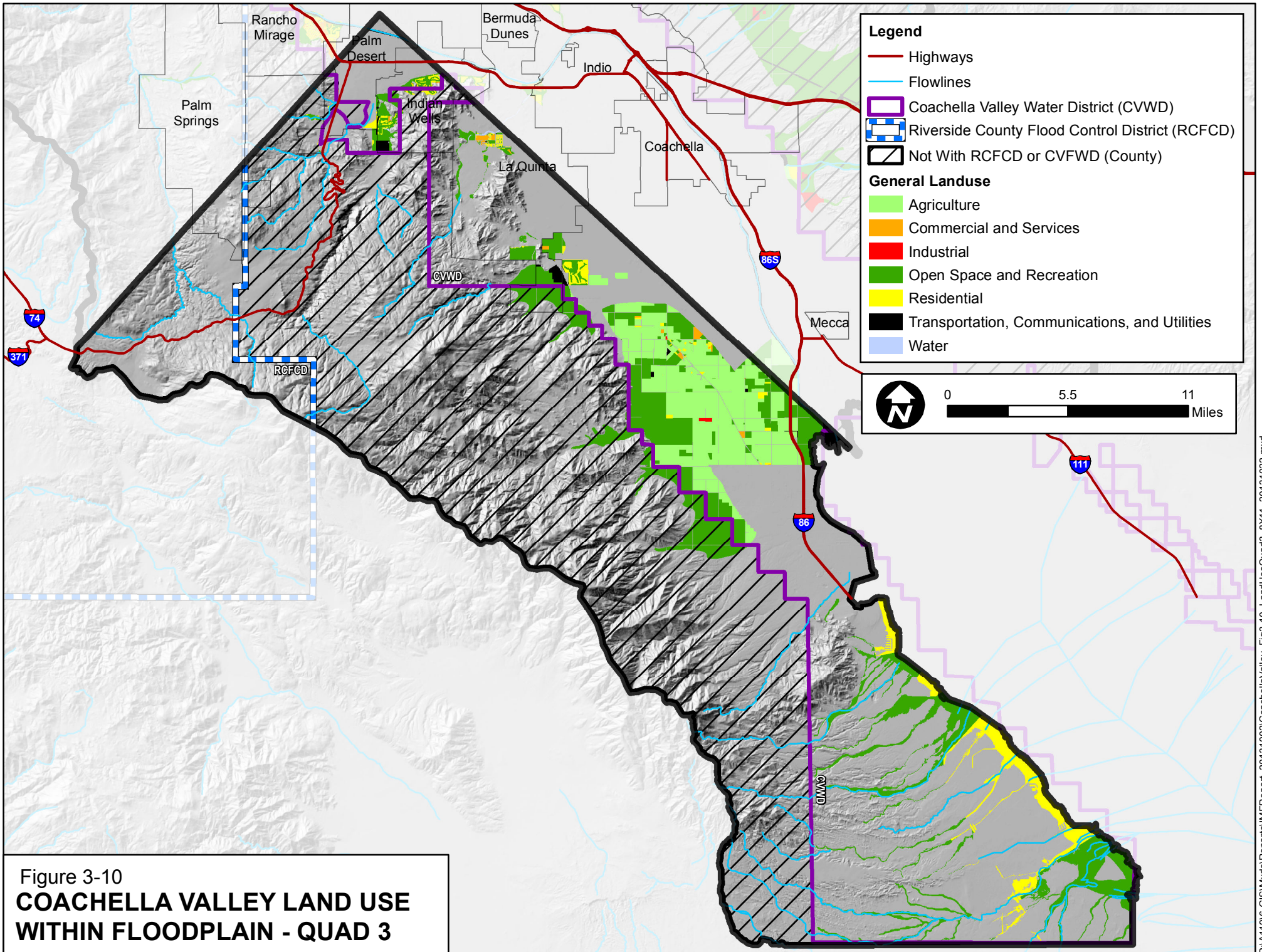


Figure 3-10  
**COACHELLA VALLEY LAND USE  
 WITHIN FLOODPLAIN - QUAD 3**



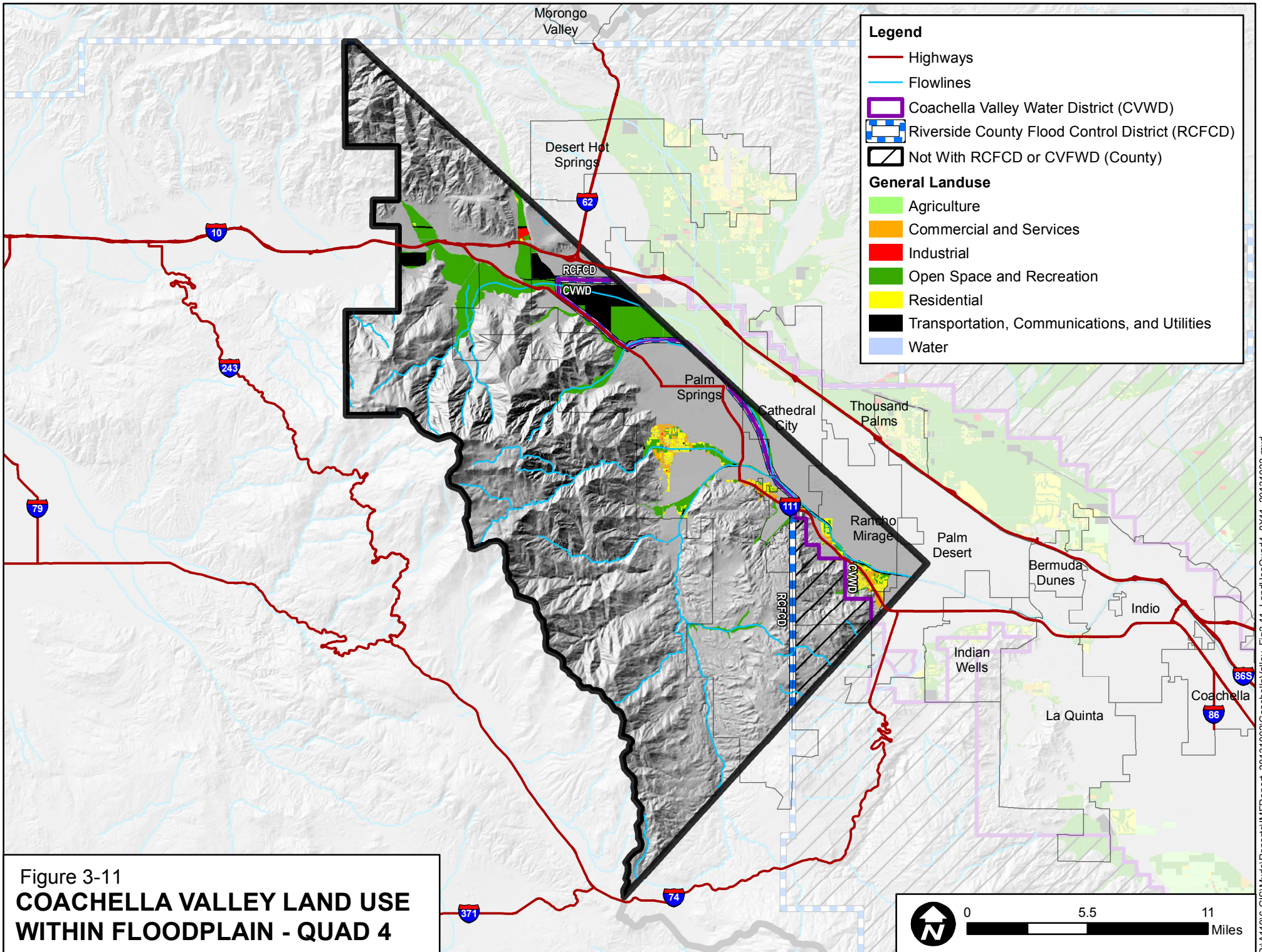
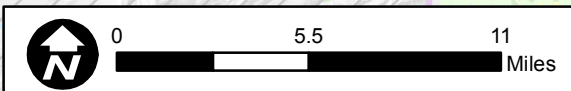
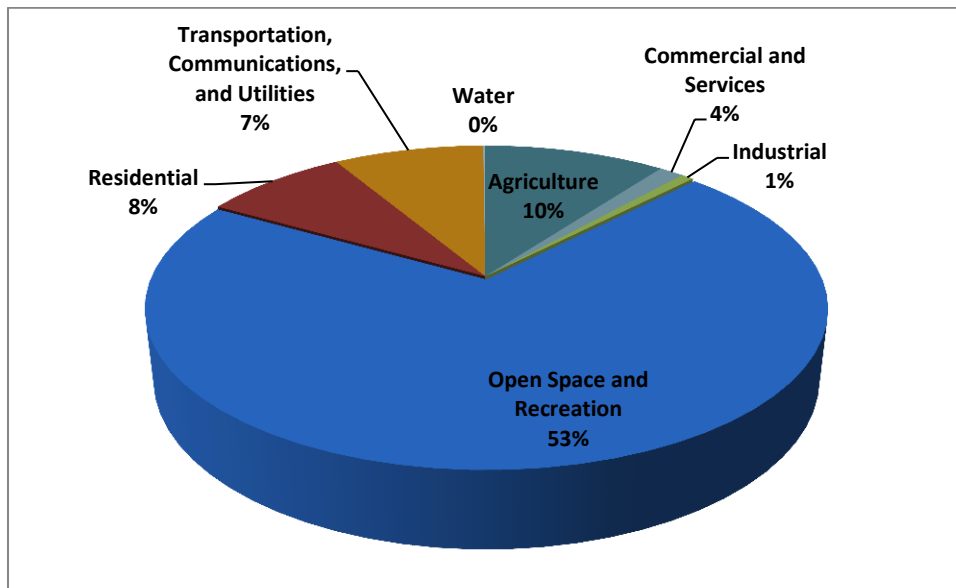


Figure 3-11  
**COACHELLA VALLEY LAND USE  
 WITHIN FLOODPLAIN - QUAD 4**





**Figure 3-12: Total distribution of different land uses within mapped floodplain areas for entire Coachella Valley**

**Table 3-2: Land use types located within mapped flood hazard zones based on Four Mapping Quadrants**

CV Quadrant No.1 - Northeast	
Land use	Acres
Agriculture	262
Commercial and Services	889
Industrial	503
Open Space and Recreation	49105
Residential	4571
Transportation, Communications, and Utilities	5135
Water	0
<b>TOTAL</b>	<b>60,464</b>

CV Quadrant No. 2 - Southeast	
Land use	Acres
Agriculture	1,610
Commercial and Services	152
Industrial	462
Open Space and Recreation	27,564
Residential	1,956
Transportation, Communications, and Utilities	3,097
Water	138
<b>TOTAL</b>	<b>34,979</b>

CV Quadrant No.3 – Southwest	
Land use	Acres
Agriculture	14,188
Commercial and Services	308
Industrial	45
Open Space and Recreation	24,627
Residential	5,229
Transportation, Communications, and Utilities	1,590
Water	45
<b>Total</b>	<b>46,032</b>

CV Quadrant No. 4 – Northwest	
Land use	Acres
Agriculture	16
Commercial and Services	829
Industrial	110
Open Space and Recreation	9,605
Residential	1,119
Transportation, Communications, and Utilities	3,510
Water	0
<b>Total</b>	<b>15,189</b>

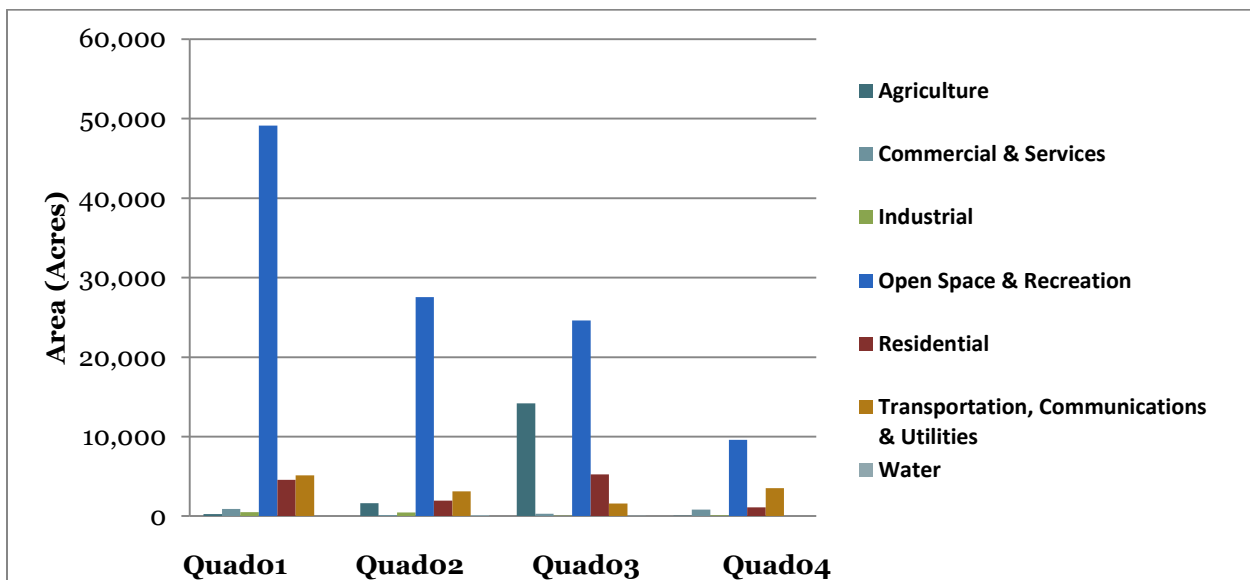


Figure 3-13: Comparison of the different land uses within the mapped flood hazards within the four different quadrants used in mapping the Coachella Valley

### 3.6.2 Land Use Located within Flood Hazards – City Boundaries

The amount of the different land uses that are within the mapped flood hazard zones for the different major cities within the Coachella Valley were quantified and are presented in following table. This is a planning level assessment in order to provide an indication of the flood hazard risk based on the existing data for land use within the mapped floodplain. The land use mapping data is from the FEMA DFIRM and the DWR Flood Awareness Mapping.

**Table 3-3: Land use types located within mapped flood hazard zones for Coachella Valley based on different City boundaries**

<b>Cathedral City</b>	<b>Area (acres)</b>
Agriculture	0
Commercial and Services	147
Industrial	18
Open Space and Recreation	3,003
Residential	105
Transportation, Communications, and Utilities	676
Water	0
<b>Grand Total</b>	<b>3,948</b>

<b>Coachella</b>	<b>Area (acres)</b>
Agriculture	0
Commercial and Services	0
Industrial	0
Open Space and Recreation	2,706
Residential	0
Transportation, Communications, and Utilities	493
Water	0
<b>Grand Total</b>	<b>3,199</b>

<b>Desert Hot Springs</b>	<b>Area (acres)</b>
Agriculture	0
Commercial and Services	380
Industrial	25
Open Space and Recreation	5,579
Residential	1,578
Transportation, Communications, and Utilities	1,294
Water	0
<b>Grand Total</b>	<b>8,856</b>

<b>Indian Wells</b>	<b>Area (acres)</b>
Agriculture	0
Commercial and Services	26
Industrial	0
Open Space and Recreation	1,160
Residential	347
Transportation, Communications, and Utilities	279
Water	6
<b>Grand Total</b>	<b>1,818</b>

<b>Indio</b>	<b>Area (acres)</b>
Agriculture	576
Commercial and Services	44
Industrial	9
Open Space and Recreation	1,580
Residential	700
Transportation, Communications, and Utilities	585
Water	0
<b>Grand Total</b>	<b>3,494</b>

<b>La Quinta</b>	<b>Area (acres)</b>
Agriculture	0
Commercial and Services	177
Industrial	0
Open Space and Recreation	2,472
Residential	451
Transportation, Communications, and Utilities	369
Water	157
<b>Grand Total</b>	<b>3,626</b>

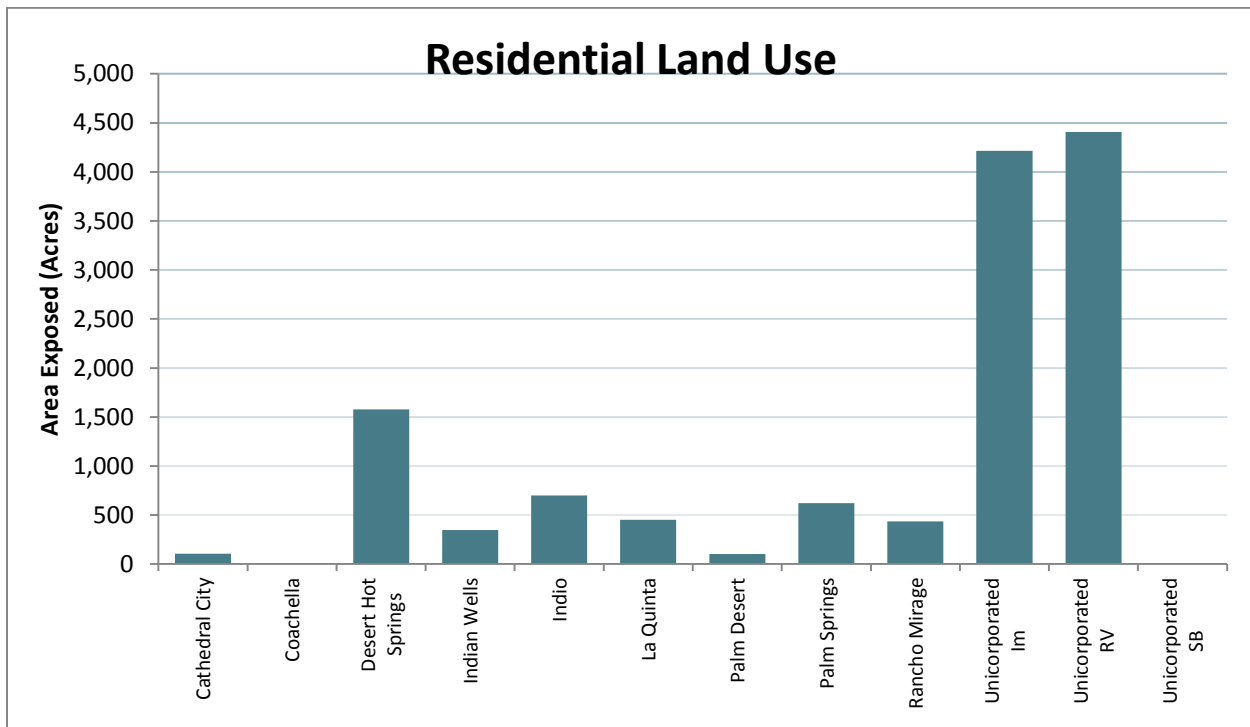
<b>Palm Desert</b>	<b>Area (acres)</b>
Agriculture	0
Commercial and Services	91
Industrial	0
Open Space and Recreation	127
Residential	102
Transportation, Communications, and Utilities	172
Water	1
<b>Grand Total</b>	<b>493</b>

<b>Palm Springs</b>	<b>Area (acres)</b>
Agriculture	0
Commercial and Services	506
Industrial	28
Open Space and Recreation	9,537
Residential	622
Transportation, Communications, and Utilities	2,970
Water	0
<b>Grand Total</b>	<b>13,662</b>

<b>Rancho Mirage</b>	<b>Area (acres)</b>
Agriculture	13
Commercial and Services	210
Industrial	4
Open Space and Recreation	433
Residential	437
Transportation, Communications, and Utilities	333
Water	0
<b>Grand Total</b>	<b>1,430</b>

<b>Unincorporated Imperial County</b>	<b>Area (acres)</b>
Agriculture	0
Commercial and Services	0
Industrial	0
Open Space and Recreation	1,064
Residential	4,215
Transportation, Communications, and Utilities	0
Water	0
<b>Grand Total</b>	<b>5,279</b>

<b>Unincorporated Riverside County</b>	<b>Area (acres)</b>
Agriculture	15,487
Commercial and Services	597
Industrial	1,036
Open Space and Recreation	74,762
Residential	4,407
Transportation, Communications, and Utilities	5,160
Water	33
<b>Grand Total</b>	<b>101,481</b>



**Figure 3-14: Residential land use within mapped floodplain comparison between the different Cities and County areas within the Coachella Valley**

### 3.6.3 Planning Estimates of Flood Damage Loss Areas

The estimated loss for flood hazards, in addition to exposure, throughout the Coachella Valley IRWM boundary was prepared at a planning level to provide guidance with the watershed planning. “Loss” is that portion of the exposure that is expected to be lost to a hazard. Loss is estimated by referencing frequency and severity of previous hazards. Hazard risk assessment methodologies were applied to flood hazards within the Coachella Valley which were considered to be any land use other than open space within the mapped floodplain. The procedure adopted integrates GIS mapping data to provide dollar damage estimates for the potential impact of flood hazards as a common, systematic framework for evaluation of flood exposure. “Average” flood damage costs for different land uses based on FEMA guidelines and similar values embedded in to the HAZ-US (FEMA national hazard model) were applied to the amount of the different land uses areas within the floodplain. This data included economic and structural data on infrastructure and critical facilities, including replacement value to use in loss estimation assumptions. This approach provides estimates for the potential impact by using a common methodology and database. Uncertainties result from approximations and simplifications that are necessary for a comprehensive analysis (such as incomplete inventories, demographics, or economic parameters). However, the results provide a useful planning level tool to identify locations of high value assets within the watershed and prioritizing flood management projects around these locations in order to reduce the potential dollar damage losses.

The data developed for the different levels of flood exposures/risk based on land uses within the mapped flood hazard zones for each of the regional watersheds was used to develop planning level assessment of the potential economic losses or dollar damage. Studies on flood damage estimates illustrate that the dollar damage for residential and commercial structure increases with flood depth. However, this planning level assessment did not differentiate the variation of flood depths within the floodplain. A generalized dollar damage cost was applied to the different land use categories based upon national information for flood damage. A variety of assumptions were made in averaging these damage costs for a variety of land uses and differing conditions. The results of this assessment are illustrated in Figure 3-15 and Figure 3-16. This illustrates some useful trends related to the locations and most susceptible types of flood damage when planning management activities.

The planning level estimate for flood damages was conducted applying generalized flood damages costs for different land uses or structures associated with those land uses. The methodology that is applied in HAZUS-MH was adopted for this generalized study. Application of the HAZUS-MH for this project would greatly exceed the available study budget and insufficient GIS mapping data as well as detailed flood depth inundation mapping was not available. Flood damage costs are generally associated with the types of structures damage and the depths of flooding, or in agriculture losses the types of crops which would include the value of that crop. The HAZUS-MH model has an extensive library dataset as part of the program for different types of damages around the country. (FEMA, 2012) The data set was utilized to develop average damage costs based on different flood damage assumptions including the depth of flooding since the actual depths are not part of the flood hazard mapping in all areas. Very broad assumptions were necessary in developing the damages estimates given the limited data on the (1) depth of flooding, (2) number and type of structures within the floodplain, and (3) precise value of the different uses including the different types of agriculture crops. The flood damages cost for lumped land use types were generated based on the following information and assumptions from HAZUS-MH dataset:

1. Agricultural flood damage losses were based on the crop loss which includes revenue and reduction for harvest costs for an average value of \$35,000 per acre.
2. Residential flood damage losses were based on the structural damage based on 1,800 square feet of main living area per residential unit, 1 story unit, 4 units per acre, 30% flood damage at depth of one-foot for an average value of \$250,000 per acre.
3. Commercial land use flood damage was based on a standard 30,000 square foot unit with one unit per acre with an average damage cost of \$76 per square foot structure and 30% flood damage for an average value of \$684,000 per acre.
4. Industrial land use flood damage was based on a standard 30,000 square foot unit with one unit per acre with average damage costs of \$88 per square foot structure and 30% flood damage for an average value of \$794,000 per acre.

Transportation land use assumed roadway flood damage and replacement for 200 feet of urban road per square mile valued at \$5,000,000 per 3,200 feet and 2 lanes with 30% flood damage for an average value of \$91,000 per acre.



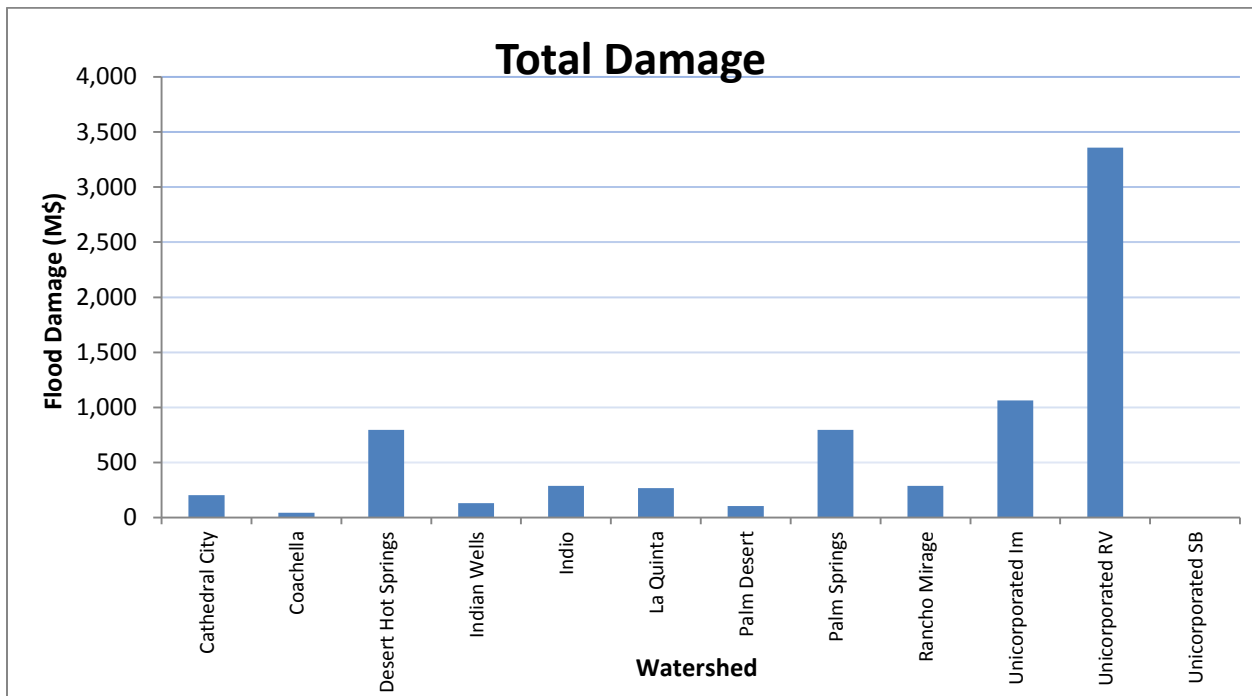


Figure 3-15: Total estimated 100-year approximate dollar flood damage for all land use within the floodplain comparing different Cities and County areas in the Coachella Valley

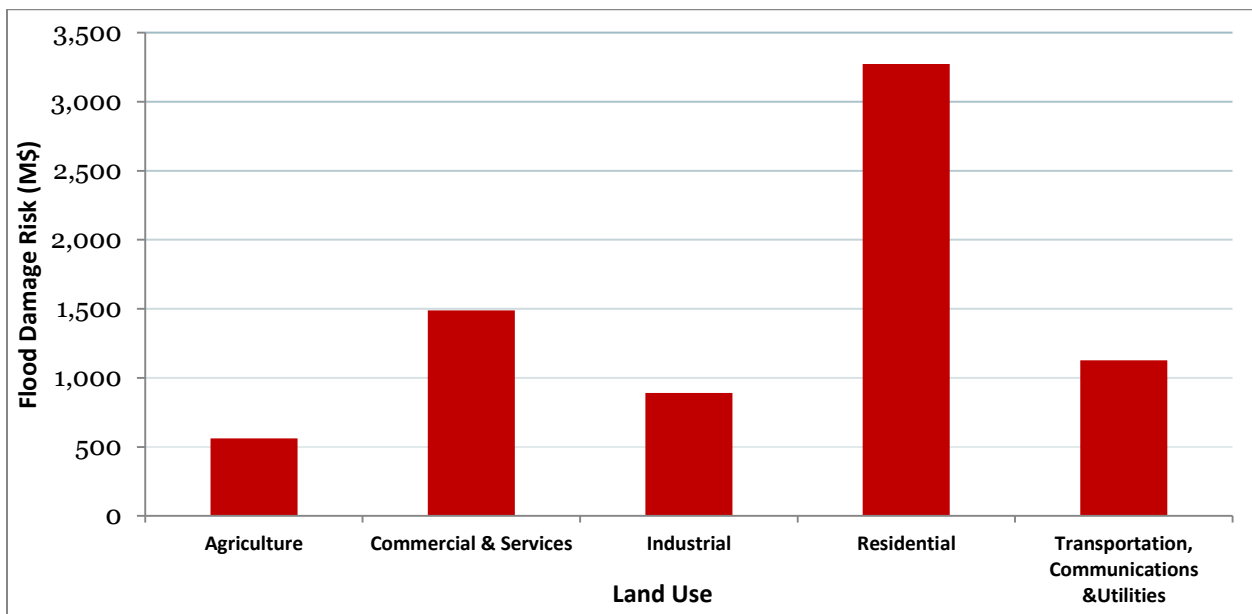


Figure 3-16: Total estimated 100-year flood damage to the different land use types over all mapped floodplain area within the Coachella Valley

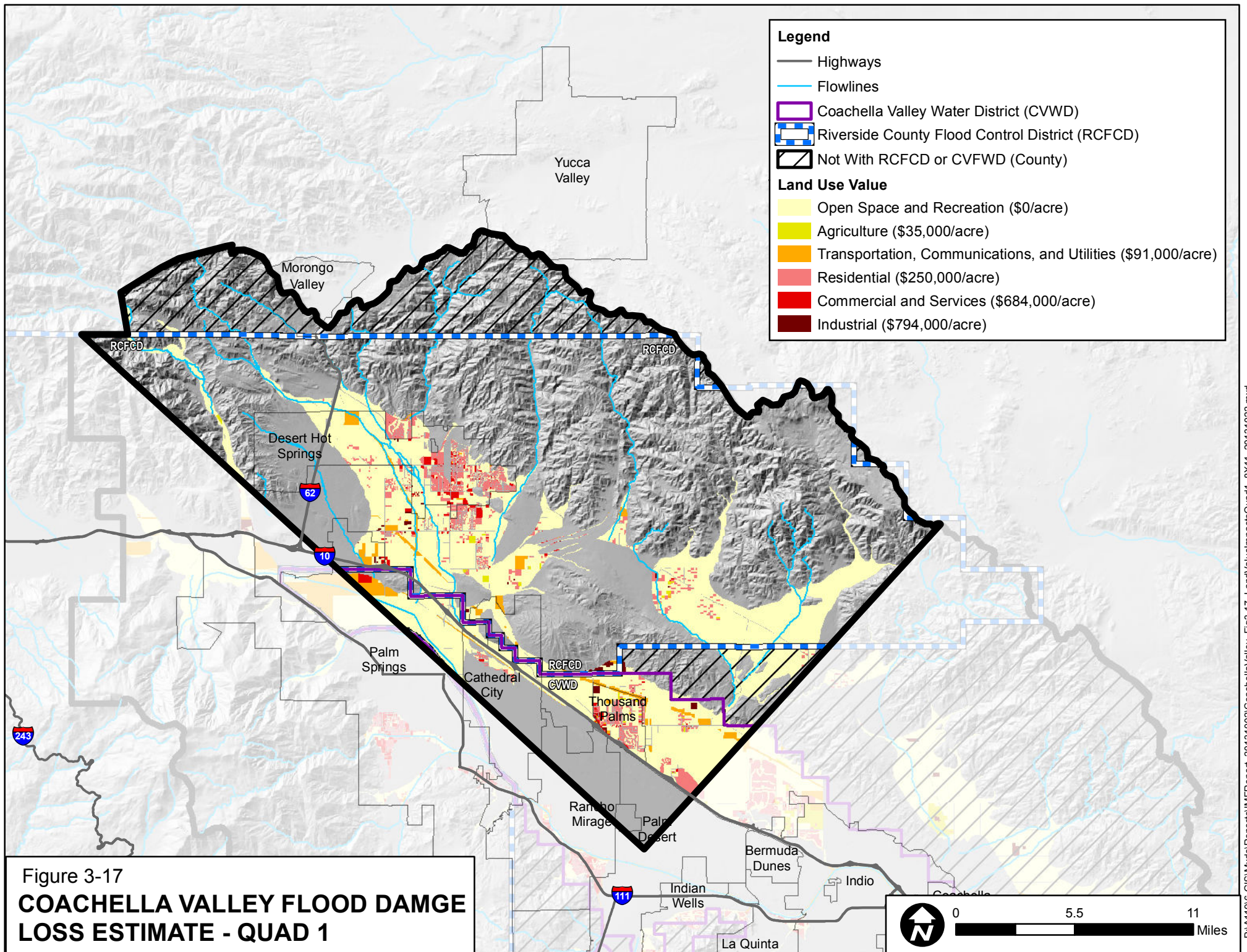


Figure 3-17  
**COACHELLA VALLEY FLOOD DAMAGE  
 LOSS ESTIMATE - QUAD 1**

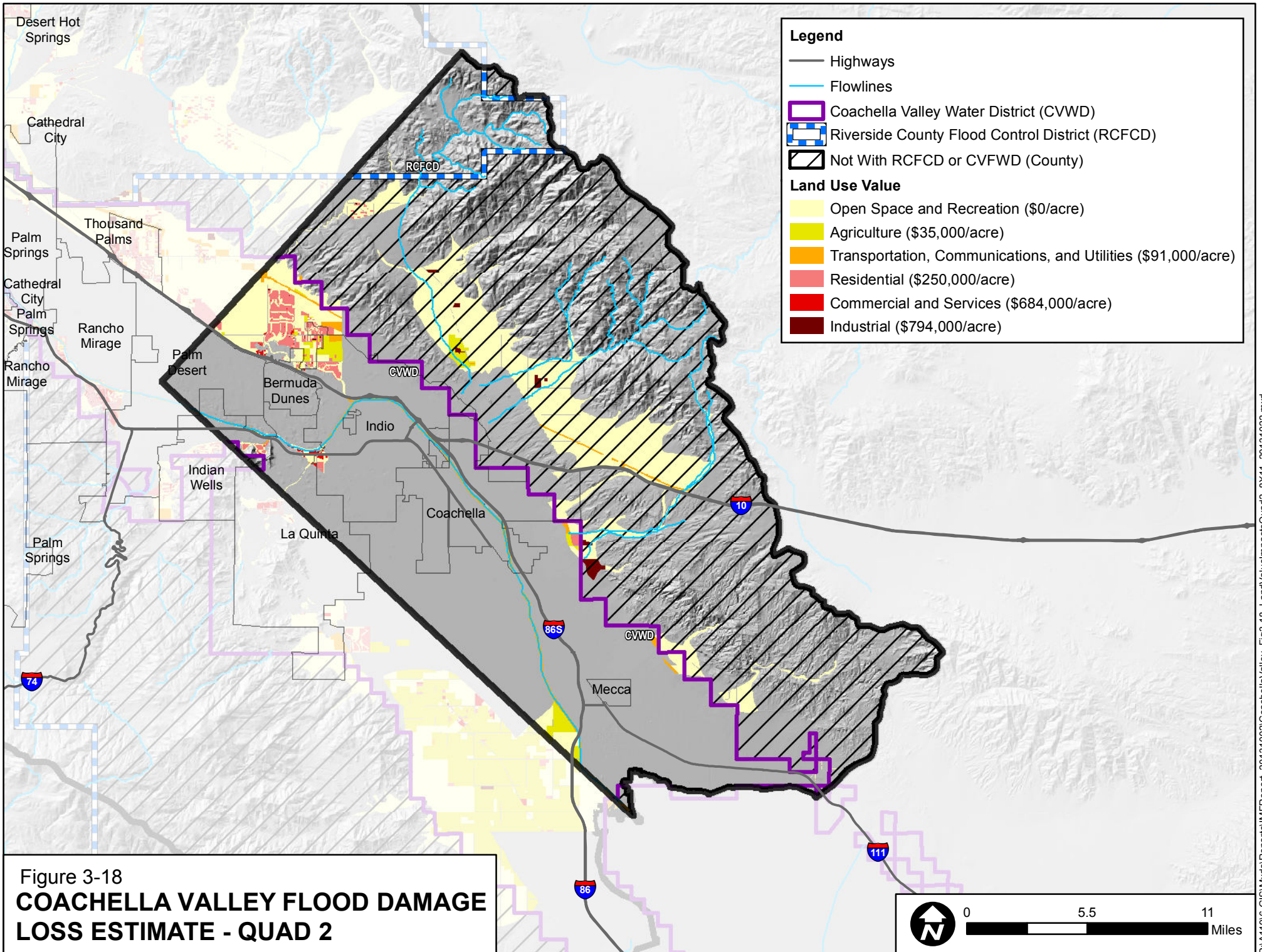


Figure 3-18  
**COACHELLA VALLEY FLOOD DAMAGE  
 LOSS ESTIMATE - QUAD 2**

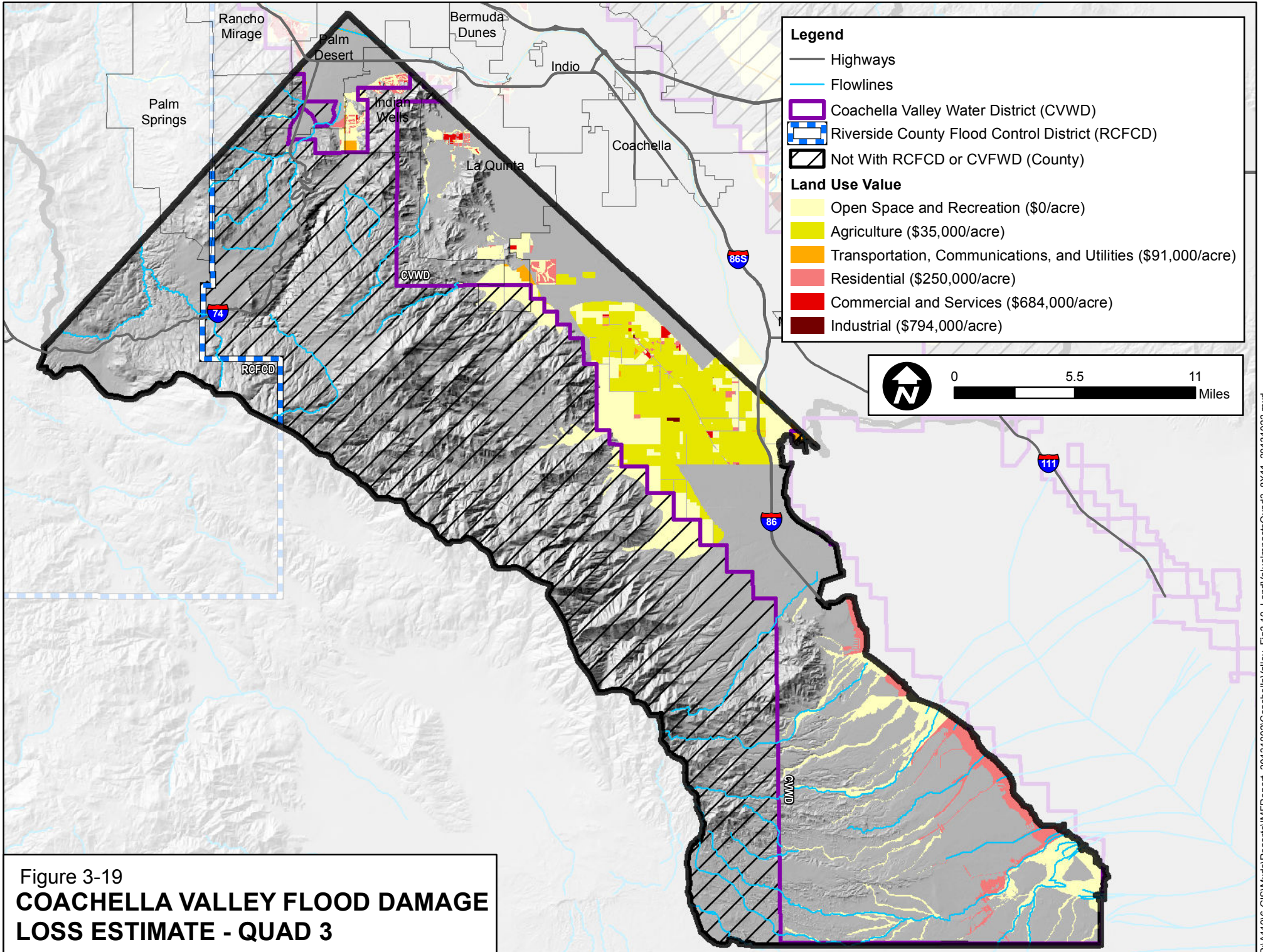


Figure 3-19  
**COACHELLA VALLEY FLOOD DAMAGE  
 LOSS ESTIMATE - QUAD 3**

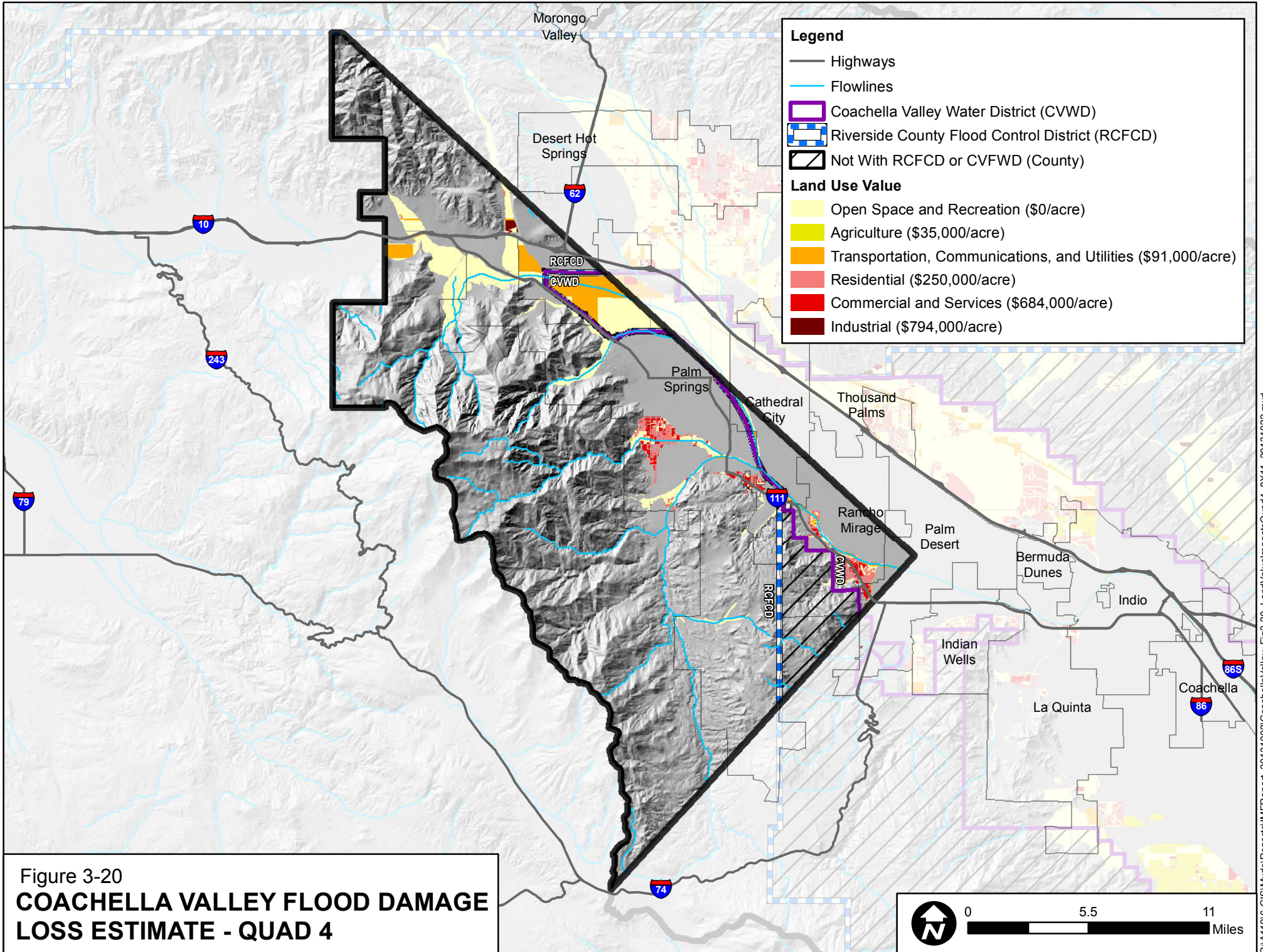


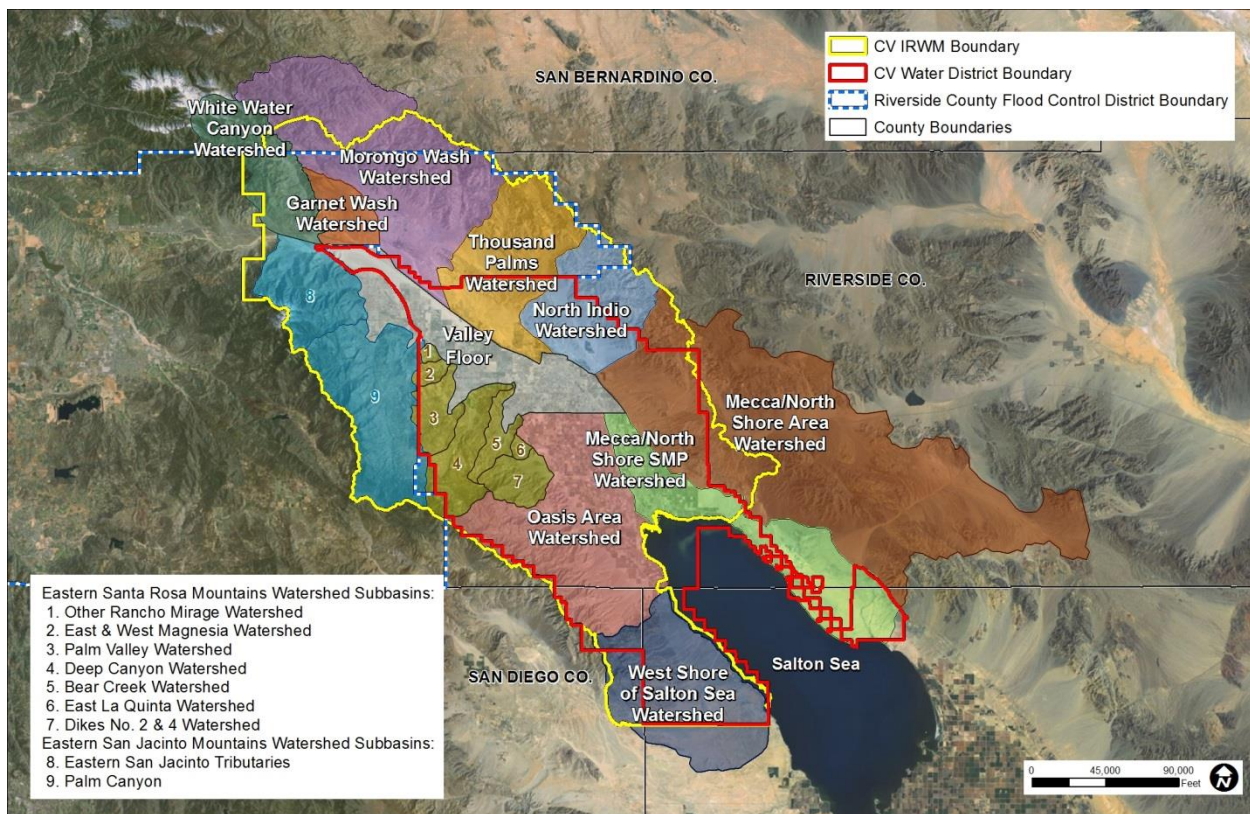
Figure 3-20  
**COACHELLA VALLEY FLOOD DAMAGE  
 LOSS ESTIMATE - QUAD 4**

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## 4 Regional Watersheds Description

### 4.1 Regional Watersheds Hydrologic Characteristics

The Coachella IRWM region is comprised of numerous tributary watersheds which originate on the eastern and western side of the valley, or offsite beyond the limits of the IRWM boundary, but are all ultimately to the Salton Sea. These watersheds are either within the CVWD or RCFCWCD jurisdictional boundary and can generally be divided into 12 larger watershed units which are illustrated on Figure 4-1. The designations of these watershed units utilize, for a portion of the study area, the classifications adopted by CVWD for their jurisdictional watersheds within the Coachella Valley.



**Figure 4-1: Regional delineation of major watershed units utilized for watershed planning within the Coachella Valley**

The watersheds are the surface hydrology features or the tributary basin areas corresponding to the regional drainage systems and floodplains. The hydrologic response of these watershed units for rainfall events as well as the channel processes/geomorphology trends, which influence the flooding characteristics which are examined at a regional scale. In addition, different characteristics of the watersheds and floodplains that may limit potential flood management solutions are also explored. The “watershed units” provide a useful method to divide the region and basis for focusing on flood management planning utilizing a regional watershed basis.

Characteristic information and watershed parameters were developed for each of the different watershed units to assist in characterizing the different watershed and facilitate understanding the potential response. The watershed characteristics were manually generated utilizing GIS mapping measurements from the topographic and hydrographic datasets.

### 4.1.1 Whitewater Canyon



**Figure 4-2: Whitewater Canyon watershed unit with major population centers**

**Table 4-1: Whitewater Canyon watershed unit characteristics**

Watershed Area (sq. Miles)	82.8 mi <sup>2</sup>
Length Naturally Occurring Waterways	519,851.8 ft
Percentage of Free Flowing River	92%
Percentage of River Miles in Protected Lands	50%
Number of Stream Crossings	13
Average Precipitation per Year	23.6 in
Percentage Area above 15% Slope:	83%
Longest Watershed Flow Path Length	124,178.6 ft
Maximum Elevation	10,392.4 ft
Minimum Elevation	1,065.3 ft
Watershed Elevation Difference	9,327.1 ft
Average Map Slope	0.075



### 4.1.2 Morongo Wash/Mission Creek

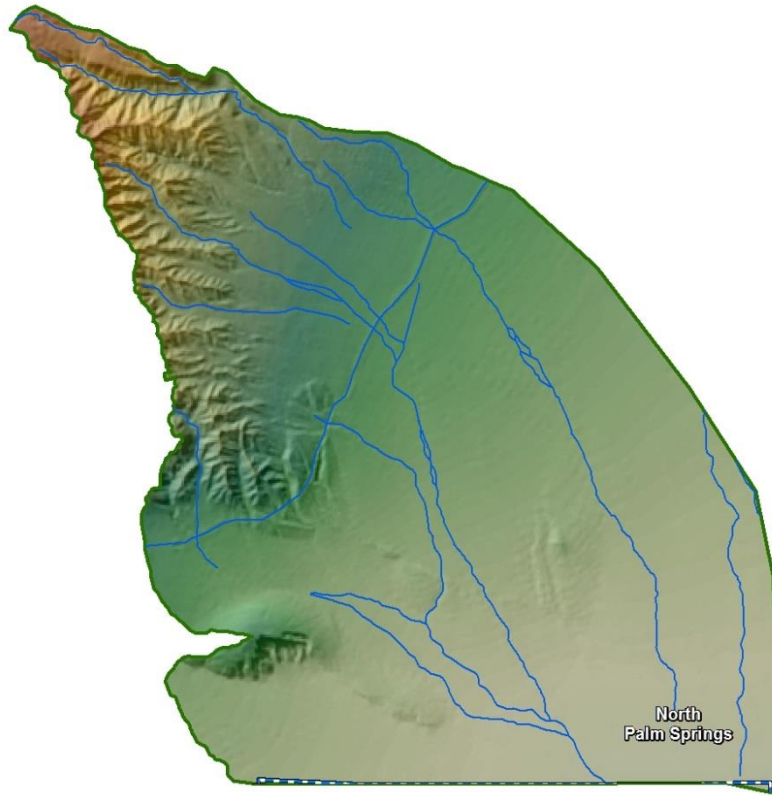


**Figure 4-3: Morongo Wash / Mission Creek watershed unit with major population centers**

**Table 4-2: Morongo Wash / Mission Creek watershed unit characteristics**

Watershed Area (sq. Miles)	265.6 mi <sup>2</sup>
Length Naturally Occurring Waterways	2,053,933.9 ft
Percentage of Free Flowing River	95%
Percentage of River Miles in Protected Lands	40%
Number of Stream Crossings	146
Average Precipitation per Year	12.4 in
Percentage Area above 15% Slope:	71%
Longest Watershed Flow Path Length	138,940.6 ft
Maximum Elevation	4,022.32 ft
Minimum Elevation	248.8 ft
Watershed Elevation Difference	7,779.1 ft
Average Map Slope	0.056

### 4.1.3 Garnet Wash

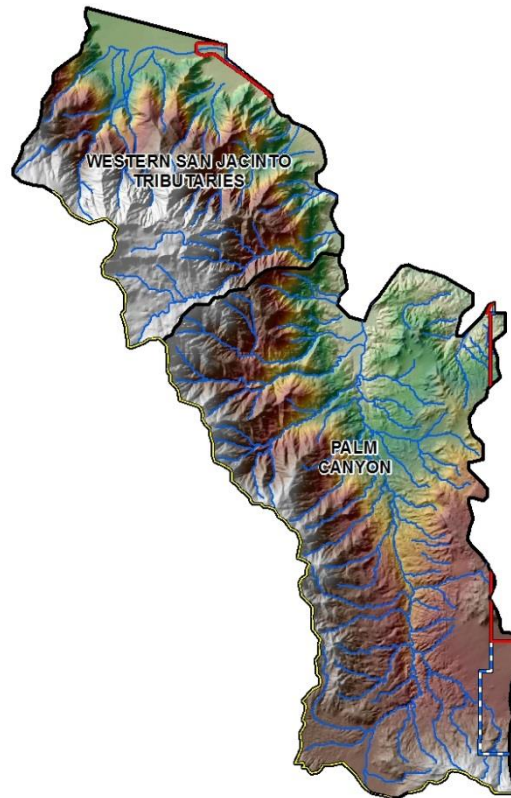


**Figure 4-4: Garnet Wash watershed unit with major population centers**

**Table 4-3: Garnet Wash watershed unit characteristics**

Watershed Area (sq. Miles)	34.4 mi <sup>2</sup>
Length Naturally Occurring Waterways	240,123.4 ft
Percentage of Free Flowing River	90%
Percentage of River Miles in Protected Lands	30%
Number of Stream Crossings	80
Average Precipitation per Year	9.8 in
Percentage Area above 15% Slope:	17%
Longest Watershed Flow Path Length	57,679.7 ft
Maximum Elevation	3,287.7 ft
Minimum Elevation	718.3 ft
Watershed Elevation Difference	2,569.4 ft
Average Map Slope	0.045

#### 4.1.4 Eastern San Jacinto Mountains

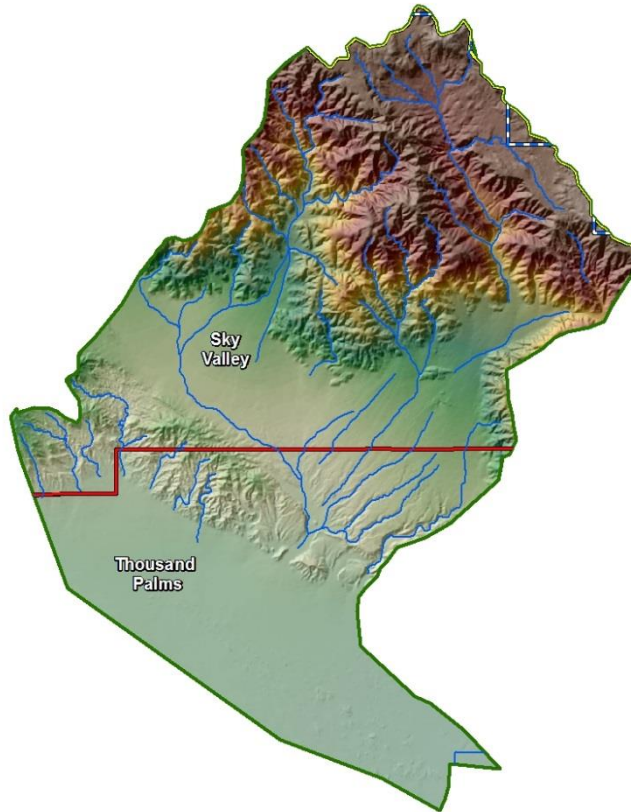


**Figure 4-5: Eastern San Jacinto Mountains watershed unit with major population centers**

**Table 4-4: Eastern San Jacinto Mountains watershed unit characteristics**

Watershed Area (sq. Miles)	205.0 mi <sup>2</sup>
Length Naturally Occurring Waterways	1,500,641.6 ft
Percentage of Free Flowing River	98%
Percentage of River Miles in Protected Lands	61%
Number of Stream Crossings	44
Average Precipitation per Year	16.7 in
Percentage Area above 15% Slope:	79%
Longest Watershed Flow Path Length	114,355.2 ft
Maximum Elevation	6,014.0 ft
Minimum Elevation	564.8 ft
Watershed Elevation Difference	1,640.5 ft
Average Map Slope	0.014

### 4.1.5 Thousand Palms

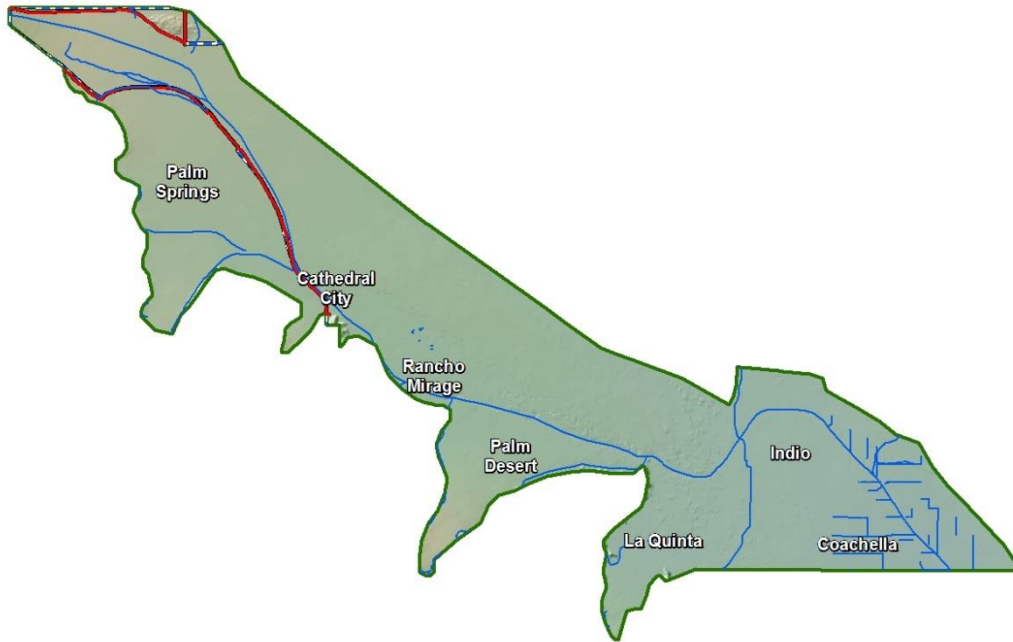


**Figure 4-6: Thousand Palms watershed unit with major population centers**

**Table 4-5: Thousand Palms watershed unit characteristics**

Watershed Area (sq. Miles)	134.5 mi <sup>2</sup>
Length Naturally Occurring Waterways	651,001.5 ft
Percentage of Free Flowing River	93%
Percentage of River Miles in Protected Lands	89%
Number of Stream Crossings	57
Average Precipitation per Year	7.6 in
Percentage Area above 15% Slope:	45%
Longest Watershed Flow Path Length	125,572.0 ft
Maximum Elevation	4,762.0 ft
Minimum Elevation	38.4 ft
Watershed Elevation Difference	4,723.6 ft
Average Map Slope	0.038

### 4.1.6 Valley Floor

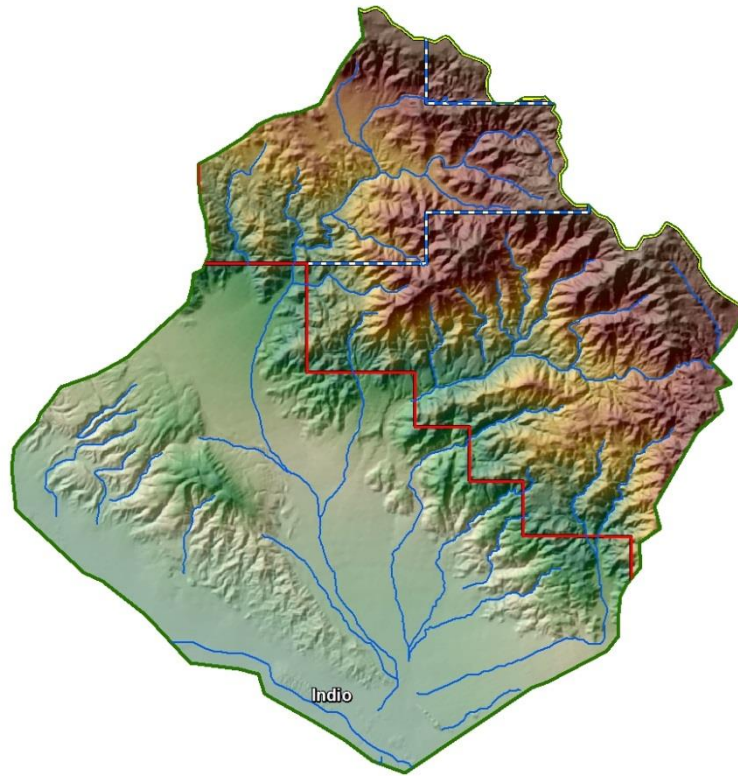


**Figure 4-7: Valley Floor watershed unit with major population centers**

**Table 4-6: Valley Floor watershed unit characteristics**

Watershed Area (sq. Miles)	140.3 mi <sup>2</sup>
Length Naturally Occurring Waterways	205,965.9 ft
Percentage of Free Flowing River	41%
Percentage of River Miles in Protected Lands	25%
Number of Stream Crossings	110
Average Precipitation per Year	5.2 in
Percentage Area above 15% Slope:	0.9%
Longest Watershed Flow Path Length	187,708.7 ft
Maximum Elevation	1014.1 ft
Minimum Elevation	-95.1 ft
Watershed Elevation Difference	1,109.2 ft
Average Map Slope	0.006

### 4.1.7 North Indio

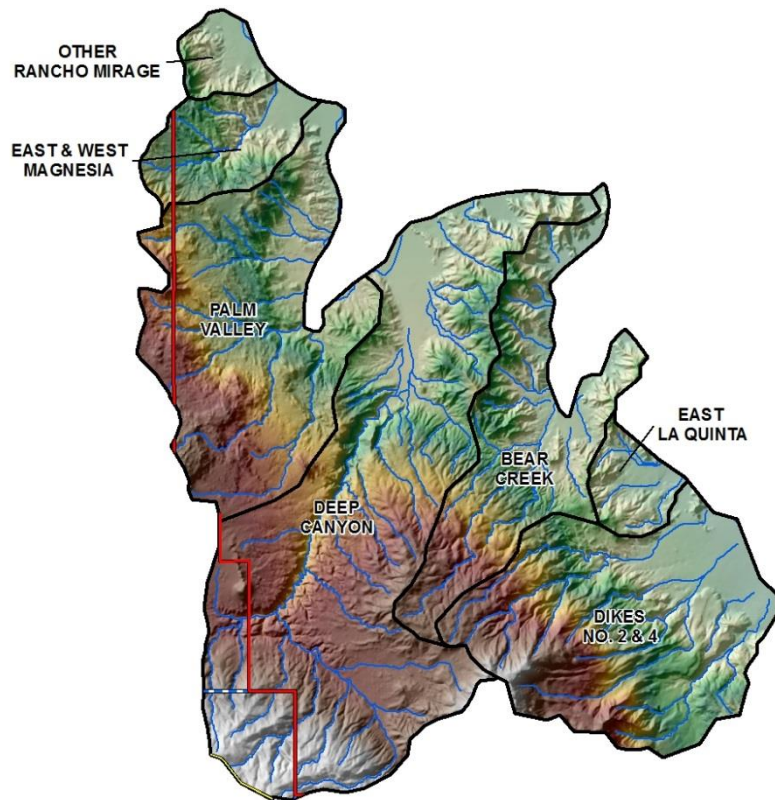


**Figure 4-8: North Indio watershed unit with major population centers**

**Table 4-7: North Indio watershed unit characteristics**

Watershed Area (sq. Miles)	109.4 mi <sup>2</sup>
Length Naturally Occurring Waterways	585,792.4 ft
Percentage of Free Flowing River	88%
Percentage of River Miles in Protected Lands	78%
Number of Stream Crossings	67
Average Precipitation per Year	7.0 in
Percentage Area above 15% Slope:	63%
Longest Watershed Flow Path Length	91,055.8 ft
Maximum Elevation	4,388.9 ft
Minimum Elevation	15.4 ft
Watershed Elevation Difference	4,373.5 ft
Average Map Slope	0.048

### 4.1.8 Eastern Santa Rosa Mountains



**Figure 4-9: Eastern Santa Rosa Mountains watershed unit with major population centers**

**Table 4-8: Eastern Santa Rosa Mountains watershed unit characteristics**

Watershed Area (sq. Miles)	129.7 mi <sup>2</sup>
Length Naturally Occurring Waterways	1,072,336.2 ft
Percentage of Free Flowing River	99.8%
Percentage of River Miles in Protected Lands	85%
Number of Stream Crossings	82
Average Precipitation per Year	9.9 in
Percentage Area above 15% Slope:	76%
Longest Watershed Flow Path Length	100,754.2 ft
Maximum Elevation	7,999.8 ft
Minimum Elevation	293.6 ft
Watershed Elevation Difference	7706.2 ft
Average Map Slope	0.076

### 4.1.9 Oasis Area



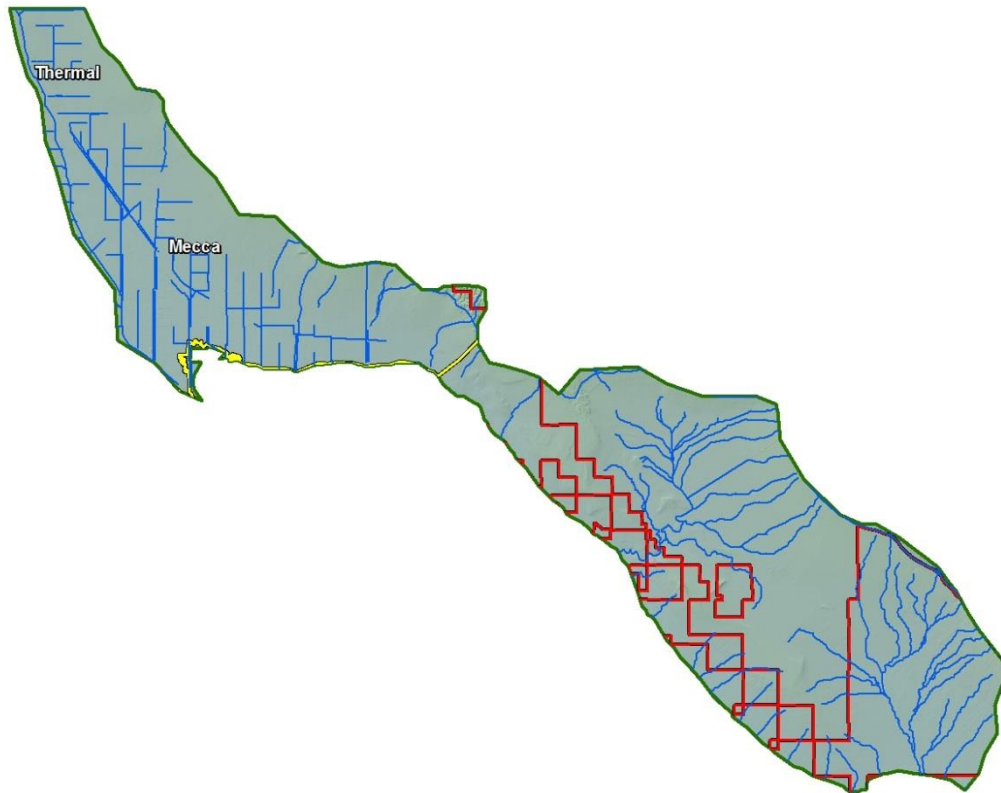
**Figure 4-10: Oasis Area watershed unit with major population centers**

**Table 4-9: Oasis Area watershed unit characteristics**

Watershed Area (sq. Miles)	231.6 mi <sup>2</sup>
Length Naturally Occurring Waterways	1,438,057.2 ft
Percentage of Free Flowing River	57%
Percentage of River Miles in Protected Lands	59%
Number of Stream Crossings	262
Average Precipitation per Year	7.2 in
Percentage Area above 15% Slope:	43%
Longest Watershed Flow Path Length	122,315.1 ft
Maximum Elevation	7,896.1 ft
Minimum Elevation	-194.9 ft
Watershed Elevation Difference	8,091.0 ft
Average Map Slope	0.066



#### 4.1.10 Mecca / North Shore SMP

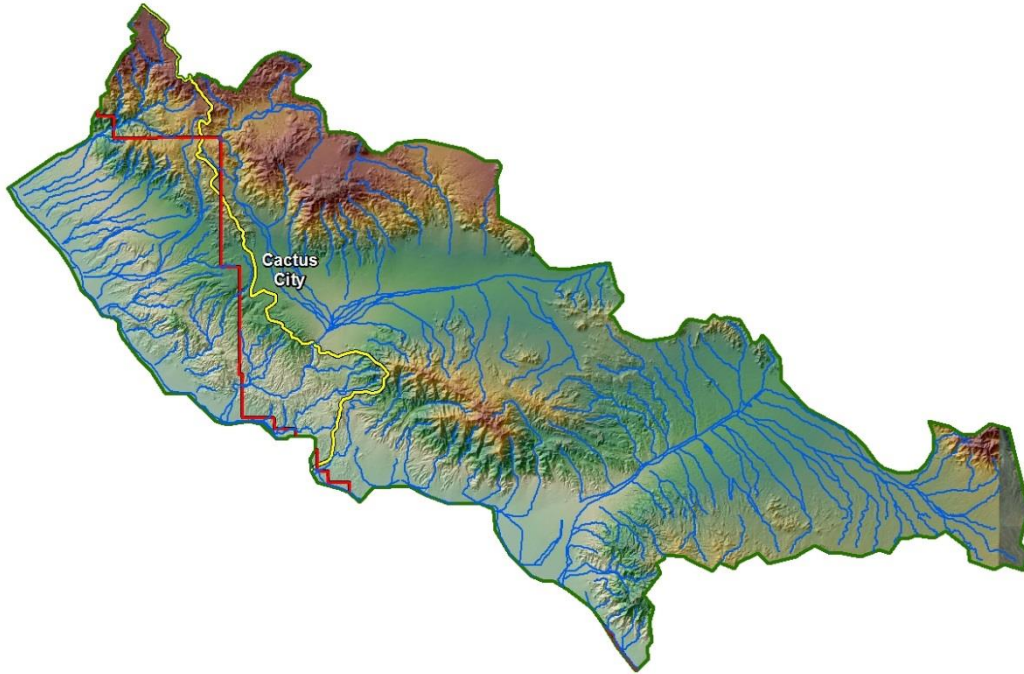


**Figure 4-11: Mecca / North Shore SMP watershed unit with major population centers**

**Table 4-10: Mecca / North Shore SMP watershed unit characteristics**

Watershed Area (sq. Miles)	151.1 mi <sup>2</sup>
Length Naturally Occurring Waterways	740,633 ft
Percentage of Free Flowing River	53%
Percentage of River Miles in Protected Lands	43%
Number of Stream Crossings	60
Average Precipitation per Year	3.3 in
Percentage Area above 15% Slope:	0.5%
Longest Watershed Flow Path Length	69,024.9 ft
Maximum Elevation	-97.9 ft
Minimum Elevation	-224.7 ft
Watershed Elevation Difference	322.6 ft
Average Map Slope	0.005

### 4.1.11 Mecca / North Shore Area

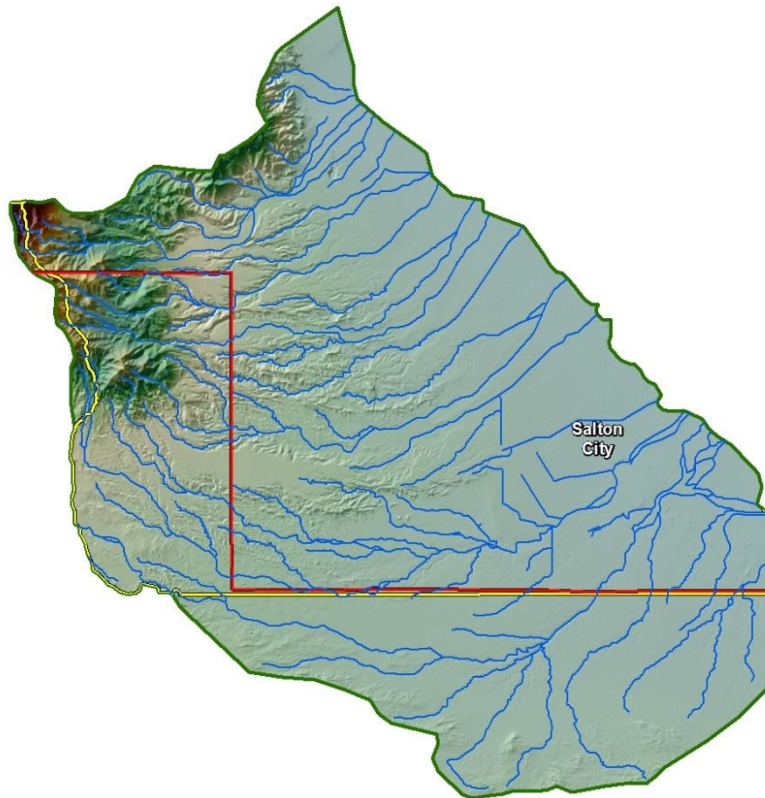


**Figure 4-12: Mecca / North Shore Area watershed unit with major population centers**

**Table 4-11: Mecca / North Shore Area watershed unit characteristics**

Watershed Area (sq. Miles)	554.9 mi <sup>2</sup>
Length Naturally Occurring Waterways	3,651,875 ft
Percentage of Free Flowing River	88%
Percentage of River in Protected Lands	64%
Number of Stream Crossings	148
Average Precipitation per Year	5.0 in
Percentage Area above 15% Slope	42%
Longest Watershed Flow Path Length	156,923.7 ft
Maximum Elevation	3,953.3 ft
Minimum Elevation	39.9 ft
Watershed Elevation Difference	3,913.0 ft
Average Map Slope	0.025

#### 4.1.12 West Shore of Salton Sea



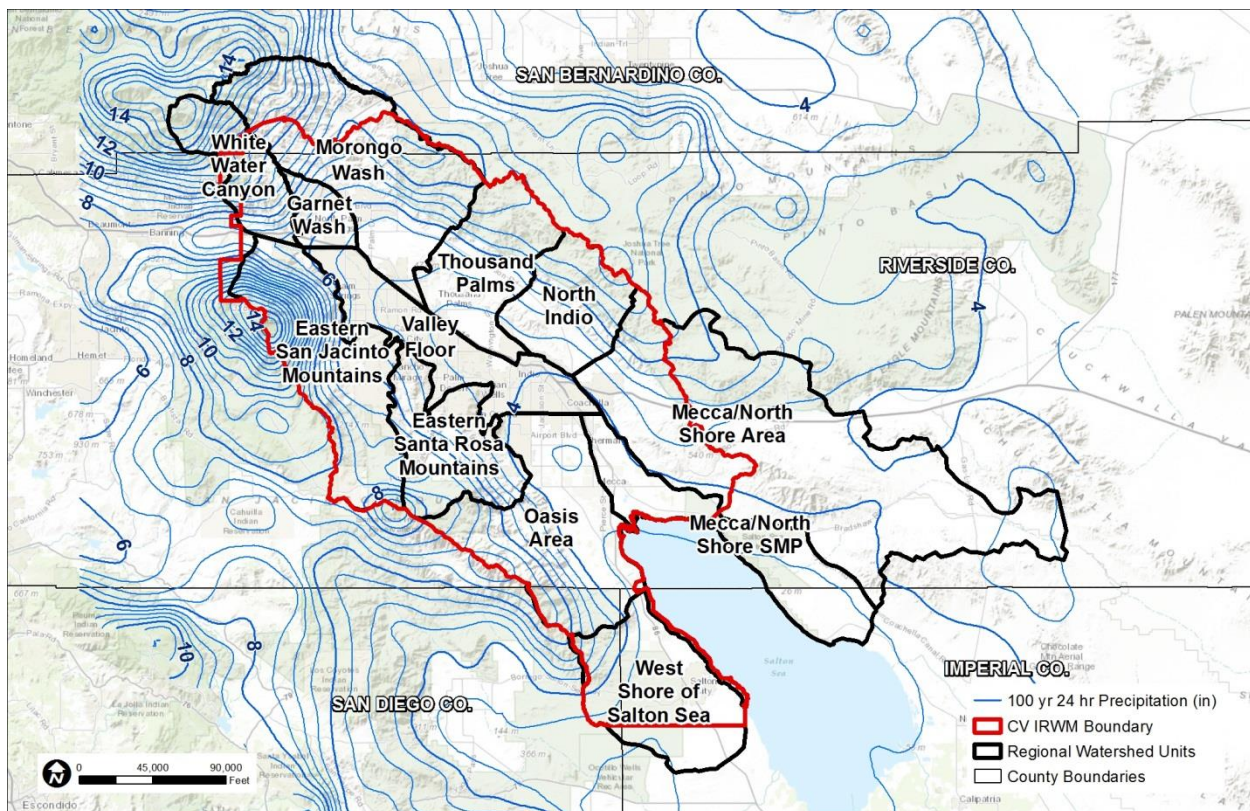
**Figure 4-13: West Shore of Salton Sea watershed unit with major population centers**

**Table 4-12: West Shore of Salton Sea watershed unit characteristics**

Watershed Area (sq. Miles)	172.3 mi <sup>2</sup>
Length Naturally Occurring Waterways	1,539,088.6 ft
Percentage of Free Flowing River	95%
Percentage of River Miles in Protected Lands	0%
Number of Stream Crossings	27
Average Precipitation per Year	4.4 in
Percentage Area above 15% Slope:	19%
Longest Watershed Flow Path Length	101,071.9 ft
Maximum Elevation	595.1 ft
Minimum Elevation	-224.9 ft
Watershed Elevation Difference	820.0 ft
Average Map Slope	0.008

## 4.2 Metrologic Conditions / Historic Precipitation

The Coachella Valley IRWM Region climate is an extension of the Sonoran Desert and is classified as an extremely arid environment based on the amount of precipitation. Most precipitation falls during the winter months from passing mid-latitude frontal systems from the north and west, nearly all of it as rain, but with snow atop the surrounding mountains. Rain also falls during the summer months as surges of moisture from both the Gulf of Mexico and the Gulf of California are drawn into the area by the desert monsoon. Occasionally, the remnants of a Pacific tropical cyclone can also affect the valley. In 1976, Tropical Storm Kathleen brought torrential rain and catastrophic flooding to the Coachella Valley as it swept in from the Pacific, traversing the region from south to north. The historical variation of the total annual rainfall is illustrated on Figure 4-14 which identifies the wet-years, but this does not necessarily correlate directly to flood events since flooding is general associated with large amount of rainfall in a short period of time.



**Figure 4-14: Coachella Valley 100-year 24-hour precipitation in inches variation illustrating lines of constant rainfall (isopluvials)**

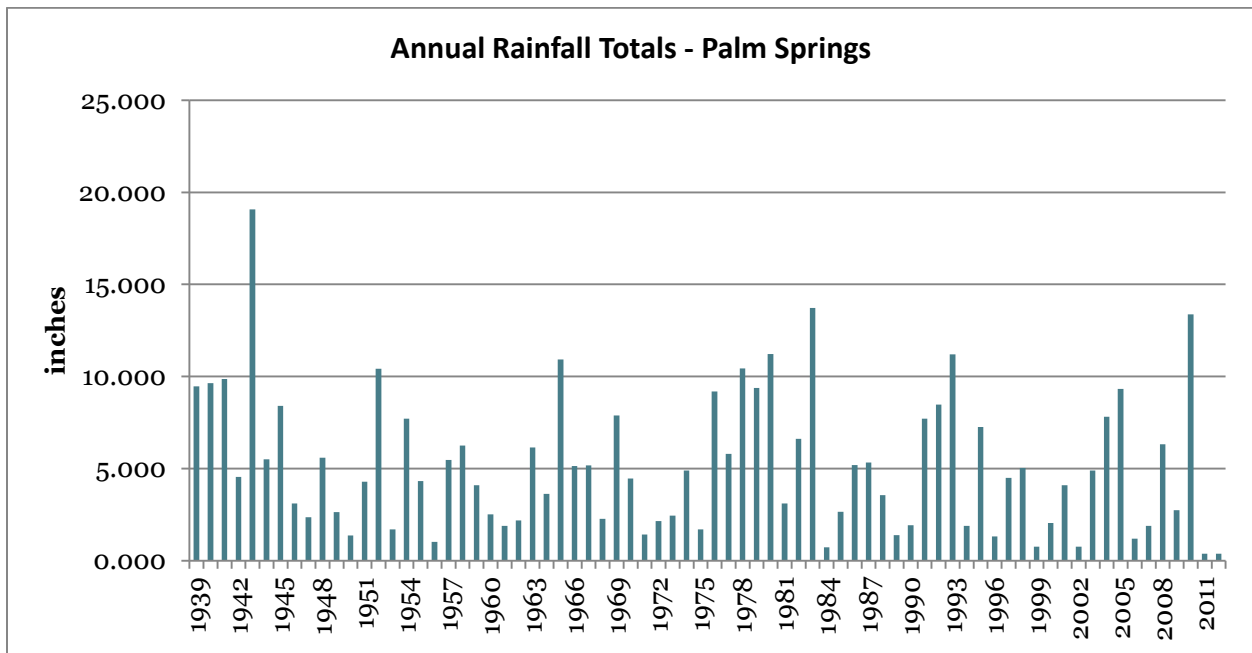


Figure 4-15: Variation of annual rainfall totals in Coachella Valley (Palm Springs Airport) from the later 1930s

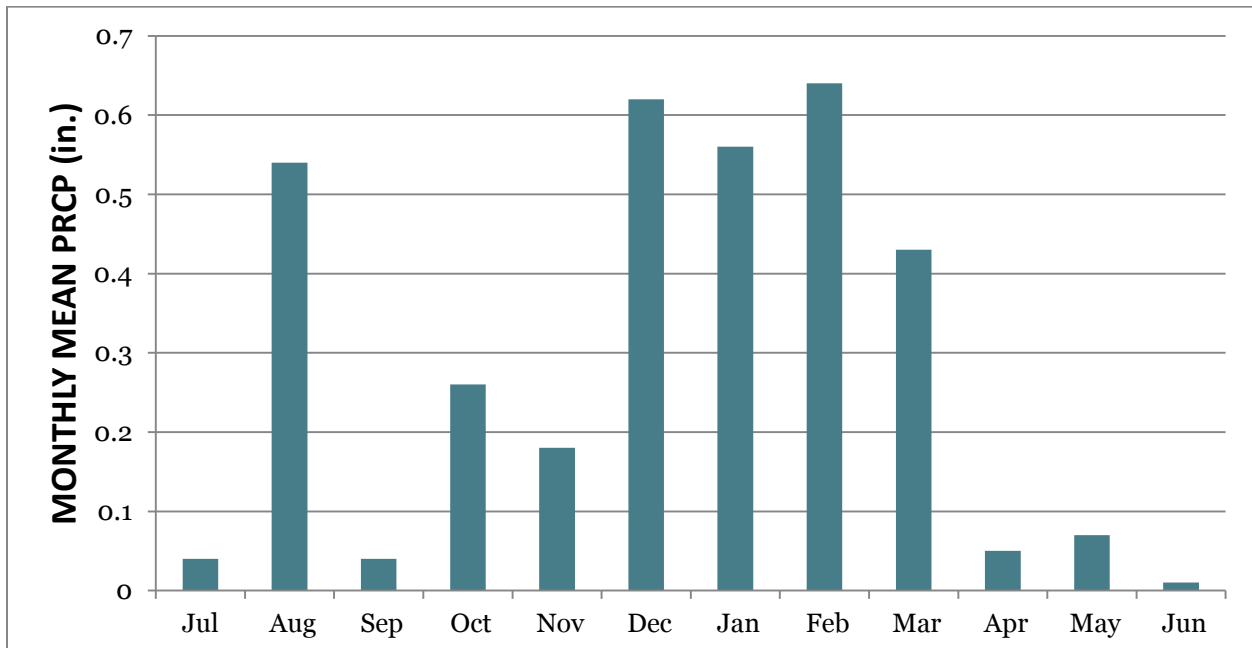
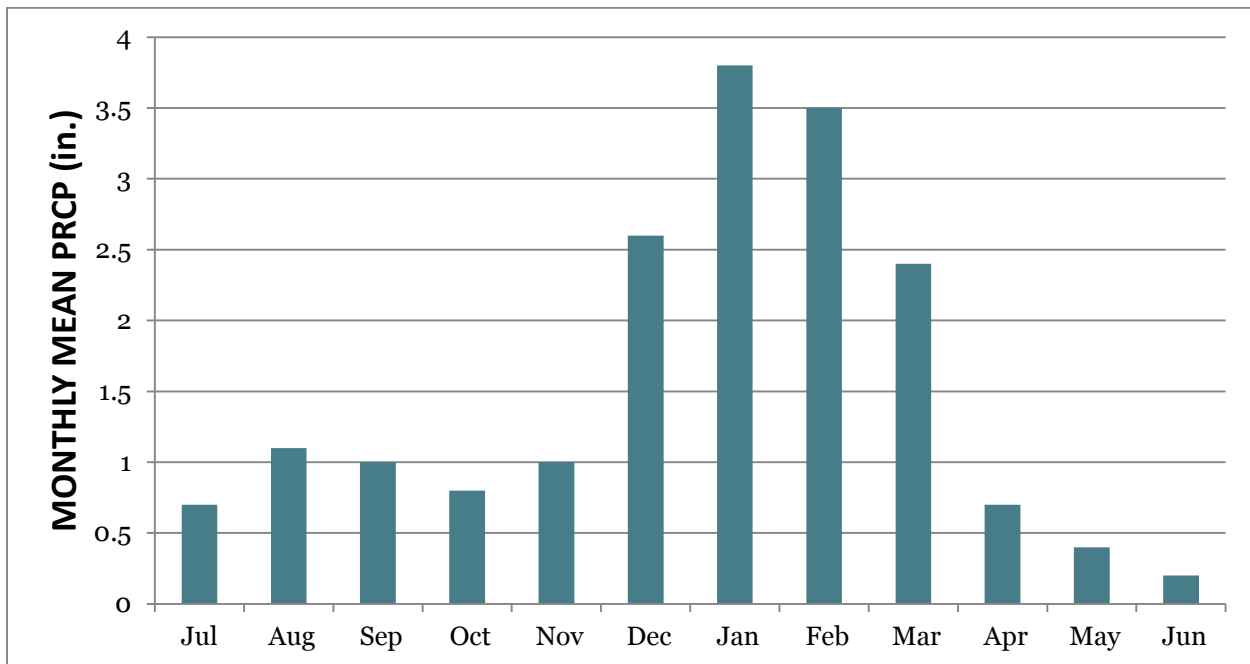


Figure 4-16: Typical “lower valley” (Indio) average monthly variation of rainfall over the year, noting the months of highest rainfall ()



**Figure 4-17: Typical “upper valley” (Palm Springs) average monthly variation of rainfall over the year**

### 4.3 Floodplain Hydrology – Major Regional Flood Sources

The flood hazard mapping generated by FEMA and utilized for the risk/exposure assessment in this study were prepared as part of the original FEMA FIS and this included the engineering hydrologic analyses. The hydrology utilized as 100-year floodplain delineation from the FIS provides a general indication of the magnitude of the flow rate from the different watersheds. A summary of the select larger watersheds hydrology values from the FIS are provided in Table 4-13 below in order to get an understanding of the watershed characteristics and the magnitude of the hydrologic response as part of the watershed planning effort. There may be other watershed studies that have performed more refined hydrology analyses, but the intent is to provide a general understanding of the flow rates generated from the major watersheds for planning purposes. The specific concentration points or location within the watershed is based on the information provided from the FIS (FEMA, 2008).

**Table 4-13: Major Regional Flood Sources**

Flooding Source / Location	Drainage Area (square miles)	Peak Discharge (cfs)		
		10-year (10% chance)	50-year (2% chance)	100-year (1% chance)
<b>Big Morongo Wash</b>				
At Pierson Blvd.	41.98	1,000	6,590	11,560
<b>Blind Canyon Channel</b>				
At Confluence w/ Desert Hot Springs Channel	4.6	560	1,900	2,800
Approx. 2,500 feet upstream of West 16 <sup>th</sup> St.	4.6	560	1,900	2,800
At Confluence w/ Colorado River Aqueduct	3.2	440	1,500	2,200
<b>Dead Indian Canyon</b>				
At Della Robia Ln.	16.5	1,000	4,200	6,700
Approx. 200 feet South of Della Robia Ln.	16.2	1,000	4,200	6,700
<b>Deep Canyon Channel</b>				
Approx. 1,000 feet East of Haystack Channel Junction	63.8	2,000	8,200	13,000
At Buckboard Trail	63.1	2,000	8,200	13,000
<b>Deep Canyon Storm Water Channel</b>				
At Whitewater River	68.7	2,000	8,600	14,000
At Camino Del Ray	67.4	2,000	8,600	14,000
Approx. 700 feet South of El Dorado Dr.	66.2	2,000	8,200	13,000
Approx. 1,000 feet east of Haystack Channel Junction	63.8	2,000	8,200	13,000
At Buckboard Trail	63.1	2,000	8,200	13,000
<b>Desert Hot Springs Channel</b>				
At Confluence w/ Big Morongo Wash	8.2	600	2,000	3,000
Approx. 500 feet South of West 8 <sup>th</sup> St.	7.9	600	2,000	3,000
Below Confluence w/ Blind Canyon Channel	5.8	600	2,000	3,000
At Palm Dr.	1.0	200	660	1,000
At Verbena Dr.	0.5	160	330	500
<b>Dry Morongo Wash</b>				
At Apex	8.91	500	3,060	5,170
<b>East Rancho Mirage Storm Channel</b>				
At Confluence w/ Palm Valley Drain	0.9	120	510	860
Approx. 4,000 feet Southwest of Indian Trail Rd.	0.4	70	300	500

Flooding Source / Location	Drainage Area (square miles)	Peak Discharge (cfs)		
		10-year (10% chance)	50-year (2% chance)	100-year (1% chance)
<b>Haystack Channel</b>				
At Confluence w/ Deep Canyon Channel	0.70	100	440	730
At Medina Dr.	0.10	30	120	200
Approx. 1,500 feet Upstream of Medina Dr.	0.05	20	80	131
<b>Little Morongo Wash</b>				
At Pierson Blvd.	63.71	1,250	9,090	16,420
<b>Long Canyon</b>				
At 2S./5E.-34 SW Corner	26.01	6,570	11,300	13,350
<b>Magnesia Springs Channel</b>				
At Confluence w/ Whitewater River	5.2	480	2,100	3,400
Approx. 4,000 feet Southwest of Indian Trail Rd.	4.7	460	2,000	3,200
<b>Martinez Canyon</b>				
Martinez Canyon	48.5	2,219	7,948	12,376
<b>Mission Creek</b>				
At Highway 62	41.09	1,930	8,480	13,170
<b>North Cathedral Channel</b>				
Downstream of Confluence w/ Tramview Wash	3.9	400	1,550	2,600
<b>Palm Canyon Wash</b>				
Downstream of Confluence w/ Tahquitz Creek	138.8	4,600	17,000	25,000
<b>Palm Desert Channel</b>				
Downstream of Confluence with Palm Desert Channel Tributary	18.0	1,000	4,400	7,000
At State Highway 74	1.40	160	800	1,250
<b>Palm Valley Stormwater Channel</b>				
At Confluence w/ Whitewater River	9.70	700	3,000	5,000
At Park View Dr. Upstream of Confluence w/ Diversion Channel	8.40	640	2,700	4,600
At Pitahaya St.	7.90	620	2,700	4,500
At Willow St.	7.00	560	2,500	4,200
Approx. 1,500 feet Southwest of State Highway 74 and Bel Air Rd.	6.20	520	2,400	3,800
At Starburst Dr.	4.60	450	2,000	3,200



Flooding Source / Location	Drainage Area (square miles)	Peak Discharge (cfs)		
		10-year (10% chance)	50-year (2% chance)	100-year (1% chance)
<b>Pushawalla Canyon</b>				
At Apex	33.7	3,460	6,680	8,050
<b>Thousand Palms Canyon</b>				
At Apex	84.1	5,330	11,170	14,510
<b>Thousand Palms Tributary A</b>				
At Apex	1.4	640	980	1,160
<b>Thousand Palms Tributary B</b>				
At Apex	0.9	560	850	1,000
<b>Thousand Palms Tributary C</b>				
At Apex	1.1	680	1,030	1,220
<b>Thousand Palms Main Channel</b>				
At Apex	7.5	1,240	2,350	2,820
<b>Thunderbird Wash</b>				
At Confluence w/ Whitewater River	1.0	120	550	920
At Pecos Rd.	0.6	90	400	660
At Thunderbird Rd.	0.4	70	300	500
<b>Tramview Tributary</b>				
At State Highway 111	1.1	180	700	1,160
<b>Tramview Wash</b>				
Approx. 230 feet Upstream of Upstream Corporate Limits	1.7	240	920	1,530
<b>Whitewater River</b>				
At Salton Sea	1,600	8,500	27,000	43,000
At Point Happy	843	8,500	27,000	43,000
Downstream of Confluence with Palm Canyon Wash	743	9,000	30,000	47,000
Below Palm Valley Drain	*	8,800	28,000	46,000

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## 5 Integrated Flood Management (IFM) Planning Guiding Principles

### 5.1 Overview of IFM and Basic Planning Principles

IFM deviates from traditional flood protection approaches since IFM combines land and water resources development within a watershed, within the context of IRWM, and with a focus on maximizing the efficient use/net benefit of floodplain while promoting public safety. IFM is a process that promotes an integrated, rather than fragmented, approach to flood management and recognizes the connection of flood management actions to water resources management, land use planning, environmental stewardship, and sustainability. Traditional flood management practices focus on reducing the chance of flooding and flood damages through physical measures intended to store and convey floodwaters away from areas to be protected. Although this approach can reduce the intensity and frequency of flooding, it can also limit the floodplain's natural function and have other unintended consequences. In addition, the traditional approach has typically been reactive or piecemeal in addressing the negative aspects of flooding without looking at the larger watershed processes and riverine ecosystem.

IFM uses various techniques to manage flooding, including structural projects (such as levees), nonstructural measures (such as land use practices), and natural watershed functions. Depending on the characteristics of individual watersheds, various resource management strategies may be used, such as: agricultural land stewardship, conjunctive water management, conveyance, ecosystem restoration, forest management, land use planning and management, surface storage, system reoperations, urban runoff management and watershed management. In recent years, flood managers have recognized the potential for natural watershed features to reduce the intensity or duration of flooding. Natural watershed features include: undeveloped floodplains that can store and slowly release floodwaters and wetlands acting as sponges, soaking up floodwaters, filtering runoff, and providing opportunities for infiltration to groundwater. Natural watershed features also include healthy forests, meadows, and other open spaces that can slow runoff during smaller flood events, reducing peak flows, mudslides, and sediment loads in streams.

#### 5.1.1 Basic Planning Principles of IFM

Table 5-1 provides basic guiding principles that provide the foundation in planning integrated flood management.

**Table 5-1: Basic guiding principles of integrated flood management planning****1. Every flood risk scenario is different: there is no flood management blueprint.**

Understanding the type, source and probability of flooding, the exposed assets and their vulnerability are all essential if the appropriate urban flood risk management measures are to be identified. The suitability of measures to context and conditions is crucial: a flood barrier in the wrong place can make flooding worse by stopping rainfall from draining into the river or by pushing water to more vulnerable areas downstream, and early warning systems can have limited impact on reducing the risk from flash flooding.

**2. Designs for flood management must be able to cope with a changing and uncertain future.**

The impact of urbanization on flood management is currently and will continue to be significant. But it will not be wholly predictable into the future. In addition, in the present day and into the longer term, even the best flood models and climate predictions result in a large measure of uncertainty. This is because the future climate is dependent on the actions of unpredictable humans on the climate – and because the climate is approaching scenarios never before seen. Flood risk managers need therefore to consider measures that are robust to uncertainty and to different flooding scenarios under conditions of climate change.

**3. Rapid urbanization requires the integration of flood risk management into regular urban planning and governance.**

Urban planning and management which integrates flood risk management is a key requirement, incorporating land use, shelter, infrastructure and services. The rapid expansion of urban built up areas also provides an opportunity to develop new settlements that incorporate integrated flood management at the outset. Adequate operation and maintenance of flood management assets is also an urban management issue.

**4. An integrated strategy requires the use of both structural and non-structural measures and good metrics for “getting the balance right”.**

The two types of measure should not be thought of as distinct from each other. Rather, they are complementary. Each measure makes a contribution to flood risk reduction but the most effective strategies will usually combine several measures – which may be of both types. It is important to identify different ways to reduce risk in order to select those that best meet the desired objectives now – and in the future.

**5. Heavily engineered structural measures can transfer risk upstream and downstream.**

Well-designed structural measures can be highly effective when used appropriately. However, they characteristically reduce flood risk in one location while increasing it in another. Urban flood managers have to consider whether or not such measures are in the interests of the wider catchment area.

**6. It is impossible to entirely eliminate the risk from flooding. Hard-engineered measures are designed to defend to a pre-determined level.**

They may fail. Other non-structural measures are usually designed to minimize rather than prevent risk. There will always remain a residual risk which should be planned for. Measures should also be designed to fail gracefully rather than, if they do fail, causing more damage than would have occurred without the measure.

**7. Many flood management measures have multiple co-benefits over and above their flood management role.**

The linkages between flood management, urban design, planning and management, and climate change initiatives are beneficial. For example, the greening of urban spaces has amenity value, enhances biodiversity, protects against urban heat island and can provide fire breaks, urban food production and evacuation space. Improved waste management has health benefits as well as maintaining drainage system capacity and reducing flood risk.

**8. It is important to consider the wider social and ecological consequences of flood management spending.**

While costs and benefits can be defined in purely economic terms, decisions are rarely based on economics alone. Some social and ecological consequences such as loss of community cohesion and biodiversity are not readily measurable in economic terms. Qualitative judgments must therefore be made by city managers, communities at risk, urban planners and flood risk professionals on these broader issues.

**9. Clarity of responsibility for constructing and running flood risk programs is critical.**

Integrated urban flood risk management is often set within and can fall between the dynamics and differing incentives of decision-making at national, regional, municipal and community levels. Empowerment and mutual ownership of the flood problem by relevant bodies and individuals will lead to positive actions to reduce risk.

**Table 5-1: Basic guiding principles of integrated flood management planning****10. Implementing flood risk management measures requires multi-stakeholder cooperation.**

Effective engagement with the people at risk at all stages is a key success factor. Engagement increases compliance, generates increased capacity and reduces conflict. This needs to be combined with strong, decisive leadership and commitment from national and local governments.

**11. Continuous communication to raise awareness and reinforce preparedness is necessary.**

Ongoing communication counters the tendency of people to forget about flood risk. Even a major disaster has a half-life of memory of less than two generations and other more immediate threats often seem more urgent. Less severe events can be forgotten in less than three years.

**12. Plan to recover quickly after flooding and use the recovery to build capacity.**

As flood events will continue to devastate communities despite the best flood risk management practices, it is important to plan for a speedy recovery. This includes planning for the right human and financial resources to be available. The best recovery plans use the opportunity of reconstruction to build safer and stronger communities which have the capacity to withstand flooding better in the future.

### 5.1.2 General Elements of IFM

An integrated strategy usually requires the use of both structural and non-structural solutions. It is important to recognize the level and characteristics of existing risk and likely future changes in risk. Integrated flood management also includes the recognition that flood risk can never be entirely eliminated and that resilience to flood risk can include enhancing the capacity of people and communities to adapt to and cope with flooding.

The defining characteristic of IFM is integration simultaneously occurring in different forms such as: mix of different strategies, types of mitigation (structural and non-structural), short-term or long-term, and a participatory approach by multiple agency stakeholders within the watershed to decision making. Key elements of IFM would include:

**Enhanced Level of Watershed Stakeholder Communication**

- Open communication and participation by stakeholders, planners, and decision makes at all levels.
- Public consultation and involvement of watershed stakeholders for decision-making
- Promote coordination/communication across jurisdiction boundaries within the watershed including information management and exchange

**Integrate Land and Water Management**

- Land use planning and water management combined through coordination authorities to obtain consistency in planning
- Main elements of watershed management (water quantity, water quality, and processes of erosion/sedimentation) should be linked in planning
- Effect of land use changes on the hydrologic cycles should be evaluated and considered

**Manage the Water Cycle as a Whole**

- Resource management using an ecosystem approach

- Flood management linked with drought management in the effective use of flood water
- Promote multi-benefit solutions that achieve multiple water resource benefits simultaneously

#### **Adopt a Best-Mix of Strategies**

- Flood management strategies should involve a combination of complementary strategies
- Formulate a layered strategy based on economic and watershed characteristics that is adaptable to changing conditions
- Appropriate combination of structural and non-structural measures should be evaluated recognizing the different advantage and disadvantages for the most effective plan

#### **Adopt Integrated Hazard Management Approaches**

- Flood management should be integrated into the risk management process

## **5.2 General Flood Management Opportunities / Constraints**

The characteristics of the region provide background into understanding the both potential opportunities as well as constraints for developing potential IFM solutions for the existing flood hazards. Flood management projects are planned and implemented to solve problems reducing risk to public safety and property, meet challenges, and seize opportunities. A “problem” can be thought of as an undesirable condition, while an “opportunity” offers a chance for improvement, and “constraints” limit the ability for implementation. The Coachella Valley IRWM Region includes a specialized terrain conditions, as well as geographic features, which can generate a range of different types of watershed response. These features include urban development surrounded by rainfall-collecting steep terrain that discharges onto the flat valley floor. The geography as well meteorological conditions are conducive to sudden flooding. The desert environment has unique geomorphic features that have been formed from historical flooding and the responses of the watersheds. The arid climate, where the total rainfall is typically concentrated in a few short months, adds to the uncertainty of flood prediction. In addition, the unique issues associated with the watershed conditions also limit the application of even conventional flood management solutions. It is important to identify and recognize the areas within the watershed which have specific unique properties as part of the planning process to assist in the formulation of alternative solutions. This study is utilizing a watershed scale assessment as part of an IFM approach that allows examination of flood hazards and their management in combination with other water resources and environmental restoration on a broad scale.

Based on the characteristics discussed above, the Region’s flood management opportunity/constraints may be divided into four major categories which include: (1) physical conditions, (2) regulatory, (3) land use, and (4) environmental/biological.

**Physical**

Different physical features define the types of flooding issues since the topographic features greatly influence the response of the watershed. The nature of the flooding created by the topography also results in different constraints and limits the ability to apply different conventional solutions for the flood hazard mitigation. Table 5-2 illustrates the opportunity and constraints with floodplain management that are associated with “physical features” within the watershed.

**Table 5-2: Opportunity / Constraints for regional floodplain management – Physical**

<b>Physical</b>	
<b>Opportunity / Constraint</b>	<b>Reference</b>
Hydraulic conveyance limitations of existing roadway and utility crossings	<ul style="list-style-type: none"> <li>• Identification of hydraulic limitations as potential target areas for fixes that may reduce areas of flooding and sedimentation</li> </ul>
Existing manmade facilities and structures located with the floodplain	<ul style="list-style-type: none"> <li>• Define existing flood risk from existing facilities/uses within the floodplain</li> </ul>
Sediment delivery with flood flows from canyons / mountainous areas	<ul style="list-style-type: none"> <li>• Excessive sediment delivery causes deposition and will ultimately be deposited at a downstream location with flatter slope</li> <li>• High sediment yields bulk the flood waters and increase depth of flooding</li> </ul>
Limited topographic relief/slope that limits hydraulic conveyance in valley areas compared to the canyon and alluvial fans	<ul style="list-style-type: none"> <li>• Facility sizes will increase further downstream within the watershed because of the reduced slope</li> </ul>
Soils/geology primarily alluvial deposits that are highly erodible	<ul style="list-style-type: none"> <li>• Channel migration routinely occurs</li> <li>• Erosion hazards for development adjacent to channels</li> </ul>
Specialized geographic/geomorphic features which include alluvial fans and coastal plains	<ul style="list-style-type: none"> <li>• Hydraulic conditions are unique and conventional flood management solutions are not applicable</li> </ul>
Topographic features result in steep slopes in the mountains/foothills and extremely flat slopes on the valley floors	<ul style="list-style-type: none"> <li>• Changes in hydraulic conveyance and sediment delivery because of the change in slopes</li> </ul>

**Regulatory**

The existing regulations related to floodplain management/flood control influence the existing level of flood protection provided to the community. Table 5-3 illustrates the opportunity and constraints with floodplain management that are associated with “regulatory” items within the watershed.

**Table 5-3: Opportunity / Constraints for regional floodplain management –  
Regulatory**

Regulatory	
Opportunity / Constraint	Reference
Two different regional flood control agencies have jurisdiction for different portions of the Coachella Valley (CVWD and RCFCWCD), while there are some areas which are in neither jurisdiction that come under the County	<ul style="list-style-type: none"> <li>Comprehensive planning required that reflects the current though process for flood management and the environmental considerations for each of the regional watersheds that will cross over political boundaries</li> </ul>
FEMA/NFIP requirements for community floodplain regulations	<ul style="list-style-type: none"> <li>NFIP requirements have the most influence on floodplain restrictions</li> </ul>
Water quality limitations and restrictions based on the Basin Plan and identified TMDLs	<ul style="list-style-type: none"> <li>Water quality restrictions should be implemented as part of the regional planning solution</li> </ul>

**Land Use**

Existing land use and future proposed development should be closely coordinated with the existing mapped flood hazards. Land use restrictions are one of the primary tools for floodplain management in order to reduce flood risks. Table 5-4 illustrates the opportunity and constraints with floodplain management that are associated with “land use features” within the watershed.

**Table 5-4: Opportunity / Constraints for regional floodplain management – Land Use**

Land Use	
Opportunity/Constraints	Reference
Various urban/commercial land use and additional manmade encroachments within the floodplain	<ul style="list-style-type: none"> <li>Cost/benefit assessments should be performed to evaluate cost effectiveness of flood control facilities or removing these uses from the floodplain</li> </ul>
Limitations of development and land use restrictions within active flood hazard zones	<ul style="list-style-type: none"> <li>Modifications to current General Plan modifying land uses so that they are compatible with the floodplain overlay since many locations have development zoned for floodplain areas</li> </ul>

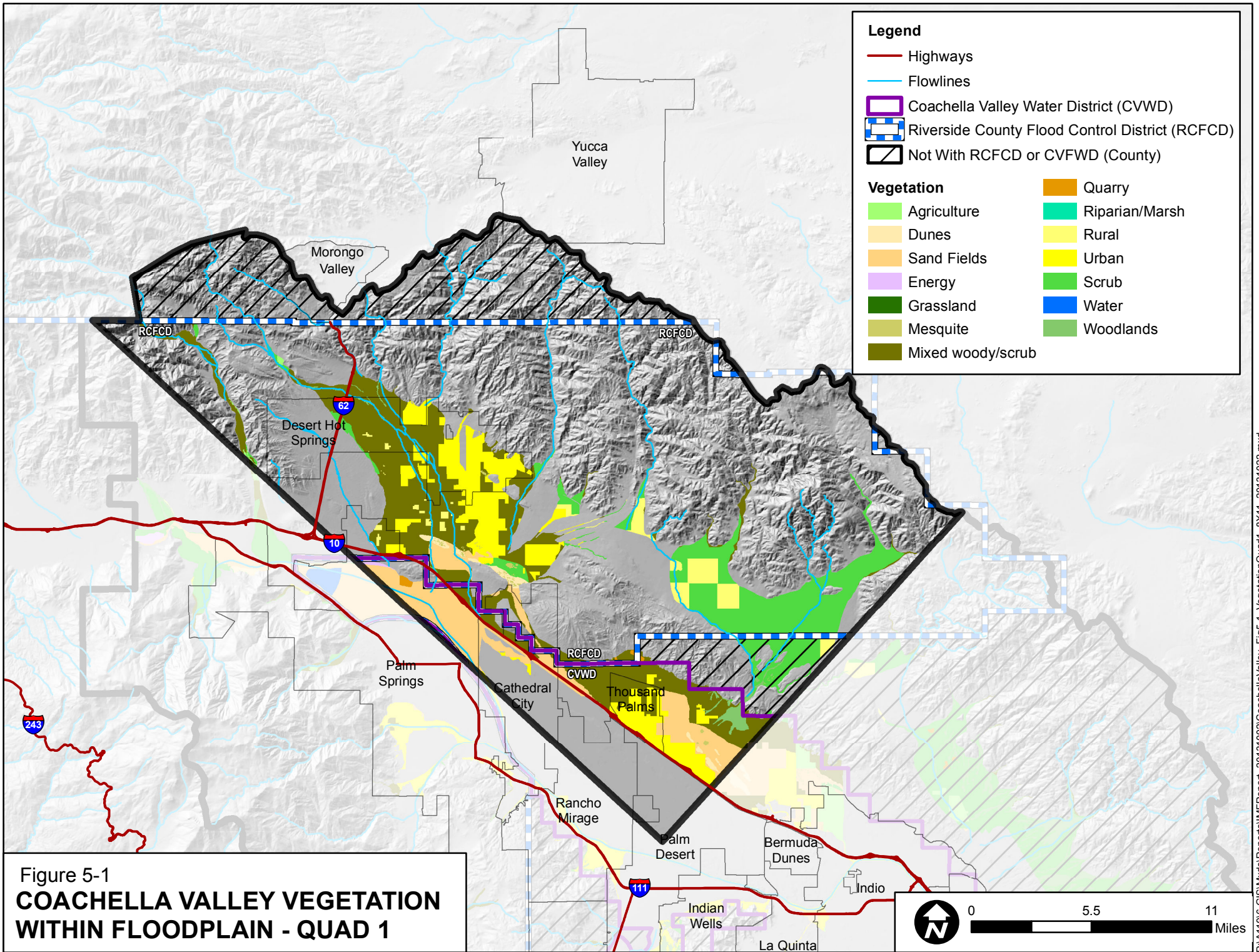
**Environmental/Biological**

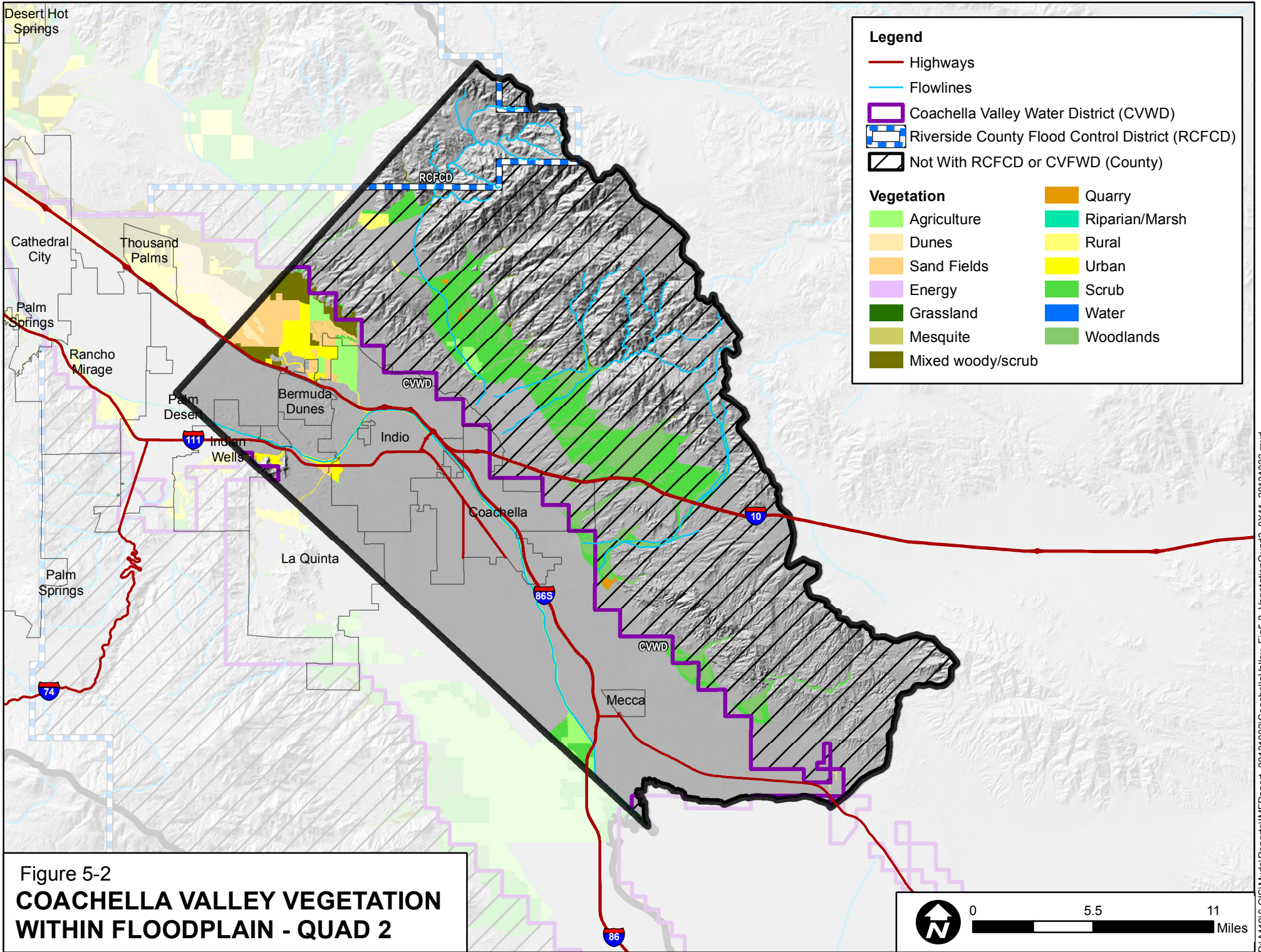
Existing biological resources within the floodplain corridor are an important opportunity to integrate into the regional planning as part of the preservation of these resources. However, in addition to an opportunity these resources can represent constraints in the different types of solutions that can be applied for flood mitigation and may result in additional costs. Table 5-5 illustrates the opportunity and constraints with floodplain management that are associated with “environmental/biological” elements within the watershed.

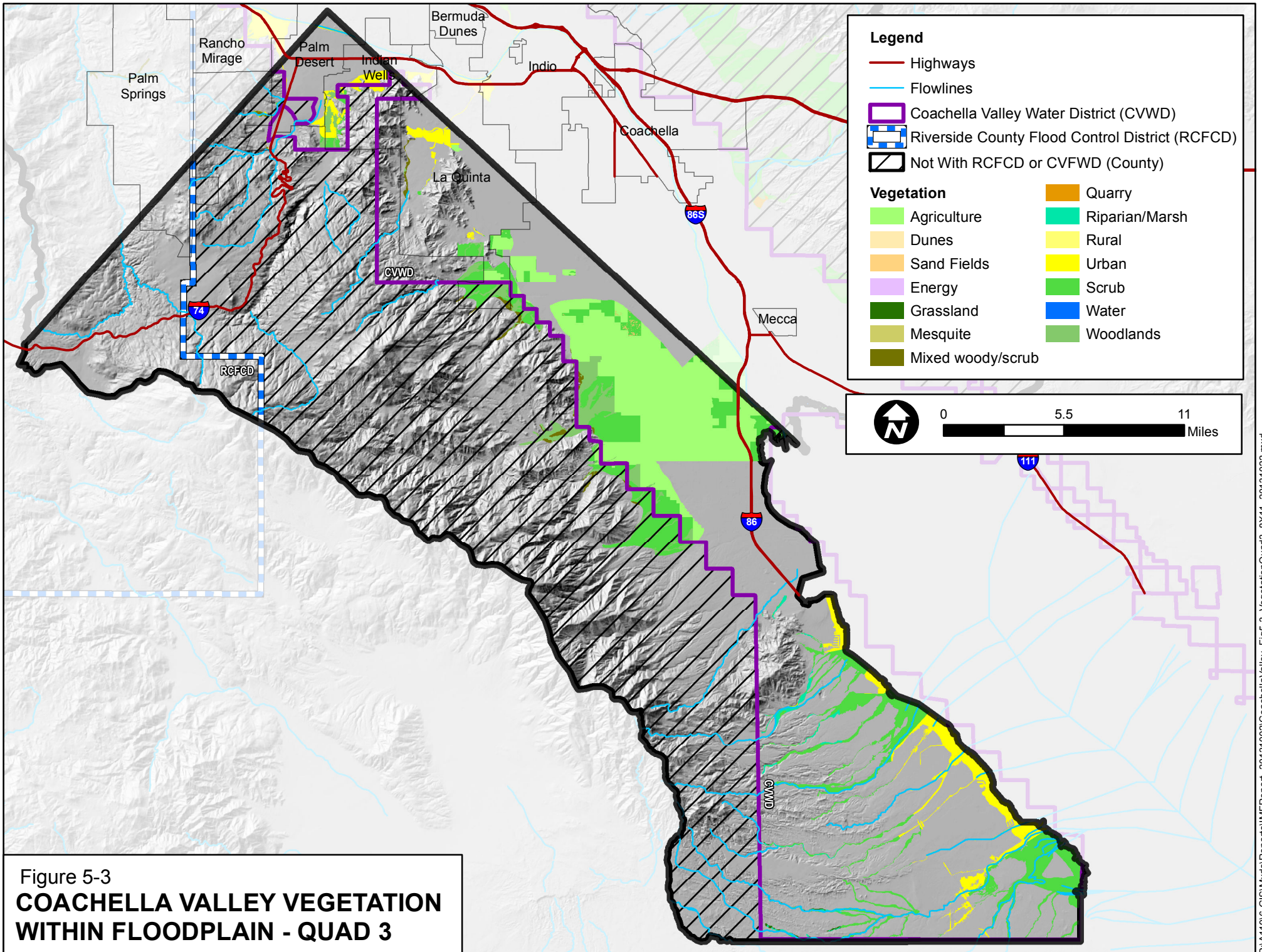


**Table 5-5: Opportunity / Constraints for regional floodplain management –  
Environmental / Biological**

Environmental / Biological	
Opportunity/Constraints	Reference
Environmental permitting limitations for activities/structures within the floodplain (i.e. endangered species, etc.)	<ul style="list-style-type: none"> <li>• Additional costs or limitations on the potential solutions available because of environmental regulatory restrictions</li> </ul>
Many existing floodplain corridors have special defined ecological preserve or similar designations because of habitat for sensitive species (i.e. CV MSHCP)	<ul style="list-style-type: none"> <li>• Existing floodplains and streams are valuable biological resources for preservation</li> </ul>







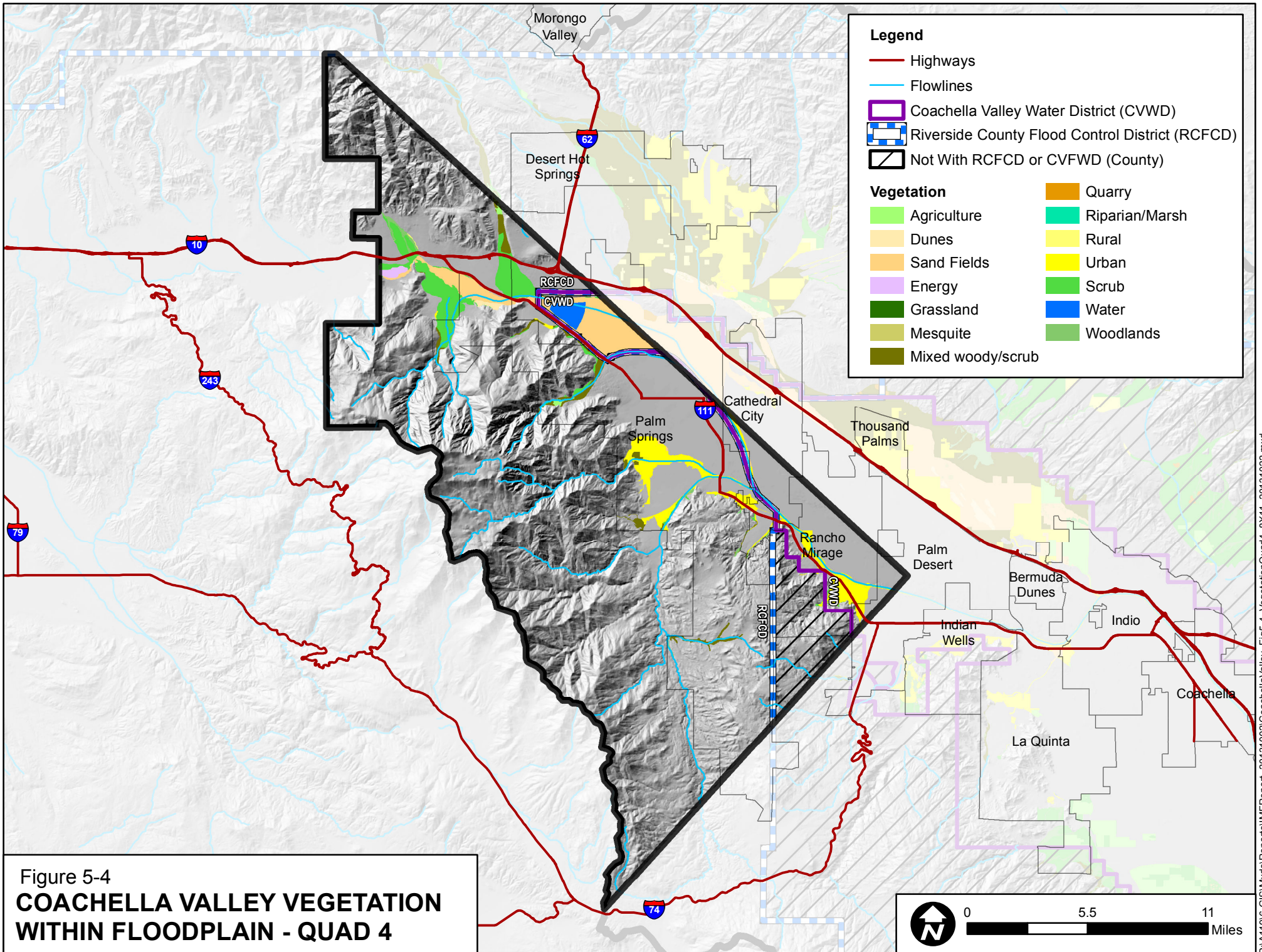


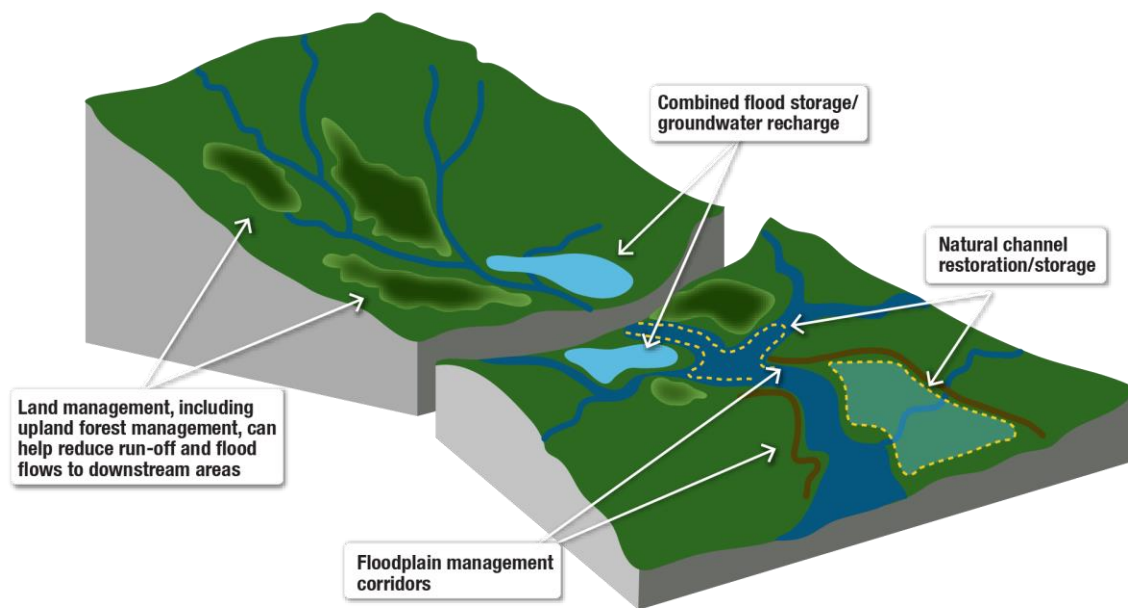
Figure 5-4  
**COACHELLA VALLEY VEGETATION  
 WITHIN FLOODPLAIN - QUAD 4**

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## 6 Formulation of IFM Strategies

### 6.1 Global IFM Strategies

IFM includes a broad range of management strategies and can be grouped into four general approaches— (1) Nonstructural Approaches, (2) Restoration of Natural Floodplain Functions, (3) Structural Approaches, and (4) Emergency Management. These approaches and the management actions within them serve as a toolkit of potential actions that local agencies can use to address flood-related issues, and advance IFM throughout the Region’s watersheds. These actions range from policy or institutional changes to operational and physical changes to flood infrastructure. Such actions are not specific recommendations for implementation; rather, they serve as a suite of generic management tools that can be used individually or combined for specific application situations. A variety of management actions can be bundled together as part of a single flood management project to provide a multiple benefit outcome related to water resources.



**Figure 6-1: Example of IFM strategies applied at different locations on a watershed basis to achieve multiple water resources benefits**

### 6.2 Nonstructural Approaches

#### 6.2.1 Land Use Planning - Floodplain Basis

Land use planning employs policies, ordinances, and regulations to limit development in flood-prone areas and encourages land uses that are compatible with floodplain functions. This can include policies and regulations that restrict or prohibit development within floodplains, restrict size and placement of structures, prevent new development from providing adverse flood impacts

to existing structures, encourage reduction of impervious areas, require flood-proofing of buildings, and encourage long-term restoration of streams and floodplains.

### 6.2.2 Land Use Planning – Watershed Basis

Land use controls on a watershed basis provide the opportunity to assist in controlling the response of the watershed and influence or correct potential problems through non-structural means. In addition, land use planning and regional water management can be coordinated between land management and water management authorities to achieve consistency and maximum benefits. Land use impacts different elements of the watershed including water quantity, water quality, and the processes of erosion/deposition. It is important to understand these linkages between land use and the watershed functions in order to develop collaboration to improve the watershed performance on a regional basis.

### 6.2.3 Floodplain Management

Floodplain management generally refers to nonstructural actions in floodplains to reduce flood damages and losses. Floodplain management actions include:

- **Floodplain Mapping and Risk Assessment** – Floodplain mapping and risk assessment serve a crucial role in identifying properties that are at a high risk to flooding. Accurate, detailed maps are required to prepare risk assessments, guide development, prepare plans for community economic growth and infrastructure, utilize the natural and beneficial function of floodplains, and protect private and public investments. Development of needed technical information includes topographic data, hydrology, and hydraulics of streams and rivers, delineation of areas subject to inundation, assessment of properties at risk, and calculation of probabilities of various levels of loss from floods.
- **Land Acquisitions and Easements** – Land acquisitions and easements can be used to restore or preserve natural floodplain lands and to reduce the damages from flooding by preventing urban development. Land acquisition involves acquiring full-fee title ownership of lands from a willing buyer and seller. Easements provide limited-use rights to property owned by others. Flood easements, for example, are purchased from a landowner in exchange for perpetual rights to periodically flood the property when necessary or to prohibit planting certain crops that would impede flood flows. Conservation easements can be used to protect agricultural or wildlife habitat lands from urban development. Both land acquisitions and easements generally involve cooperation with willing landowners. Although acquisition of lands or easements can be expensive, they can reduce the need for structural flood improvements that would otherwise be needed to reduce flood risk. Maintaining agricultural uses and/or adding recreational opportunities where appropriate provide long-term economic benefits to communities and the State.
- **Building Codes and Flood-proofing** – Building codes and flood-proofing include specific measures that reduce flood damage and preserve egress routes during high- water events. Building codes are not uniform; they vary across the state based on a variety of factors. Example codes could require flood-proofing measures that increase the resilience of



buildings through structural changes, elevation, or relocation and the use of flood resistant materials.

- **Retreat** – Retreat is the permanent relocation, abandonment, or demolition of buildings and other structures. Retreat can be used in a variety of settings from floodplains to coastal areas. In coastal regions, this action would allow the shoreline to advance inward, unimpeded in areas subject to high coastal flooding risks, high erosion rates, or future sea level rise. Integrating recreation uses into retreat areas along the shoreline provides economic uses for these buffer lands.
- **Flood Risk Awareness (Information and Education)** – Flood risk awareness is critical because it encourages prudent floodplain management. Flood hazard information is a prerequisite for sound education in understanding potential flood risks. If the public and decision makers understand the potential risks, they can make decisions to reduce risk, increase personal safety, and expedite recovery after floods. Effective risk awareness programs are critical to building support for funding initiatives and to building a connection to the watershed.
- **Flood Insurance** – Flood insurance is provided by the Federal government via the NFIP to communities that adopt and enforce an approved floodplain management ordinance to reduce future flood risk. The NFIP enables property owners in participating communities to purchase subsidized insurance as a protection against flood losses. If a community participates in the voluntary Community Rating System and implements certain floodplain management activities, the flood insurance premium rates are discounted to reflect the reduced flood risks

#### 6.2.4 Restoration of Natural Floodplain Functions

This strategy recognizes that periodic flooding of undeveloped lands adjacent to rivers and streams is a natural function and can be a preferred alternative to restricting flood flows to an existing channel. The intent of natural floodplain function restoration is to preserve and/or restore the natural ability of undeveloped floodplains to absorb, hold, and slowly release floodwaters, to enhance ecosystem, and to protect flora and fauna communities. Natural floodplain conservation and restoration actions can include both structural and nonstructural measures. To permit seasonal inundation of undeveloped floodplains, some structural improvements (e.g., weirs) might be needed to constrain flooding within a defined area along with nonstructural measures to limit development and permitted uses within those areas subject to periodic inundation. Actions that support natural floodplain and ecosystem functions include:

- **Promoting Natural Hydrologic, Geomorphic, and Ecological Processes** – Natural hydrologic, geomorphic, and ecological processes are key components of promoting natural floodplain and ecosystem functions. Human activities (including infrastructure such as dams, levees, channel stabilization, and bank protection) have modified natural hydrological processes by changing the extent, frequency, and duration of natural floodplain inundation. These changes disrupt natural geomorphic processes such as sediment erosion, transport, and deposition, which normally cause channels to migrate, split, and rejoin

downstream. These natural geomorphic processes are important drivers in creating diverse riverine, riparian, and floodplain habitat to support wildlife, and in providing natural storage during flood events. Restoration of these processes might be achieved through setting back levees, restoring channel alignment, removing unnatural hard points within channels, or purchasing lands or easements that are subject to inundation.

- **Protecting and Restoring Quantity, Quality, and Connectivity of Native Floodplain Habitats** – Quantity, quality, and connectivity of native floodplain habitats are critical to promote natural floodplain and ecosystem functions. In some areas, native habitat types and their associated floodplain have been lost, fragmented, and degraded. Lack of linear continuity of riverine, riparian habitats, or wildlife corridors, impacts the movement of wildlife species among habitat patches and results in a lack of diversity, population complexity, and viability. This can lead to native fish and wildlife becoming rare, threatened, or endangered. Creation or enhancement of floodplain habitats can be accomplished through setting back levees and expanding channels or bypasses, or through removal of infrastructure that prevents flood flows from entering floodplains.
- **Invasive Species Reduction** – Minimizing invasive species can help address problems for both flood management and ecosystems. Invasive species can reduce the effectiveness of flood management facilities by decreasing channel capacity, increasing rate of sedimentation, and increasing maintenance costs. Nonnative, invasive plant species often can out-compete native plants for light, space, and nutrients, further degrading habitat quality for native fish and wildlife. These changes can supersede natural plant cover, eliminate, or reduce the quality of food sources and shelter for indigenous animal species, and disrupt the food chain. Reductions in the incidence of invasive species can be achieved by defining and prioritizing invasive species of concern, mapping their occurrence, using BMPs for control of invasive species, and using native species for restoration projects.

## 6.3 Structural Approaches

Structural approaches to flood management include flood infrastructure, reservoir and floodplain storage and operations, and operations and maintenance (O&M).

### 6.3.1 Flood Infrastructure

Flood infrastructure varies significantly based on the type of flooding. There are many alternative components that can be applied to correct flood control deficiencies. These components can be used individually or in different combinations with other available alternative components. The alternative structural flood control infrastructure solutions that are available to select from for any type of flood control problem are limited to three major categories of solutions from which the individual components will generally fall within one of these categories and include (1) conveyance oriented, (2) storage, and (3) diversion. The major categories of structural solutions can be further expanded to define additional classifications of the primary components which include: (1) flow redirection, (2) structural rigid revetments, (3) other structural techniques, (4) biotechnical techniques, (5) channel geometry, (6) channel alignment, (7) diversion, (8) storage, and (9) other techniques. Flood infrastructure can include:

- **Levees and Floodwalls** – Levees and floodwalls are designed to confine flood flows by containing waters of a stream or lake. Levees are an earthen or rock berm constructed parallel to a stream or shore (or around a lake) to reduce risk from all types of flooding. Levees could be placed close to stream edges, or farther back (e.g., a setback levee). Ring levees could be constructed around a protected area, isolating the area from potential floodwaters. A floodwall is a structural reinforced-concrete wall designed and constructed to hold back floodwaters. Floodwalls have shallow foundations or deep foundations, depending on flood heights and soil conditions. Although Levees and Floodwalls are structural flood management approaches, they are not recommended. Due to strict FEMA regulations and intensive maintenance requirements, other alternatives are preferred within the County of San Diego.
- **Channels and Bypasses** – Channels and bypasses convey floodwaters to reduce the risk of slow rise, flash, and debris- flow flooding. Channels can be modified by deepening and excavating the channel to increase its capacity, or lining the streambed and/or banks with concrete, riprap, or other materials, to increase drainage efficiency. Channel modifications can result in increased erosion downstream and degradation of adjacent wildlife habitat, and often the modifications require extensive permitting. Bypasses are structural features that divert a portion of flood flows onto adjacent lands (or into underground culverts) to provide additional flow-through capacity and/or to store the flows temporarily and slowly release the stored water.
- **Retention and Detention Basins** – Retention and detention basins are used to collect stormwater runoff and slowly release it at a controlled rate so that downstream areas are not flooded or eroded. A detention basin eventually drains all of its water and remains dry between storms. Retention basins have a permanent pool of water and can improve water quality by settling sediments and attached pollutants.
- **Culverts and Pipes** – Culverts and pipes are closed conduits used to drain stormwater runoff. Culverts are used to convey stream-flow through a road embankment or some other type of flow obstruction. Culverts and pipes allow stormwater to drain underground instead of through open channels and bypasses.
- **Streambank Stabilization** –Streambank stabilization protects the banks of streams from erosion by installing different types of bank protection for armoring which include rock riprap, matting, vegetation or other materials to reduce erosion.
- **Debris Mitigation Structures** – For debris and alluvial flooding, debris fences and debris basins separate large debris material from debris flows, or the structures contain debris flows above a protected area. These structures require regular maintenance to periodically remove and dispose of debris after a flood. Deflection berms (or training berms) can be used to deflect a debris flow or debris flood away from a development area, allowing debris to be deposited in an area where it would cause minimal damage.

### 6.3.2 Floodplain Storage and Operations

Floodplain storage provides an opportunity to regulate flood flows by reducing the magnitude of flood peaks occurring downstream. Floodplain storage occurs when peak flows in a river are

diverted to adjacent off-stream areas. Floodplain storage can occur naturally when floodwaters overtop a bank and flow into adjacent lands, or storage can be engineered using weirs, berms, or bypasses to direct flows onto adjacent lands.

- **Groundwater Recharge** – In some areas, opportunities may exist to provide recharge to the aquifer in order to capture surface water sources which would normally discharge to the ocean can enhance the water supplies. In addition, the opportunities for flood storage should be coordinated with recharge opportunities to ensure that these are located where optimum benefits occur, including recharge capabilities.

### 6.3.3 Operations and Maintenance

Operation and maintenance (O&M) is a crucial component of flood management. O&M activities can include inspection, vegetation management, sediment removal, management of encroachments and penetrations, repair or rehabilitation of structures, or erosion repairs. Because significant flood infrastructure constructed in the early to mid-twentieth century are near or have exceeded the end of their expected service lives, adequate maintenance is critical for this flood infrastructure to continue functioning properly.

## 6.4 Flood Emergency Management

Flood emergency management includes the following preparedness, response, and recovery activities:

- **Flood Preparedness** – Flood preparedness consists of the development of plans and procedures on how to respond to a flood in advance of a flood emergency, including preparing emergency response plans, training local response personnel, designating evacuation procedures, conducting exercises to assess readiness, and developing emergency response agreements that address issues of liability and responsibility.
- **Emergency Response** – Emergency response is the aggregate of all those actions taken by responsible parties at the time of a flood emergency. Early warning of flood events through flood forecasting allows timely notification of responsible authorities so that plans for evacuation of people and protection of property can be implemented. Emergency response includes flood fighting, emergency evacuation, and sheltering. Response begins with, and might be confined to, affected local agencies or operational areas (counties). Depending upon the intensity of the event and the resources of the responders, response from regional, State, and Federal agencies might be required.
- **Post-Flood Recovery** – Recovery programs and actions include restoring utility services and public facilities, repairing flood facilities, draining flooded areas, removing debris, and assisting individuals, businesses, and communities to protect lives and property. Recovery planning could include development of long-term floodplain reconstruction strategies to determine if reconstruction would be allowed in flood-prone areas, or if any existing structures could be removed feasibly. Such planning should review what building standards would be required, how the permit process for planned reconstruction could be

improved, funding sources to remove existing structures, natural habitat restoration, and how natural floodplains and ecosystem functions could be incorporated.

## 6.5 Application of Common IFM Strategies

The value of using an IFM approach within the watershed is in the results—improved public safety, enhanced environmental stewardship, and statewide economic stability. Localized, narrowly focused projects are not the best use of public resources and might have negative unintended consequences in nearby regions. The IFM approach can help deliver more benefits at a faster pace using fewer resources than what is possible from single-benefit projects. Table 6-1 provides examples of different recommended IFM strategies that have been utilized effectively throughout the state as background to assist in formulating alternatives within the different watersheds in order to produce high-value multi-benefit projects.

**Table 6-1: Examples of applications of different IFM strategies and approaches**

1. Increase hydraulic conveyance capacities and remove flow restrictions
2. Provide flood relief structures or bypass system to reduce downstream flows
3. Construct setback levees to preserve natural floodplain vegetation corridor
4. Preservation of natural active washes and floodplain corridors
5. Clearing of debris and snags within channel systems
6. Watershed and floodplain vegetation management plan including current levee requirements
7. Streambank stabilization to reduce sedimentation downstream
8. Update O&M procedures and methods to reflect other functions in the flood management system including ecosystem functions
9. Acquire floodplain areas to reduce flood damages and preserve natural floodplain corridors / ecosystem values
10. Sediment deposition removal projects to enhance hydraulic capacity and maintain fluvial processes
11. Update local flood management plans and coordinate with land use planning
12. Designate additional floodways based on current hydraulic and hydrologic conditions
13. Encourage compatible land use with flood management system and floodplain
14. Manage urban stormwater runoff to natural floodplain to reduce the potential for “hydromodification” impacts including flooding and stream stability
15. Improved accuracy of floodplain mapping/delineation, including urban areas, as well as better assessment of flood risks
16. Increased public information on floodplain hazards through access to floodplain hazard delineation with GIS tools on web based applications
17. Increased awareness and participation of FEMA Community Rating System (CRS) for flood insurance rate adjusting program
18. Identify locations and structures which have repetitive flood damage losses and eliminate
19. Land use planning and decision-making should be based on a more accurate assessment of flood risk from multiple hazards (i.e. influence of wildfires on flooding)
20. Construct new or enlarge existing temporary floodplain storage to attenuate peak flooding downstream
21. Increase flood control allocation by expanding existing or building new off-stream storage.
22. Implement advanced weather- forecast-based operations to increase reservoir management flexibility on a watershed basis such as with the County ALERT Network
23. Manage runoff through watershed management. Runoff from watershed source areas increases, in varying extents, due to increases in impermeable surfaces in developed areas, soil compaction from agriculture, reductions in vegetative cover, incision of stream channels, and losses of wetlands. Runoff flood
24. Remove unnatural hard points in or on the banks of streams (such as bridge abutments, rock revetment,

**Table 6-1: Examples of applications of different IFM strategies and approaches**

dikes, limitations on channel boundaries, or other physical encroachments into a channel or waterway) can affect the hydraulics of river channels, constraining dynamic natural fluvial geomorphologic processes of erosion.

25. Develop hazardous waste and materials management protocols to identify, contain, and remediate potential water quality hazards within floodplains
26. Operate reservoirs with flood reservation space to more closely approximate natural flow regimes
27. Reduce the incidence of invasive species in flood management systems
28. Remove barriers to fish passage
29. Encourage natural physical geomorphic processes, including channel migration and sediment transport
30. Floodplain and watershed improve the quality, quantity, and connectivity of wetland, riparian, woodland, grassland, and other native habitat communities
31. Develop regional advanced mitigation strategies and promote networks of both public and private mitigation banks to meet the needs of flood and watershed infrastructure projects.
32. An effective and sustainable flood/watershed management system encompass critical habitat and migration corridors through integration of public safety, water supply, and ecosystem function—managing flood infrastructure as a system
33. Coordinate flood response planning and clarify roles and responsibilities of the different flood management agencies/entities related to flood preparedness and emergency response
34. Use Building Code amendments to reduce consequence of flooding
35. Encourage multi- jurisdictional and regional partnerships on flood planning and improve agency coordination on flood management within watersheds to provide system wide planning

## 7 Coachella Valley IFM Guidance and Recommendations

### 7.1 Applicable IFM Strategies for Coachella Valley

A more detailed assessment was developed for commonly utilized IFM strategies that are applicable to the desert environment, focusing on the potential uses in the Coachella Valley. The “general approaches” for IFM explained in Chapter 6 were expanded to identify potential strategies for the valley setting. In addition, previously utilized IFM strategies that had been applied successfully throughout the state as well as in other arid areas of the southwest were also used as an initial guide for selection. This initial formulation and screening resulted in a variety of the different specific strategies or projects that were generalized or lumped to 24 different general types of strategies or applications that could be utilized for this area (see Table 7-1). A series of fact sheets (see following sections) were developed for the different generalized applications in order to assist in the guidance and formulation of specific projects.

**Table 7-1: Summary of different recommended general categories of IFM Strategies**

IFM Strategy No.	Benefit Category	IFM Approach
1	Water Supply	Increased floodplain infiltration
2	Habitat/Water	Increased Floodplain storage areas
3	Habitat	Setback levee systems from active floodplain
4	Habitat	Preservation of floodplain natural open space
5	Water Supply	Permeable flood control channel lining
6	Water Supply	Infiltration basins
7	Water Supply	Application of LID techniques for watershed development
8	Habitat/Water	Conversion of agriculture areas to increase vegetated floodplain fringe and habitat corridor
9	Policy	Watershed land use planning and regulations
10	Erosion/Quality	Stabilization of eroding earthen/natural channel systems
11	Quality	Urban stormwater quality treatment basins / infiltration
12	Quality	Debris basins
13	Policy	Floodplain land use regulations
14	Water Supply	Retention / detention storage basins
15	Quality	Watershed land erosion stabilization techniques
16	Stability	Hydromodification runoff management techniques
17	Transportation	Channel improvement projects with trails / bikeways
18	Water Supply	Parks with integrated flood storage / infiltration areas
19	Habitat	Floodplain land acquisition
20	Stability	Bridge invert channel stabilization
21	Quality	Agricultural runoff / excess irrigation water quality treatment
22	Water Supply	Recycle agriculture / urban non-stormwater discharges for non-potable water source
23	Policy	Coordination between programs/agencies for water management and flood management planning.
24	Watershed Database	Watershed / floodplain information management and data exchange

## 7.2 Coachella Valley IFM Strategies Fact Sheets

### Strategy Application No. 1 - Increased Floodplain Infiltration Areas / Enhancement

#### IFM Objectives / Principles:

- Increased channel area
- Enhancement for infiltration
- Peak flow reduction
- Maintain natural hydrologic processes
- Flood volume reduction
- Flood water surface reduction



#### Description of Representative Actions / Elements:

Adjustment to the active floodplain or flood control channels to allow more infiltration to occur within the channel through different adjustments to the channel geometry / cross section. Enhancements to allow increased infiltration should occur in locations of the watershed which have (1) areas conducive to infiltration with high permeability, (2) located near production aquifers, (3) ensure that there are not any geotechnical barriers that would limit infiltration. Modifications to the floodplain can include (1) widening of the channel to increase the area of infiltration, (2) widening the active portion of the channel through lowering of adjacent overbank areas, (3) creating widened channel bottom that can be configured similar to cul-de-sacs adjacent to the channel bottom but allow surface water to freely communicate, (4) excavating depressions in the channel bottom below the normal channel flow line or invert to allow temporary retention storage enhancing infiltration. Additional enhancements can include construction of small low-height berms to create in-channel storage basins. In addition, other modifications of the channel to slow floodwaters and allow longer period of flow to be in the channel for to capture water through infiltration.

#### Potential Benefits:

- Enhanced groundwater supplies
- New water source
- Habitat enhancement and increased corridor
- Widened active floodplain areas

### Strategy Application No. 2 - Enhanced Floodplain Storage Areas

#### IFM Objectives / Principles:

- Floodplain preservation
- Peak flow reduction
- Flooding reduction
- Maintain natural hydrologic processes





**Description of Representative Actions / Elements:**

Creative use of the floodplain to provide temporary in-channel storage to reduce peak flow rates downstream. The identification of potential flood storage within the floodplain involves integrating wetland and floodplain natural and beneficial functions into floodplain management planning. Integrate the protection and restoration of floodplain and wetland natural and beneficial functions into comprehensive land use planning, watershed planning, and floodplain management planning effort. Protection of floodplain and wetland vegetation to erosion is particularly important for high velocity areas

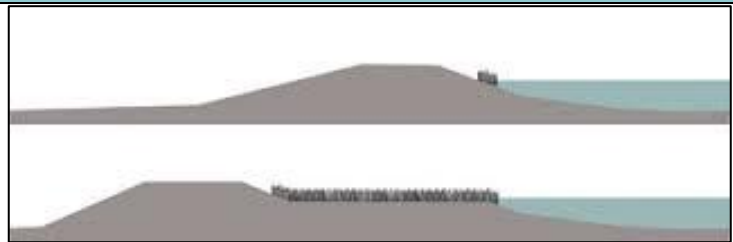
**Potential Benefits:**

- Enhanced groundwater supplies
- New water source
- Habitat enhancement and increased corridor

**Strategy Application No. 3 - Setback Levee System from Active Channel / Floodplain**

**IFM Objectives / Principles:**

- Increase floodplain reserved area
- Floodplain land acquisition
- Managed/restricted floodplain land use
- Flooding reduction and lower levels
- Larger vegetation corridor/habitat
- Flood storage
- Increased potential infiltration areas
- Maintain natural hydrologic processes



**Description of Representative Actions / Elements:**

Effective management of adjacent floodplain land use to increase floodplain areas through land acquisition to convert adjacent agricultural or undeveloped lands to floodplain. Structural levee systems can be constructed away from the active floodplain so the active channel has the ability to migrate and perform the natural hydrologic functions. The widened floodplain with these larger overbank areas will provide increased flood conveyance and flood water level reduction or confinement of the floodwaters. Creative use natural vegetative corridors in the new overbank areas acquired from farm lands which will also provide temporary in-channel storage to reduce peak flow rates downstream. Allows for the creation of additional habitat and wetlands or natural water quality treatment systems in the floodplain fringe or overbank area. There is the potential to continue to allow farming on the inboard side of the levees with the understanding that there is the potential for flooding and loss of the crop.

**Potential Benefits:**

- Enhanced groundwater supplies
- Habitat enhancement and increased corridor
- Land use planning
- Flood damage reduction of existing agricultural losses
- Increased floodplain flow capacity

**Strategy Application No. 4 – Preservation Floodplain Open Space Habitat Corridor / Vegetation Buffer**

**IFM Objectives / Principles:**

- Vegetation buffer
- Habitat preservation
- Stream corridor stabilization
- Floodplain management
- Land use planning



**Description of Representative Actions / Elements:**

Wetlands and floodplain vegetation can provide a hydrologic buffer to the watershed response through reduced velocity and increased time of watershed. The watershed vegetation can buffer the intensity of rainfall events and the corresponding watershed response which will reduce the flooding downstream. The preservation of natural vegetation reduced water flow connectivity by interrupting surface flows of water, for example, by water storage or planting buffer strips of grass or trees.

**Potential Benefits:**

- Reduction of streambank/streambed erosion through natural protection
- Enhanced wildlife habitat benefits
- Natural water quality biological uptake benefits

**Strategy Application No. 5 - Permeable Flood Control Channel Lining / Replacement Impermeable Lining**

**IFM Objectives / Principles:**

- Flood volume reduction
- Hydromodification
- Maintain natural hydrologic processes
- Increased groundwater infiltration
- Enhance groundwater supplies



**Description of Representative Actions / Elements:**

Utilize channel permeable type of channel linings for the channel invert systems to allow infiltration for groundwater recharge and potential treatment or capture of urban dry-weather flows.

**Potential Benefits:**

- Enhanced groundwater supplies
- New water source
- Enhance channel stability downstream
- Channel habitat enhancement
- Water quality

**Strategy Application No. 6 - Infiltration / Groundwater Recharge Basins**

**IFM Objectives / Principles:**

- Groundwater infiltration
- Floodplain preservation
- Peak flow and volume reduction
- Flooding reduction
- Maintain natural hydrologic processes
- Water quality treatment



**Description of Representative Actions / Elements:**

An infiltration basin is a shallow impoundment which is designed to infiltrate stormwater into the soil. This has high pollutant removal efficiency and can also help recharge the ground water, thus increasing base flow to stream systems. Infiltration basins can be challenging to apply on many sites, however, because of soils requirements. Soils and topography are strongly limiting factors when locating infiltration basins. Soils must be significantly permeable to ensure that the practice can infiltrate quickly enough to reduce the potential for clogging, and soils that infiltrate too rapidly may not provide sufficient treatment, creating the potential for ground water contamination. The infiltration rate should range between 0.5 and 3 inches per hour. In addition, the soils should have no greater than 20 percent clay content, and less than 40 percent silt/clay content. Vector control is another item that should be taken into account for the design of infiltration basins. The basins should be located in coordination with the groundwater management agency in order to maximize the benefits to the producing groundwater aquifer. The size and shape can vary from one large basin to multiple, smaller basins throughout a site. Ideally, the basin should avoid disturbance of existing vegetation. The key to promoting infiltration is to provide enough surface area for the volume of runoff to be absorbed. An engineered overflow structure should be provided for the larger storms. Infiltration Basins can be incorporated into new development. Ideally, existing vegetation can be preserved and utilized as the infiltration area. Runoff from adjacent buildings and impervious surfaces can be directed into this area, which will “water” the vegetation, thereby increasing evapotranspiration in addition to encouraging infiltration.

**Potential Benefits:**

- Flooding reduction
- Reduce downstream erosion
- Hydromodification mitigation
- Enhanced groundwater supplies
- New water source
- Water quality treatment

**Strategy Application No. 7 - Application of LID techniques for New Development Projects**

**IFM Objectives / Principles:**

- Water quality
- Land use planning
- Hydrologic cycle modification
- Maintain natural hydrologic processes
- Increase infiltration
- Runoff reduction



**Description of Representative Actions / Elements:**

LID techniques attempt to mimic a site's predevelopment hydrologic regime, using distributed landscape features and engineered devices such as bioretention, infiltration swales, rain barrels, and permeable pavements to reduce runoff, minimize pollutant discharges, decrease erosion, and maintain base flows of receiving streams. LID focuses on capturing and infiltrating the stormwater into the soil as close as possible to the point at which it hits the ground, thus reducing runoff. It differs from conventional stormwater management approaches, which typically aim to move water away from a site as quickly as possible via impervious surfaces. An example of a LID technique is to substitute impervious materials with pervious or porous surfaces that can help reduce surface flow and increase infiltration. There are several types of surface covers that work well for this purpose. Porous cement concrete, porous asphalt concrete, gravel pavers, grass pavers, variations on different types of grids and blocks, and loose aggregate. These pervious surfaces can be used in a variety of areas including driveways, parking stalls, walkways, emergency vehicle access ways, alleys, highway shoulders and other non-high vehicle traffic areas. However, under the right circumstances these surface cover materials can be used, with caution, in roadways and other moderate traffic flow areas. Well-designed parking and roadways can include a mixture of various porosity densities, with the more dense material being located in high traffic areas, and less dense or pervious material located in low traffic areas, or areas where wheel turning is at a minimum (e.g., parking stalls). Pervious surfaces should not be used when the surface grade exceeds 5%.

**Potential Benefits:**

- Enhanced groundwater supplies
- New water source
- Urban water quality treatment
- Hydromodification mitigation
- Downstream flood reduction
- Reduced drainage system requirements

**Strategy Application No. 8 - Conversion of Agriculture/Farmland to Increase Vegetated Floodplain Fringe & Habitat Corridor**

**IFM Objectives / Principles:**

- Floodplain land management
- Floodplain development restrictions
- Increased floodplain conveyance area
- Maintain natural hydrologic processes
- Restoration altered floodplain
- Increase floodplain habitat corridor



**Description of Representative Actions / Elements:**

Acquisition of properties adjacent to the active river corridor, but are located within the 100-year floodplain or flood hazard area. This can include other land use and structures that are located within flood hazards. In particular, properties should be targeted that have incurred repetitive flood damage losses. Careful planning of the adjacent floodplain fringe lands should be performed with the use of the floodplain hydraulic models to understand the minimum corridor that is required on either side of the existing active river corridor in order to fully contain the flood hazards.

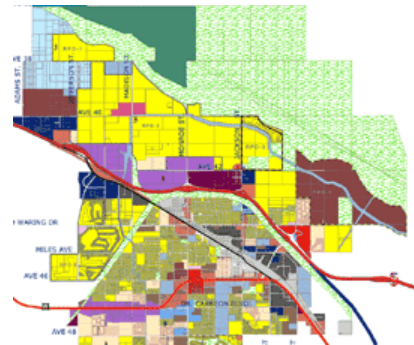
**Potential Benefits:**

- Habitat enhancement and increased corridor
- Flood damage loss reduction
- Floodplain land use management
- Minimizing flood control structures
- Restoring the natural floodplain processes.

**Strategy Application No. 9 – Watershed Land Use Planning and Regulations**

**IFM Objectives / Principles:**

- Land use planning
- LID policies
- Natural resource preservation
- Sustainable development
- Water quality
- Runoff management



**Description of Representative Actions / Elements:**

Apply core underlying watershed management planning guidelines in developing the proposed strategies and infrastructure for future development. These guidelines would ensure that development (i) mimics existing runoff and infiltration patterns within the project area, (ii) does not exacerbate peak flow rates or water volumes within or downstream of the project area, (iii) maintains the geomorphic structure of the major tributaries within the project area, (iv) maintains coarse sediment yields, storage and transport processes, and (v) uses a variety of strategies and programs to protect water quality. The principles refine the planning framework and identify key physical and biological processes and resources at both the watershed and sub-basin level. The Watershed Planning Principles focus also on the fundamental hydrologic and geomorphic processes of the overall watersheds and of the sub-basins.

These principles can be utilized to guide the initial planning of the development program relative to watershed resources and to minimize impacts thereto through careful planning by integrating the initial baseline technical watershed assessments. Non-structural watershed protection planning principles would include minimization of impervious areas/preservation of open spaces, prioritization of soils for development and infiltration, and establishment of riparian buffer zones. Examples of watershed planning principles that can be used include:

*Principle 1 – Recognize and account for the hydrologic response of different terrains at the sub-basin and watershed scale.*

*Principle 2 – Emulate, to the extent feasible, the existing runoff and infiltration patterns in consideration of specific terrains, soil types and ground cover.*

*Principle 3 – Address potential effects of future land use changes on hydrology.*

*Principle 4 – Minimize alterations of the timing of peak flows of each sub-basin relative to the mainstem creeks.*

*Principle 5 – Maintain and/or restore the inherent geomorphic structure of major tributaries and their floodplains.*

*Principle 6 – Maintain coarse sediment yields, storage and transport processes.*

*Principle 7 – Protect water quality by using a variety of strategies, with particular emphasis on natural treatment systems such as water quality wetlands, swales and infiltration areas and application of Best Management Practices within development areas to assure comprehensive water quality treatment prior to the discharge of urban runoff into the floodplain corridor*

**Potential Benefits:**

- Integrated land planning process with watershed functions
- Managed runoff from development and commercial watershed activities
- Maintain natural runoff process
- Minimize long term maintenance costs within floodplain

**Strategy Application No.10 – Channel or Streambank Stabilization of Eroding Earthen Channel Systems**

**IFM Objectives / Principles:**

- Sediment control
- Increased floodplain capacity
- Water quality
- Reduce sediment deposition downstream



**Description of Representative Actions / Elements:**

Channel erosion, with substantial stream incision can be a large contributor of sediment to downstream receiving waters and deposition in portions of channels that reduce flood capacity. In addition, increased sediment transport will baulk the runoff flows in the channel and further diminish the flood conveyance capacity. Watershed based regional studies/investigations of the fluvial processes and watershed sediment yields as well as geomorphic assessments/monitoring can evaluate those critical locations within the watershed that require stabilization. Stream erosion and sedimentation adversely impact water quality beneficial uses of both the stream and the receiving waters, and sediment TMDL. Stabilization of the natural alluvial channel system to eliminate future erosion of the streambed and streambank will assist in critical channel areas as a major sediment source as well as disrupting the loss of vegetative habitat within the floodplain. Detailed streambed stability assessments provide part of the technical support for the evaluation of the benefits of and opportunities for alternative stream stabilization / restoration techniques to ensure that the natural geomorphic and fluvial processes are maintained in balance.

**Potential Benefits:**

- Minimize maintenance in floodplains
- Reduce long term operations costs
- Reduce apparent peak discharge through reduced sediment bulking
- Reduce loss of land
- Improve recharge in streambed
- Reduce sediment deposition in riverine /estuarine habitat areas

**Strategy Application No.11 – Urban Water Quality Treatment Facilities / Infiltration BMPs**

**IFM Objectives / Principles:**

- Water reuse / recycling
- Groundwater recharge
- Natural floodplain protection
- Stream stabilization
- Water quality treatment
- Urban flood management



**Description of Representative Actions / Elements:**

Management of urban stormwater runoff and the associated water quality as well as increased runoff quantities impacting the natural floodplain corridors which result in a variety of impacts, not just increased flooding. Projects involving the capture of non-stormwater flows provide an opportunity for recycling this water source which was a waste-stream in the past

**Potential Benefits:**

- Improved water quality and reduce impact to downstream receiving waters
- Restore natural floodplain functions
- Reduce impacts of urban hydromodification

**Strategy Application No. 12 - Debris Basins**

**IFM Objectives / Principles:**

- Reducing potential sediment deposits downstream
- Peak flow reduction through reducing flow bulking
- Flooding reduction
- Water Quality
- Groundwater recharge



**Description of Representative Actions / Elements:**

Debris basins are constructed to treat either the loss of control of runoff and deterioration of water quality, or threats to human life and property. The design of debris basins must be to a standard that they provide immediate protection from flood water, floatable debris, sediment, boulders, and mudflows. They are usually constructed in stream systems with normally high sediment loads. Their purpose is to protect soil and water resources from unacceptable losses or to prevent unacceptable downstream damage. Debris basins must be designed with large vehicle access to the basins so they can be cleaned out periodically. Maintenance is a key factor in effectiveness of this treatment. Debris dams are structures placed across a well-defined channel to form a barrier that impedes the stream flow. The dams also form a basin that provides storage for deposits of detritus and floating debris. Debris dams and basins are used at sites that convey heavy debris loads where it is economically impracticable to provide a culvert large enough to convey the surges of debris. They are also used to trap heavy boulders or coarse gravel that would clog culverts, especially on low fills. In some locations, debris dams have been built to provide the added benefit of ground water recharge resulting from ponded water. An outlet structure should be provided to drain the floodwater temporarily stored behind the structure. The structure could be either a closed conduit consisting of a culvert with a riser set above the expected level of the debris deposit or an open channel acting as a weir structure. The design of the structure will have an influence on the design volume of the basin and embankment height. In general, an outlet structure designed to convey more of the runoff volume will reduce the design volume of the basin and lower the embankment height, but the cost of the structure will increase. Therefore, several different types and sizes of the outlet structure should be considered in the design of the structure to optimize the total cost of the debris dam

**Potential Benefits:**

- Enhanced groundwater supplies
- New water source
- Habitat enhancement and increased corridor

**Strategy Application No. 13- Floodplain Management Land Use Regulations**

**IFM Objectives / Principles:**

- Integrated land use planning
- Natural floodplain corridor preservation
- Sediment management / stream stability
- Natural streambed groundwater recharge





**Description of Representative Actions / Elements:**

Facilitating improved alignment and coordination between land use and flood management would result in better understanding of flood risk and potential impacts to proposed developments, as well as improved decision making. Specifically, flood risk information has the potential to influence land use policy decisions related to developing and expanding communities within a floodplain, which would result in reductions to flood damage claims and long-term O&M costs on projects. At the planning stage, additional measures might be incorporated into the initial proposed projects that could provide community benefits, such as setback areas that act as greenways or trails, and greatly reduce the need to retrofit or replace undersized infrastructure in the future. Too often, regional and land use policymakers realize flood risk and economic losses only after a damaging flood event. Some of the additional actions associated with this item include defining increased floodways to limit development along the floodplain fringe, floodplain retreat through purchase of properties within the floodplain, ensuring that different land uses are compatible with the floodplain risks.

**Potential Multiple Water Resource Benefits:**

- Reduction in flood damage subsidies to chronic flood locations

**Strategy Application No. 14 – Multi-Function Retention / Detention Basin with Groundwater Recharge**

**IFM Objectives / Principles:**

- Flood reduction
- Groundwater recharge
- Stormwater recycling / alternative water source



**Description of Representative Actions / Elements:**

Regional watershed evaluation and planning to provide flood peak flow attenuation through either off-channel or adjacent in-channel temporary flood volume storage. The reduction in peak flow rates will minimize downstream flooding in addition the stored flood runoff volumes can be recharged into the aquifer to enhance groundwater supplies. Coordination with groundwater management agencies should be performed on a watershed basis to determine the optimum location to ensure that maximum recharge can be provided to the aquifer since different areas of the watershed may not provide any benefit to groundwater supplies. Coordination of both groundwater and flood benefits is necessary as part of advance planning with multiple agencies. In addition, floodplain enlargement can result in increased habitat corridors as well as the in-channel flood storage capabilities.

**Potential Benefits:**

- Reduced flooding downstream
- Stormwater recycling and additional water source capture

**Strategy Application No. 15 – Watershed Sediment Control / Surface Erosion Control / Stabilization Management Techniques**

**IFM Objectives / Principles:**

- Land use planning
- Development sustainability
- Water quality enhancement



**Description of Representative Actions / Elements:**

Soil is considered a water pollutant because it can significantly affect water used for public consumption, recreation and habitat. Therefore, the most effective way to control soil erosion is at its source. Erosion control best management practices (BMPs) are required on all land disturbance sites to provide a defense against soil erosion in addition to different commercial activities within the watershed. Watershed planning implementing and requiring different BMPs can be applied as well as the modification of these commercial activities to minimize sediment disturbances. There are also natural areas which may be de-stabilized and be a significant sediment source which require specialized treatments to reduce the amount of sediment production.

**Potential Benefits:**

- Receiving waters improved water quality
- Reduce flooding through reduced sediment bulking of flows
- Reduction of sediment deposition in undesirable locations within floodplain

**Strategy Application No. 16 - Hydromodification Runoff Management Techniques for New Developments**

**IFM Objectives / Principles:**

- Maintain natural hydrologic processes
- Infiltration groundwater supplies
- Flood volume and peak flow reduction
- Land use planning requirements
- Modify hydrologic cycle
- Downstream channel stability
- Prevent downstream channel erosion



**Description of Representative Actions / Elements:**

Urbanizing watershed can cause an alteration of flow (hydromodification) that increases the volume of runoff and decreases the infiltration of rainwater, an important source of groundwater recharge. Figure 1 shows stormwater discharges in an urban watershed and a pre-urban watershed. The greater volume and increased rate of flow that are associated with urbanization results in degradation of aquatic habitat and increased flood risk. On solution for hydromodification is LID which is an alternative method of land development that seeks to maintain and mimic the natural hydrologic processes by infiltrating, retaining, and slowly releasing stormwater on a site by site basis. LID often begins with careful site planning that considers the location of natural features and incorporates them into the stormwater management plan whenever possible. This may include retaining a wide riparian corridor to allow for natural stream processes, identifying and preserving areas with coarse sediment, protecting locations suitable for

groundwater recharge, and considering soil permeability and slope when siting bioretention areas. This approach is generally known as natural resource-based planning. Another solution is instream restoration practices (IRPs) modify the banks and beds of waterways using natural materials to return the stream to a less impacted condition and improves aquatic habitat. IRPs can affect two of the variables associated with hydromodification: the increased quantity of fine sediment (small particle size) and the increased slope (gradient) of streams and rivers. Bank erosion is a natural process, but is accelerated by the effects of hydromodification, which can have multiple negative effects on the aquatic ecosystem and riparian habitat. Intense stormwater flows associated with compacted soil and impervious cover are a major contributor to bank erosion. The rate of erosion varies, depending on existing vegetation type and location, soil composition, and the frequency and intensity of flows.

**Potential Benefits:**

- Channel stabilization
- Reduced channel erosion
- Maintaining the natural hydrologic process including hydrology quantities prior to urbanization
- Habitat enhancement and increased corridor

**Strategy Application No. 17 - Channel Improvement Projects with Public Trails / Bikeways**

**IFM Objectives / Principles:**

- Alternative public transportation
- Enhance circulation patterns
- Multi-use roadway
- Promote health and fitness by providing people the opportunity for active recreation
- promote economic development, specifically at trailhead locations
- Increase user safety by offering dedicated travel routes for pedestrians, bicyclists
- Offer viable and safe transportation alternatives
- Support the protection and preservation of natural resources



**Description of Representative Actions / Elements:**

The design of a multi-use roadway should be compatible with the maintenance requirements of the channel system and the structural section of the bike roadway should be designed to accommodate the large maintenance vehicles. Specialty features such as gates or bollards may be required to restrict other types of vehicles from access the trail system. The design section, including the width should be based on the AASHTO or Caltrans HDM which also includes the striping and signage.

**Potential Benefits:**

- Alternative transportation path
- Recreation
- Habitat enhancement and increased corridor

**Strategy Application No. 18 - Parks with Integrated Flood Storage / Infiltration Areas**

**IFM Objectives / Principles:**

- Groundwater recharge
- Peak and volume flow reduction
- Water quality treatment
- Maintain natural hydrologic processes



**Description of Representative Actions / Elements:**

Integrate groundwater recharge and retention of stormwater as part of active park system through the initial planning and layout of the park system so that this objective is an integral part of the overall design. Creative use of the engineered grading and topographic design for the park to ensure that surface drainage paths and storage volume is provided. The identification of potential flood storage within the park requires special planning to ensure that the beneficial functions of the park are still maintained for recreation and to minimize maintenance. The park provides an excellent opportunity to provide education benefits to the general public related to stormwater resources. Three interpretive signs were installed at the park to introduce visitors to LID, the specific functions of the LID elements in the park, and how LID can be used in a variety of development scenarios. One of the objectives is to introduce use an alternative to the conventional "pipe and pond" approach to stormwater management - Low Impact Development (LID). LID is an ecologically-based approach to stormwater management that creates a hydrologically functional landscape that generates less surface runoff and less nonpoint pollution, which is especially important for development projects adjacent to sensitive resource areas. Additional recharge elements that can be integrated into the park include rain gardens, porous pavers, and bioretention swales.

**Potential Benefits:**

- Enhanced groundwater supplies
- New water source
- Urban water quality treatment
- Public education on water resources protection

**Strategy Application No. 19 – Floodplain Land Acquisition**

**IFM Objectives / Principles:**

- Floodplain preservation
- Land use managements
- Reduced flood losses



**Description of Representative Actions / Elements:**

Acquiring properties within the floodplain which are subject to “repetitive losses” is a non-structural adjustments to floodplain management. This is a cost effective method of reducing flood losses and better managing the land use with flood hazard zones. Generally the “fair market value” of the land is limited because of the restricted use within the floodplain. In addition this provides the ability to increase publically controlled areas of the floodplain and potential restore these areas back to the natural floodplain. However, land acquisition programs in urban areas is a complex process and encounter problems because they are seen to infringe on personal rights, adversely affect property values and restrict local tax bases when they lead to demolition of buildings and other structures considered to have historical or architectural value. The acquired land provides the ability to restore natural habitat and develop a habitat corridor within the floodplain, limiting manmade uses within the floodplain.

**Potential Benefits:**

- Increased public floodplain corridor
- Land use management and restricted uses within the floodplain
- Increased floodplain corridor
- Increased habitat corridor
- Economic flood loss reduction

**Strategy Application No. 20 - Bridge/ Channel Invert Stabilization**

**IFM Objectives / Principles:**

- Floodplain preservation
- Creek stabilization
- Erosion reduction
- Water quality
- Peak flow reduction through bulking factor
- Floodplain vegetation preservation



**Description of Representative Actions / Elements:**

Protection of flood channel structures and roadway bridge crossings from erosion and preventing failures of these structures. Stabilization of the channel invert

**Potential Benefits:**

- Floodplain structure protection / damage prevention
- Roadway (lifeline) protection
- Channel erosion reduction
- Water quality improvement

**Strategy Application No. 21 - Agricultural Runoff Water Quality Treatment**

**IFM Objectives / Principles:**

- Water quality treatment



**Description of Representative Actions / Elements:**

Agricultural runoff and non-stormwater releases from excess irrigation, including “drain water” results in poor water quality. This can result in impaired water quality through high nutrients and salts as a few examples. The runoff and non-stormwater discharges can be treated through a variety of different types of BMPs targets to specific pollutants in the water. These facilities can be integrated into the overall operation and may require more specialized applications to accommodate physical constraints such as elevation differential associated with drain water outfall locations.

**Potential Benefits:**

- Water quality treatment
- Achieve water quality objectives and TMDLs
- Improve receiving waters
- Floodplain habitat and vegetation health

**Strategy Application No. 22 - Recycle Agricultural/Urban Non-stormwater Discharge for Non-potable Water**

**IFM Objectives / Principles:**

- Water recycling
- Secondary water supply
- Water treatment
- Water quality



**Description of Representative Actions / Elements:**

Collection, treatment, and reuse of excess agricultural water runoff associated with irrigation and drain water. Excess irrigation water as well as drain water from tile drain systems discharges a water source to the channels that can be recycled as a non-potable water source if the water quality is improved. The same is true of urban non-stormwater or dry-weather discharges can be captured and recycled. Generally, the urban discharges are relatively small and can be captured with infiltration and LID type applications. However, there is the potential in new residential and commercial construction to utilize “grey water” and recycle it for use as a potential irrigation water source for landscaping. The excess agricultural drain water and irrigation flows can be captured and recycled through larger scale natural treatment systems such as wetlands to remove nutrients. However, salt removal is more difficult and cannot be readily removed through natural treatment systems and would require different technologies in an engineered treatment system to achieve the desired pollutant removal.

**Potential Benefits:**

- Enhanced water supplies
- New water source
- Water quality
- Non-stormwater discharges

**Strategy Application No. 23 - Coordination between programs/agencies for water management and flood management planning**

**IFM Objectives / Principles:**

- Communication between agencies within watershed
- Watershed planning guidance / regulations
- Enhanced water supplies
- Water management



**Description of Representative Actions / Elements:**

Improving coordination between regional water management and flood management planning is a key strategy to increase implementation of IWM projects. Existing planning groups and forums should be utilized to the extent possible. By coordinating water and flood management planning with balanced representation, a common understanding of flood management, water supply, water quality, environmental stewardship, public safety, and economic sustainability factors would be developed. Where possible, policy changes that promote this holistic approach to IWM should be proposed and sponsored (for example, changes to existing IRWM legislation). In addition, coordination in watershed planning process provides the opportunity to optimize the benefits of joint-use regional facilities to maximize water resources as well as flood mitigation benefits.

**Potential Benefits:**

- Maintaining natural watershed response
- Increased groundwater replenishment
- Reduced flood damage
- Reduction in flood maintenance

**Strategy Application No. 24 - Watershed / floodplain information management and data exchange**

**IFM Objectives / Principles:**

- Communication between agencies within watershed
- Community involvement
- Increased watershed monitoring



**Description of Representative Actions / Elements:**

Improving the watershed database to ensure that different watershed stakeholders have access to the different available information and studies being performed. The sharing and the exchange of data, information, knowledge among experts, general public, policy makers, and floodplain managers in a most transparent manner is essential for comprehensive planning and effective management. Significant studies and mapping information are being performed within the watershed on an individual basis with single users or sole functions, but could become a valuable asset is shared with other users as well as saving significant costs. Fragmentation of data is common and providing a common data repository as well as manager provides the technical foundation for comprehensive planning.

**Potential Benefits:**

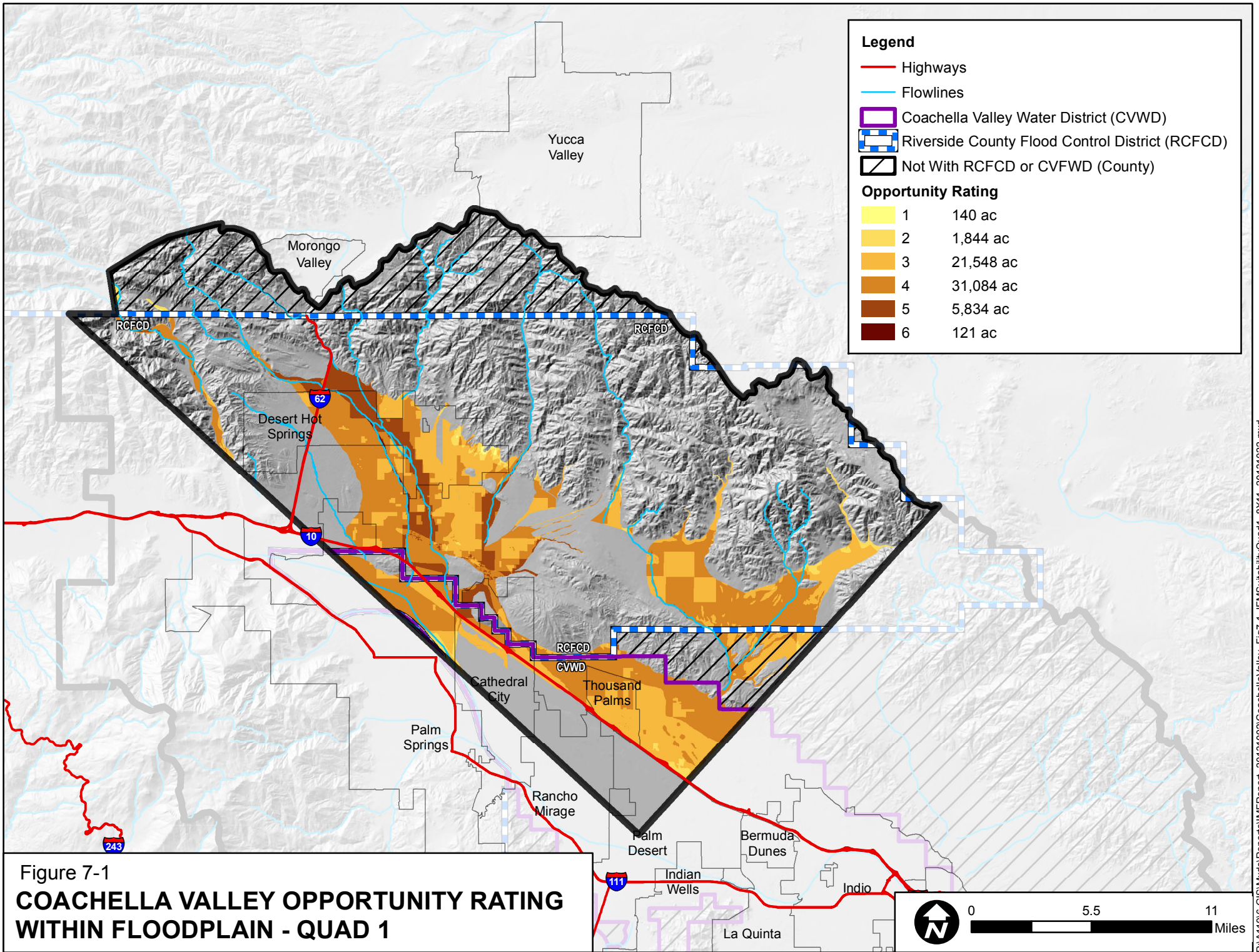
- Improved tracking and monitoring of watershed characteristics
- Reduction in data acquisition
- Enhanced community involvement in watershed, include active participation in data collection

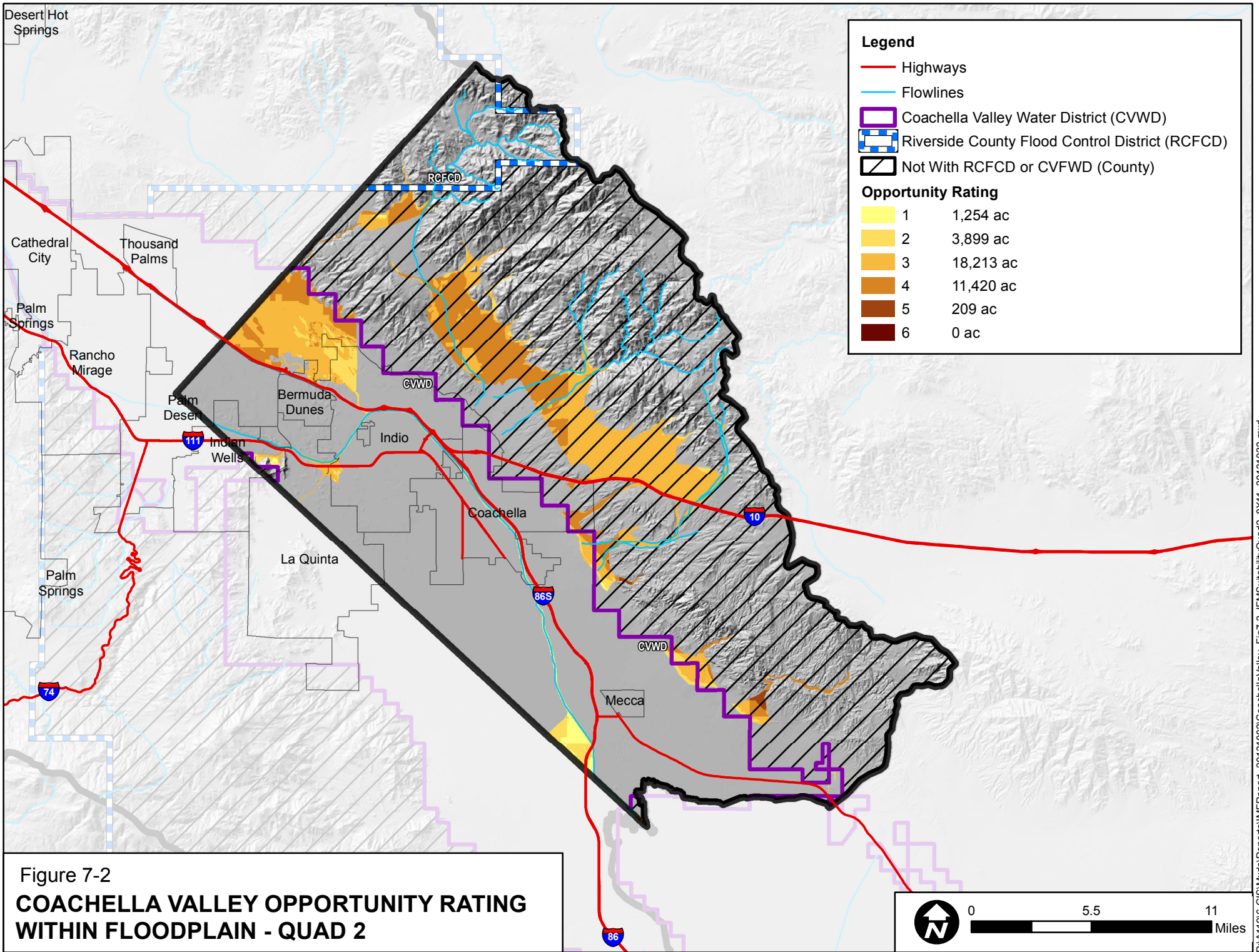
### 7.3 Defining “Opportunities” for IFM

It is useful to consider the “opportunities” for the implementation of regional and sub-regional facilities utilizing IFM and the associated planning principles. These “opportunities” are watershed or floodplain characteristics which would define the potential suitable application of IFM at a particular location. There are certain watershed characteristics which would make IFM ideal at a particular location such as an area which has high infiltration capabilities above a water producing aquifer. The series of “opportunities” in GIS mapping layers that were considered in the initial development of this planning or screening tool to consider locations for IFM in the watershed included: (1) floodplain areas, (2) highly permeable soils (hydrologic soil type A), (3) groundwater basins, (4) riparian vegetation or sensitive habitat area, and (5) high sediment producing watershed areas. These initial mapping layers were overlaid to determine the locations where multiple occurrences of these five criteria occurred and were considered “opportunities.” The more opportunities at a particular location then the more there was the possibility of achieving multiple flood management and water resources benefits. For example, in-stream groundwater recharge locations would be possible at location where there is (1) wide floodplain area, (2) permeable soil, and (3) groundwater basin in order to maximize the benefits to the aquifer. The “opportunity ranking” shown on the following exhibits identifies how many IFM opportunities occur at a



particular location. The rankings scale is shown as 1 through 6 which indicates how many opportunities occur at a particular location. For example, a ranking of 4 would indicate that there are four different opportunities which would encourage the use of IFM at this particular location, so it would be very conducive for many different potential IFM strategies.





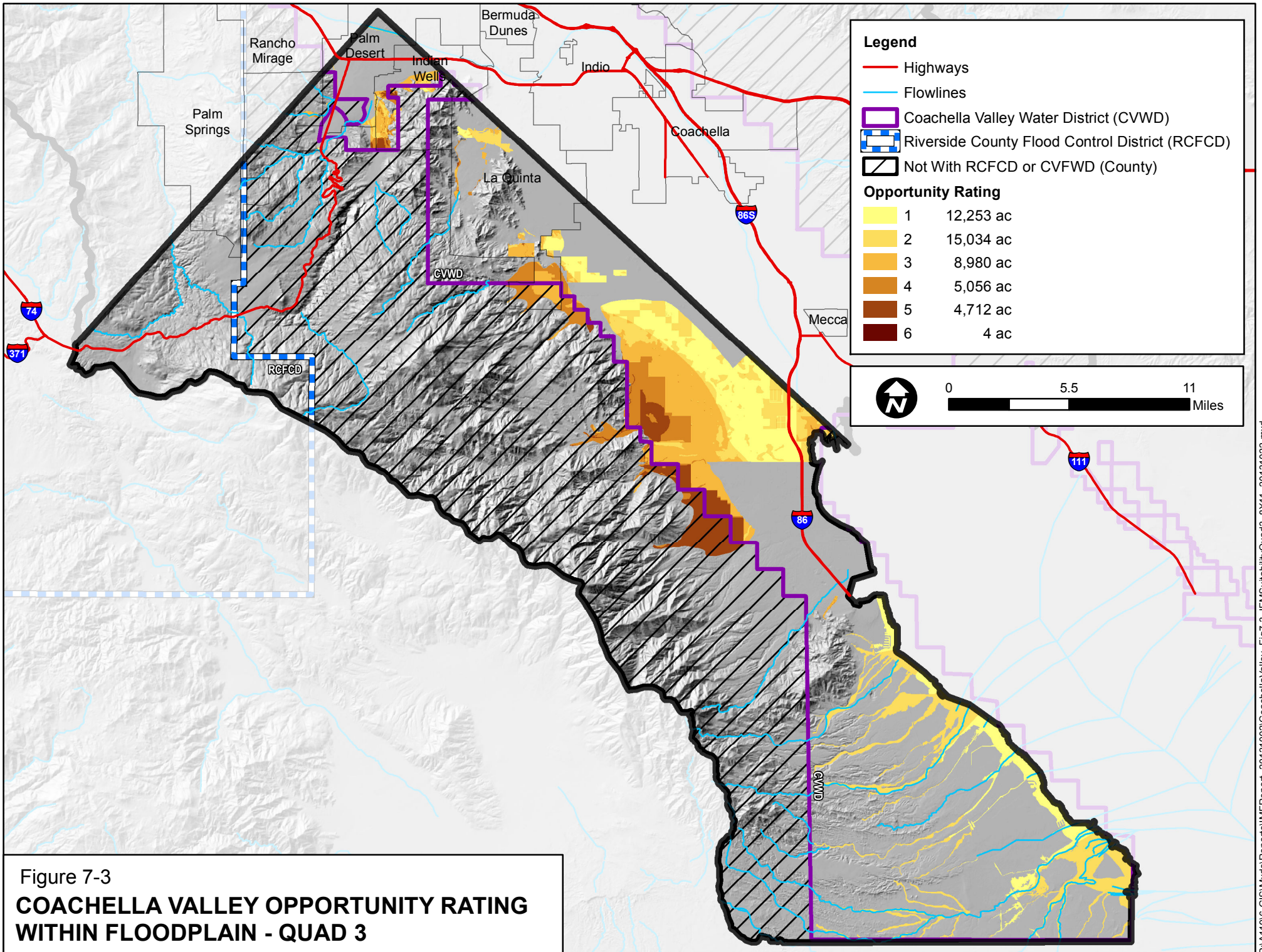


Figure 7-3  
**COACHELLA VALLEY OPPORTUNITY RATING  
 WITHIN FLOODPLAIN - QUAD 3**

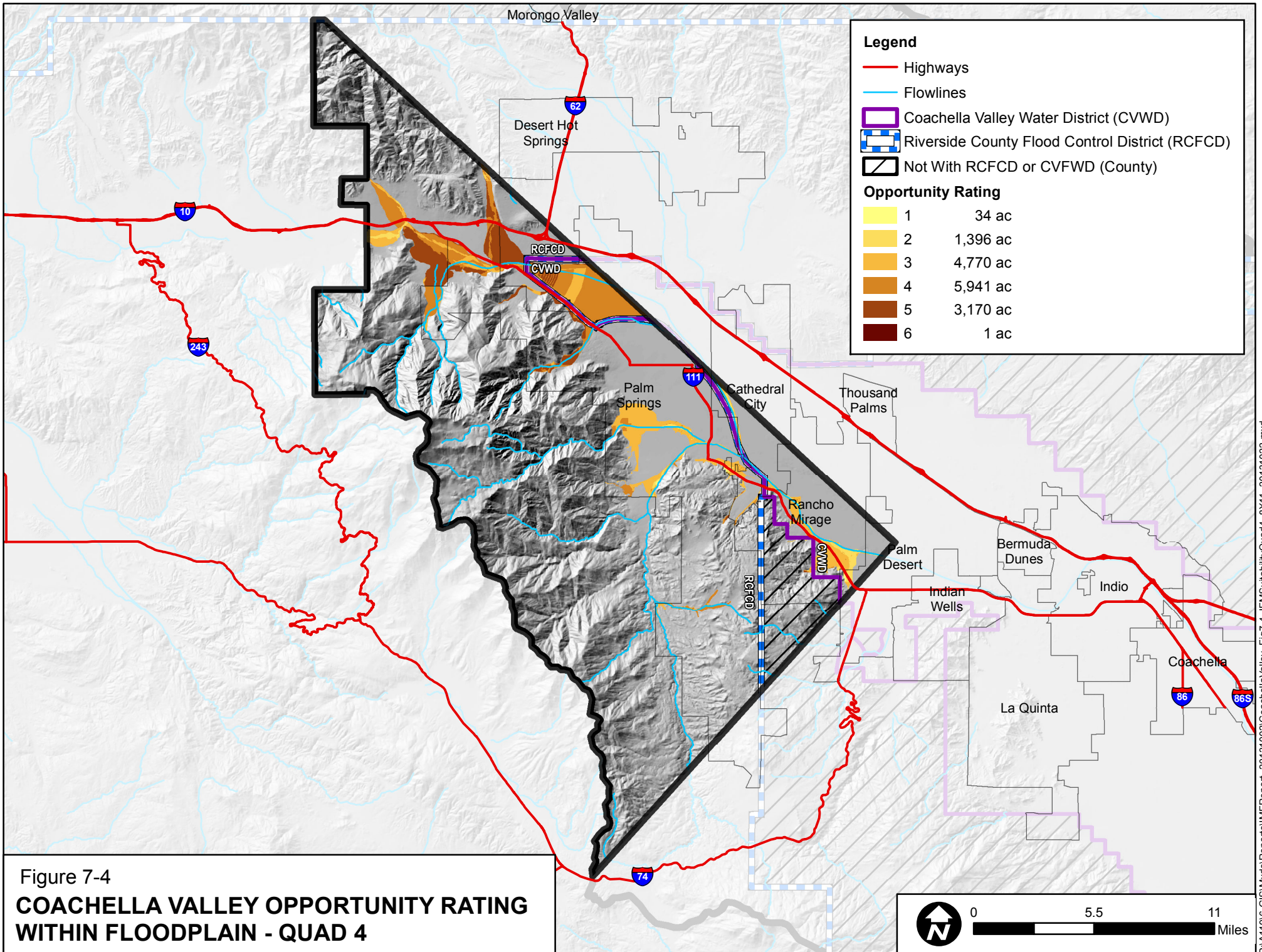
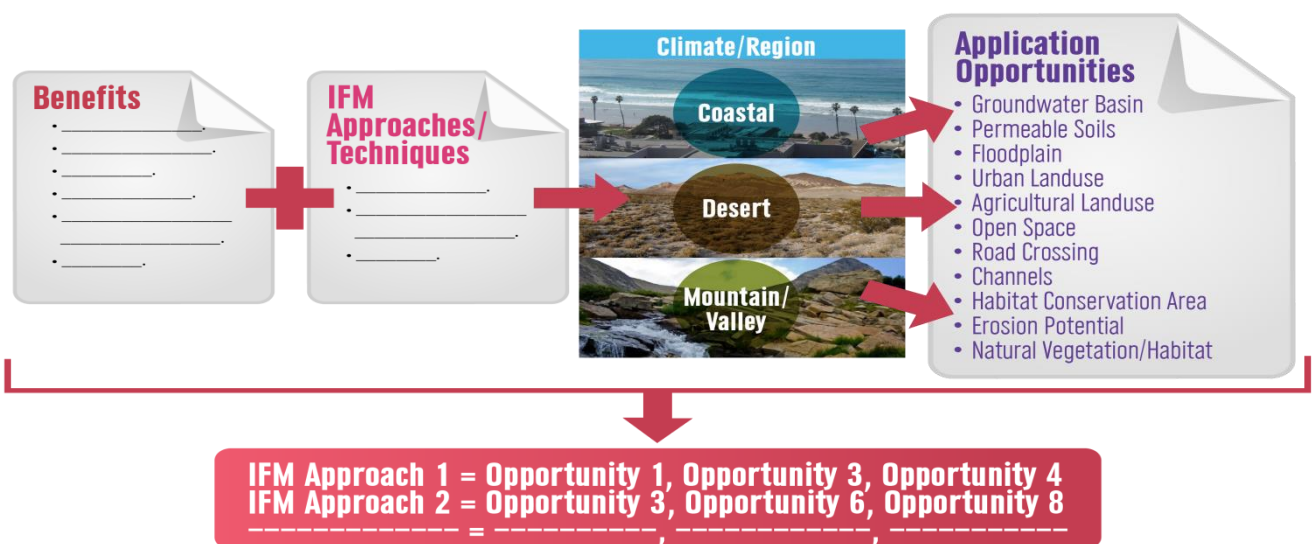


Figure 7-4  
**COACHELLA VALLEY OPPORTUNITY RATING  
 WITHIN FLOODPLAIN - QUAD 4**

## 7.4 Specialized GIS Mapping Watershed IFM Planning Tool

The actual implementation of different IFM strategies for specific project should ensure that (1) the maximum number of benefits is achieved, (2) optimum location within the watershed to achieve the maximum flood benefits is identified, (3) multiple flood hazard issues are addressed, and (4) the focus on different water resources objectives is achieved. In order to assist in developing these projects on a watershed basis, a watershed planning tool has been developed to define locations within the watershed or floodplain that would potentially be able to utilize a specific type of IFM strategy based on the different characteristics and opportunities. A mapping tool was developed to help identify the locations within the Coachella Valley where the different IFMs could be best applied as an “initial screening tool” in the planning process for IFM.

The planning tool was developed by correlating (1) watershed characteristics, and (2) IFM opportunity mapping to the different general categories of IFM strategies initially defined for the Coachella Valley. This initial screening process is best illustrated in the following figure which shows the overall process for developing the general IFM strategy locations within the Coachella Valley. The process included (1) defining the different benefits from the IFM approach, (2) limiting the IFM strategies to just the desert area, and (3) correlating the watershed characteristics required for a particular IFM strategy. The GIS database is available as well as the hardcopy exhibits so this planning technique can be applied manually through the use of this guidance document.



**Figure 7-5: Methodology for developing IFM planning tool which correlated watershed characteristics/opportunities to specific IFM strategy requirements**

This methodology for the planning tool development utilized 12 different watershed characteristics or opportunities typically associated with different IFM strategies which included: (1) permeable soils, (2) floodplain areas, (3) urban land use, (4) agricultural land use, (5) roadway channel crossing, (6) groundwater basin, (7) natural vegetation / habitat, (8) habitat conservation area, (9) recreation land use, (10) open space land use in floodplains, (11) channels, and (12) high erosion

potential. These 12 different opportunities were compared to 22 different IFM approaches identified for the Coachella Valley. (24 IFM strategies have been identified for the Coachella Valley, but that last two were considered policy oriented IFMs so only 22 IFMs were used in the mapping tool).

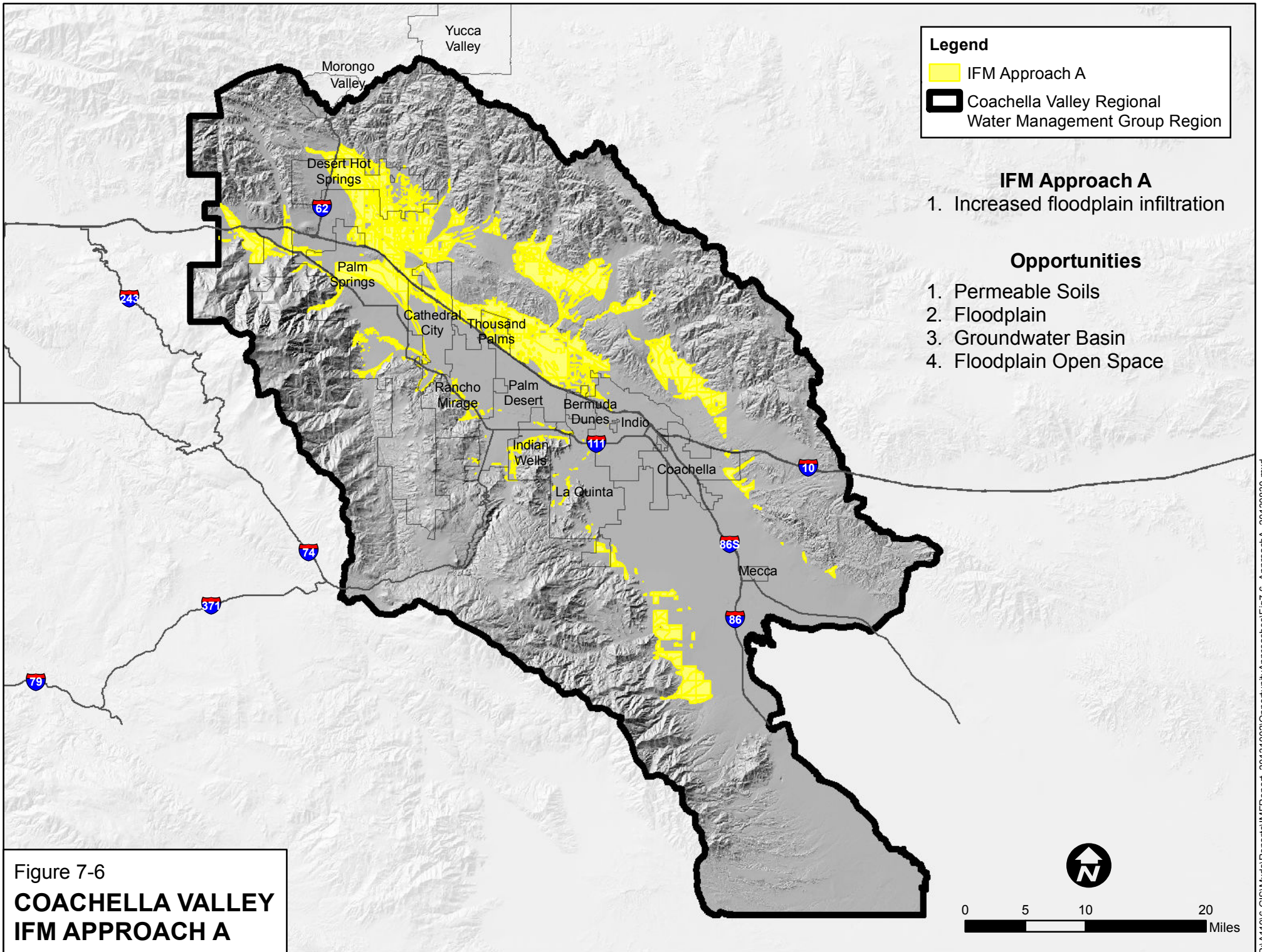
This guidance/planning tool is intended to be used as background in the initial planning to identify the range of these different types of projects for implementation using multiple IFM strategies within the watershed. However, the intent of this document is not to limit the range of specific strategies. These potential projects depend in part on the lead agency or entity promoting the particular sub-watershed facility plan implementation and many other influential factors such as timing and opportunity. The objective in developing this initial planning tool is to provide as much flexibility as possible in order to allow responding to potential implementation/funding opportunities that may be available in the future that will allow the construction of different facilities. A feature of this planning is to identify feasible alternative regional and sub-regional facility locations based on specific feasibility selection screening criteria. The results of the alternative screening exercise based on feasibility of opportunities does not preclude the use of additional alternative sites in the future, as other different types of opportunities may be presented since the feasibility screening was based on a specific set of criteria. The resulting screening and correlation analyses developed a series of different categories of IFM approaches that required the use of different sets of IFM opportunities which were labeled as an “IFM Category.” The following table indicates the results of the analyses as well as Figures 7-6 through 7-21 which represent the final planning tool to assist in the location of the IFM strategies.

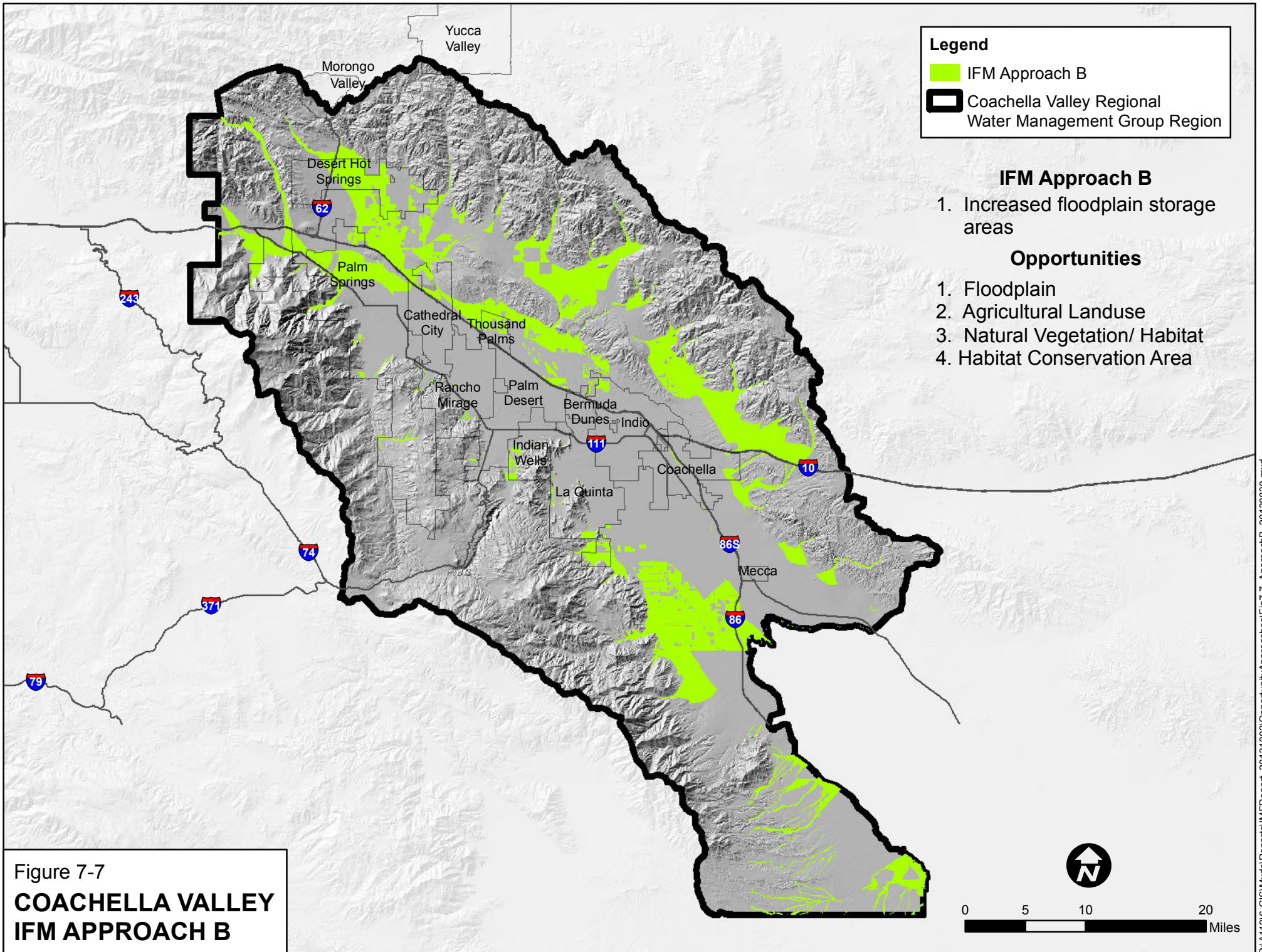
**Table 7-2: Results of Analysis Correlating IFM Strategy with Watershed Opportunities Generating and IFM Category**

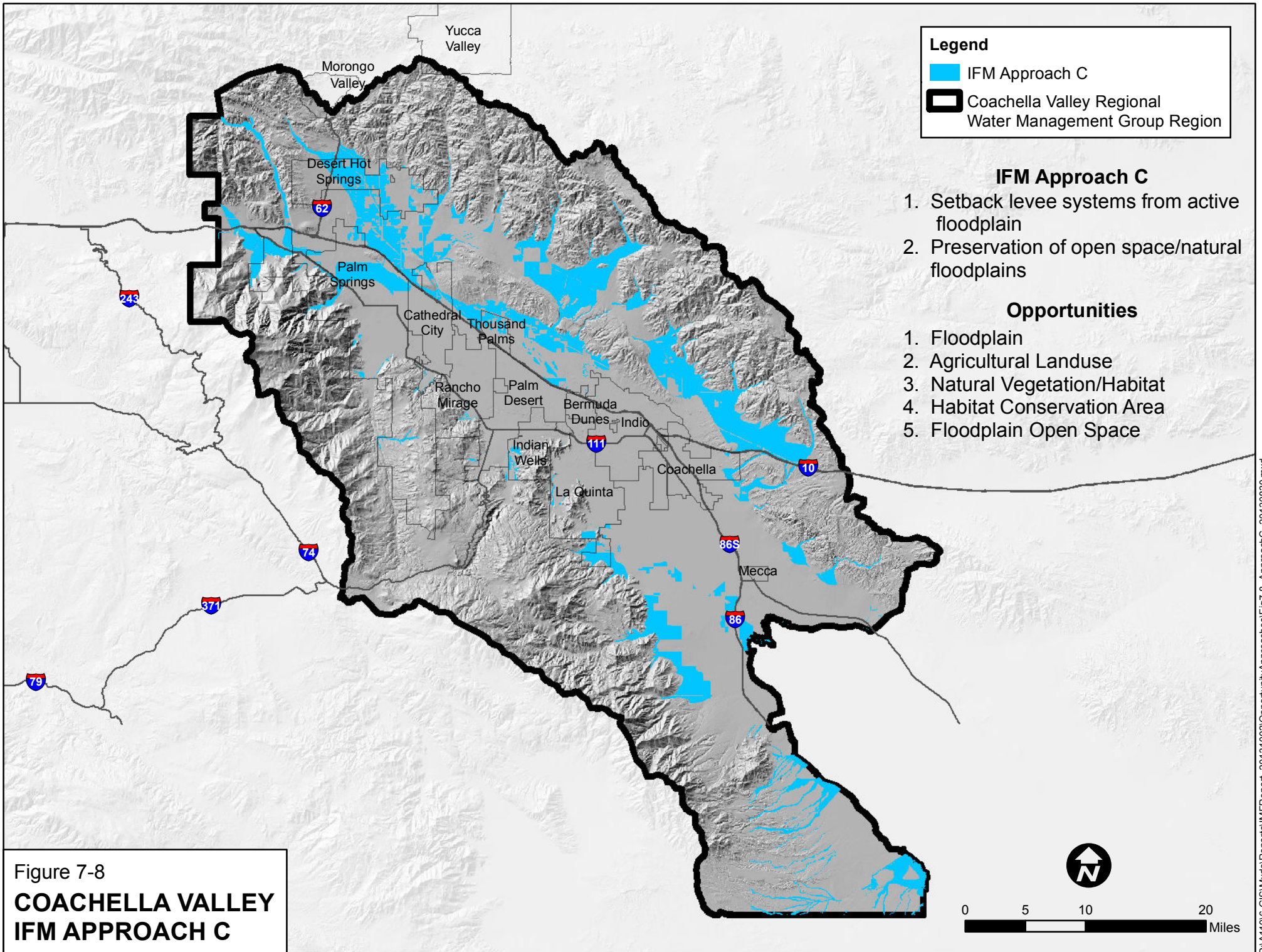
IFM No.	Opportunity Combinations	IFM Category	IFM No.	Opportunity Combinations	IFM Category
1	1, 2, 6, 11	A	12	10, 12	K
2	2, 4, 7, 8	B	13	2, 3, 4	L
3	2, 4, 7, 8, 11	C	14	3, 4, 9	M
4	2, 4, 7, 8, 11	C	15	3, 4, 7	N
5	1, 2, 6, 10	D	16	3	J
6	1, 3, 6	E	17	5, 10	O
7	3, 9	F	18	3, 9	F
8	2, 4	G	19	2, 3, 4	L
9	3, 4, 9, 11	H	20	5, 10	O
10	10	I	21	4	P
11	3	J	22	3, 4	Q

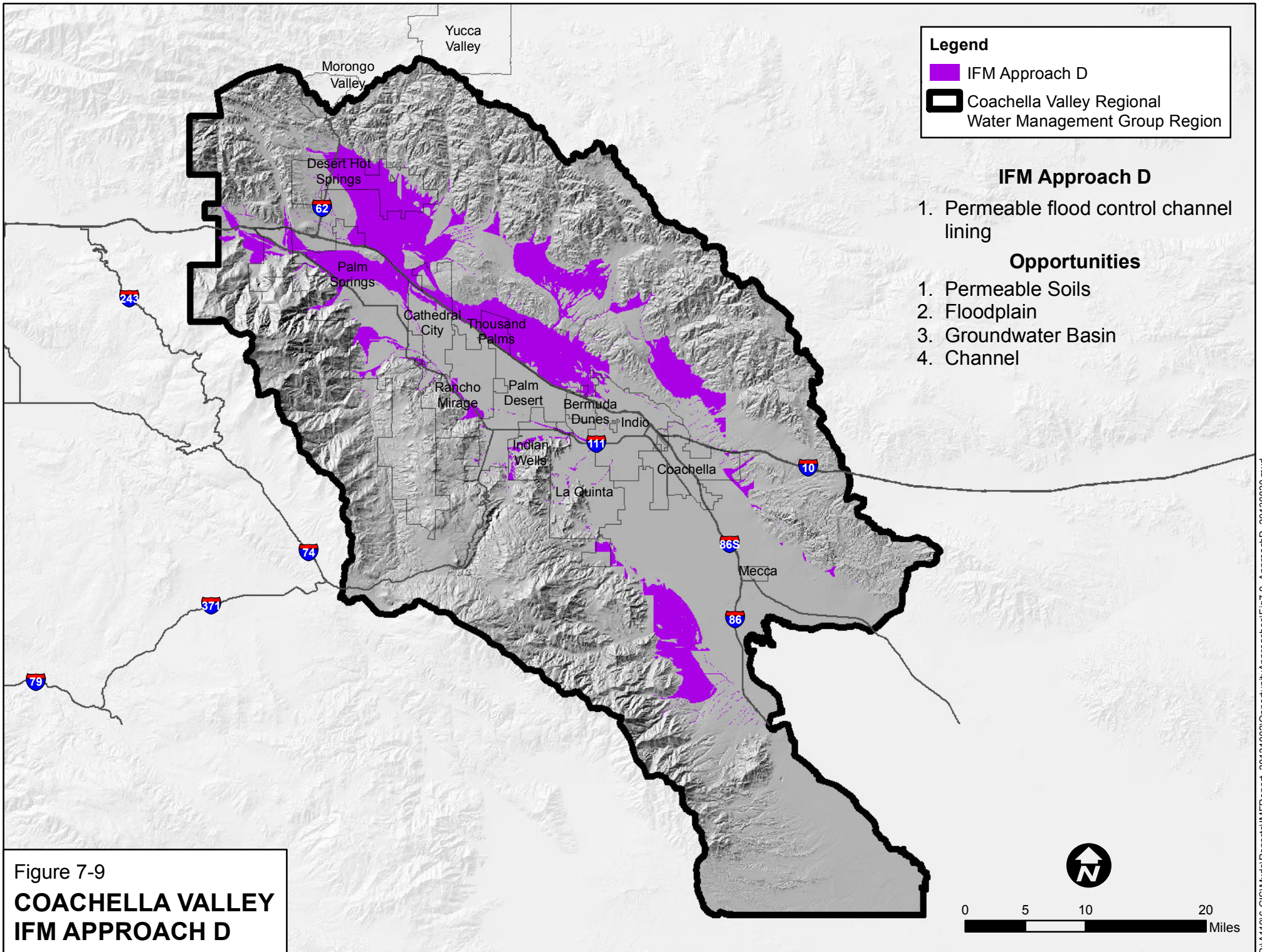
The GIS IFM watershed planning tool evaluated different types of “opportunities” that define water resource benefits and IFM planning requirements to define the most appropriate locations. There may be other IFM strategies that can be considered that are not in the identified list which allows flexibility in the tool. The list of identified strategies is intended to be complete as possible utilizing the more common approaches, but there is opportunity to expand. In the future, additional screening criteria can be added to the tool as well as additional features such as evaluating the amount of tributary watershed area to assess the potential benefit or understand facility sizing. The tool provides planning level information to assist in evaluating potential IFM features within the watershed to maximize the beneficial water resources use.











**Legend**

- IFM Approach D
- Coachella Valley Regional Water Management Group Region

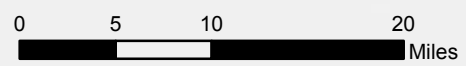
**IFM Approach D**

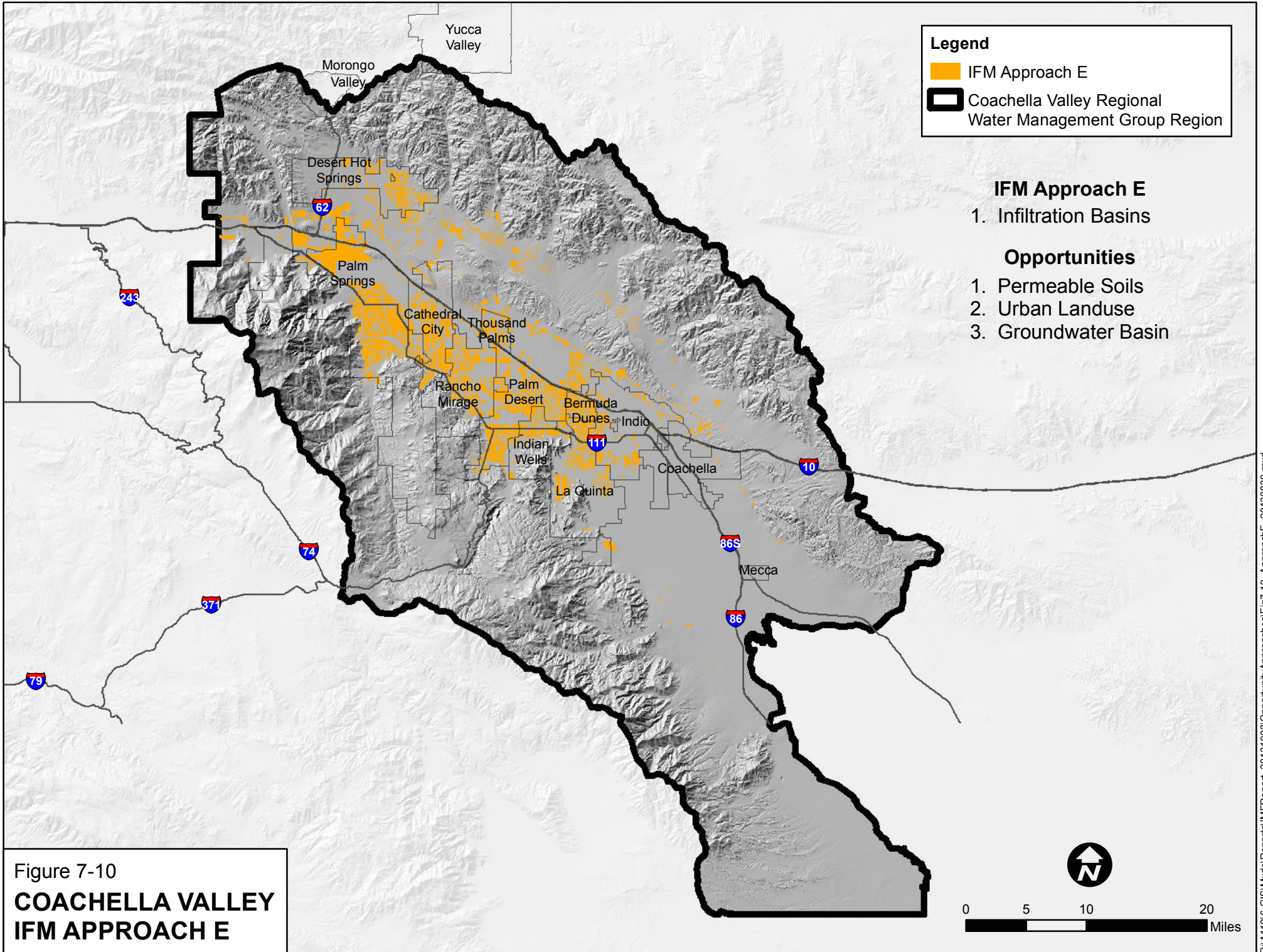
1. Permeable flood control channel lining

**Opportunities**

1. Permeable Soils
2. Floodplain
3. Groundwater Basin
4. Channel

Figure 7-9  
**COACHELLA VALLEY  
 IFM APPROACH D**



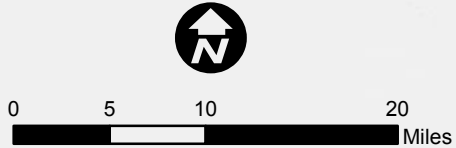


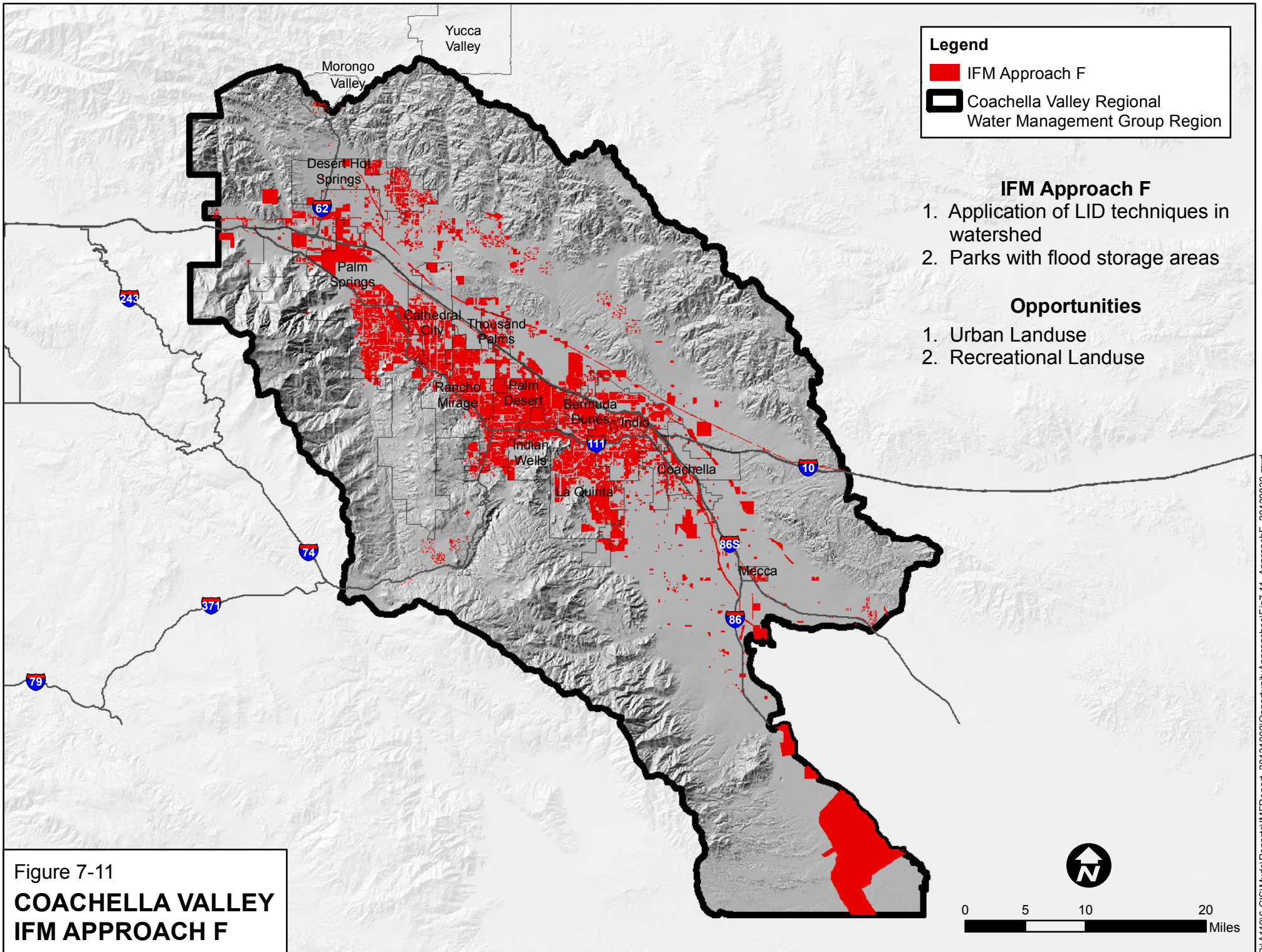
**Legend**

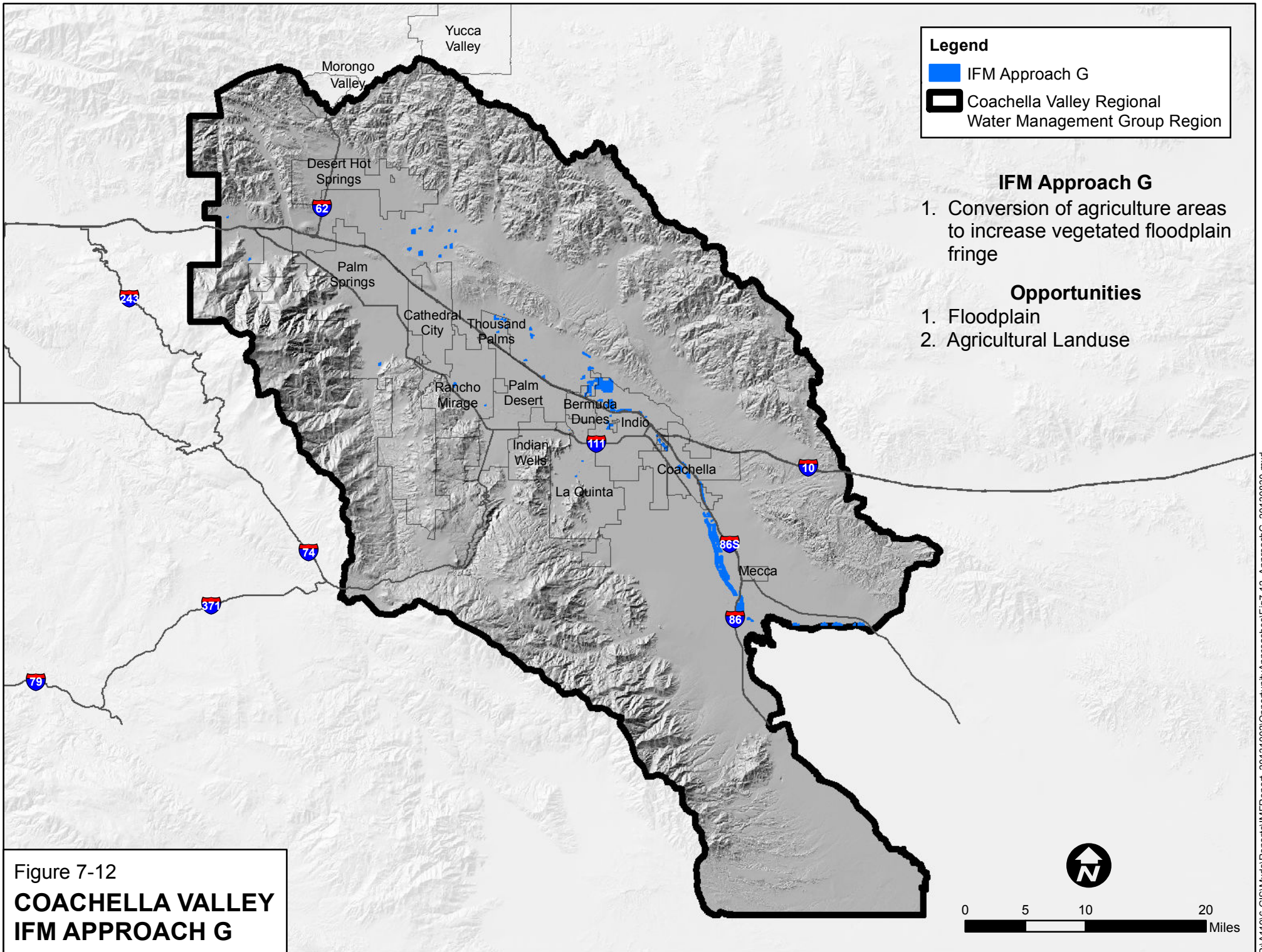
- IFM Approach E
- Coachella Valley Regional Water Management Group Region

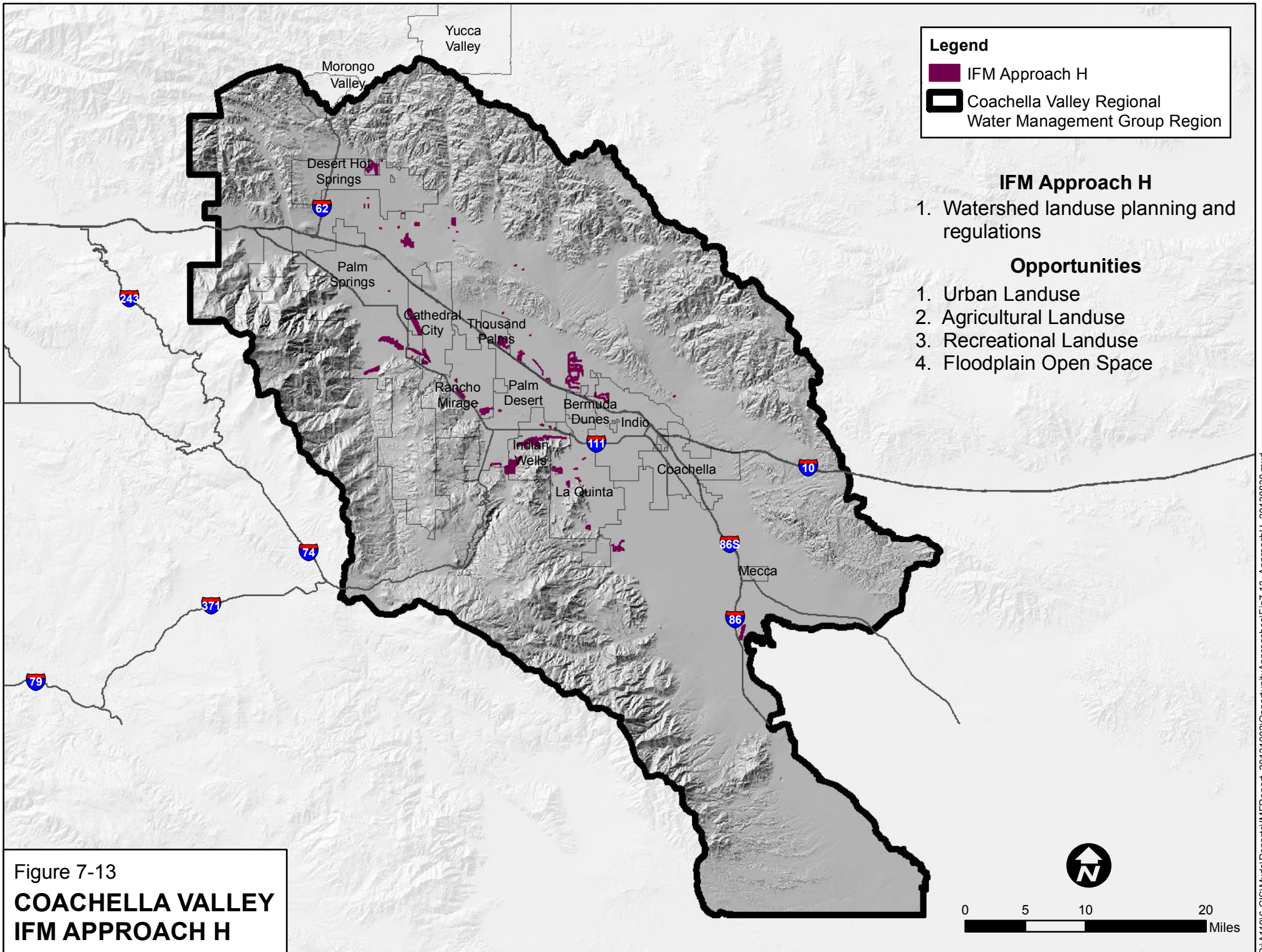
- IFM Approach E**
1. Infiltration Basins
- Opportunities**
1. Permeable Soils
  2. Urban Landuse
  3. Groundwater Basin

Figure 7-10  
**COACHELLA VALLEY  
 IFM APPROACH E**

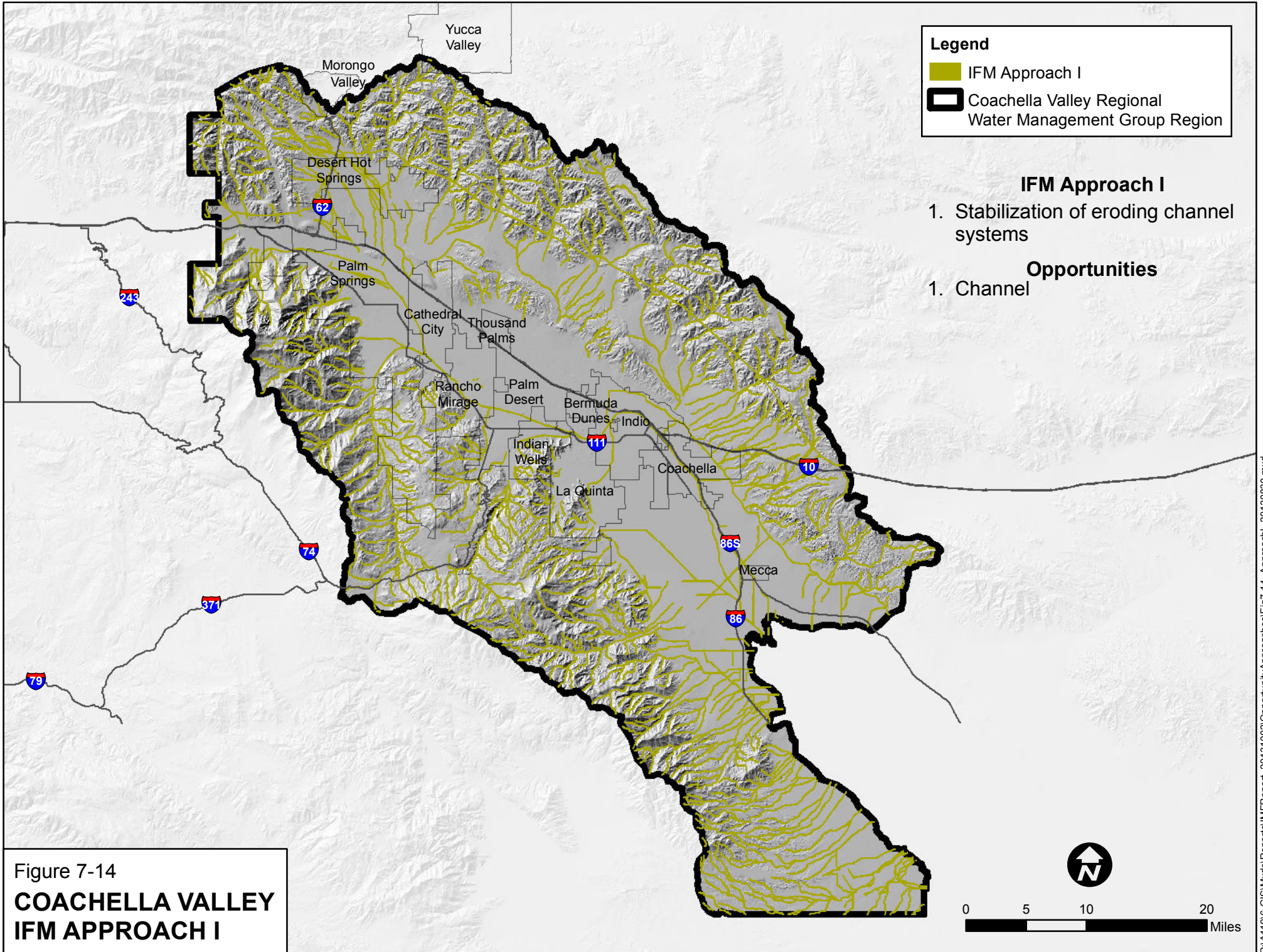


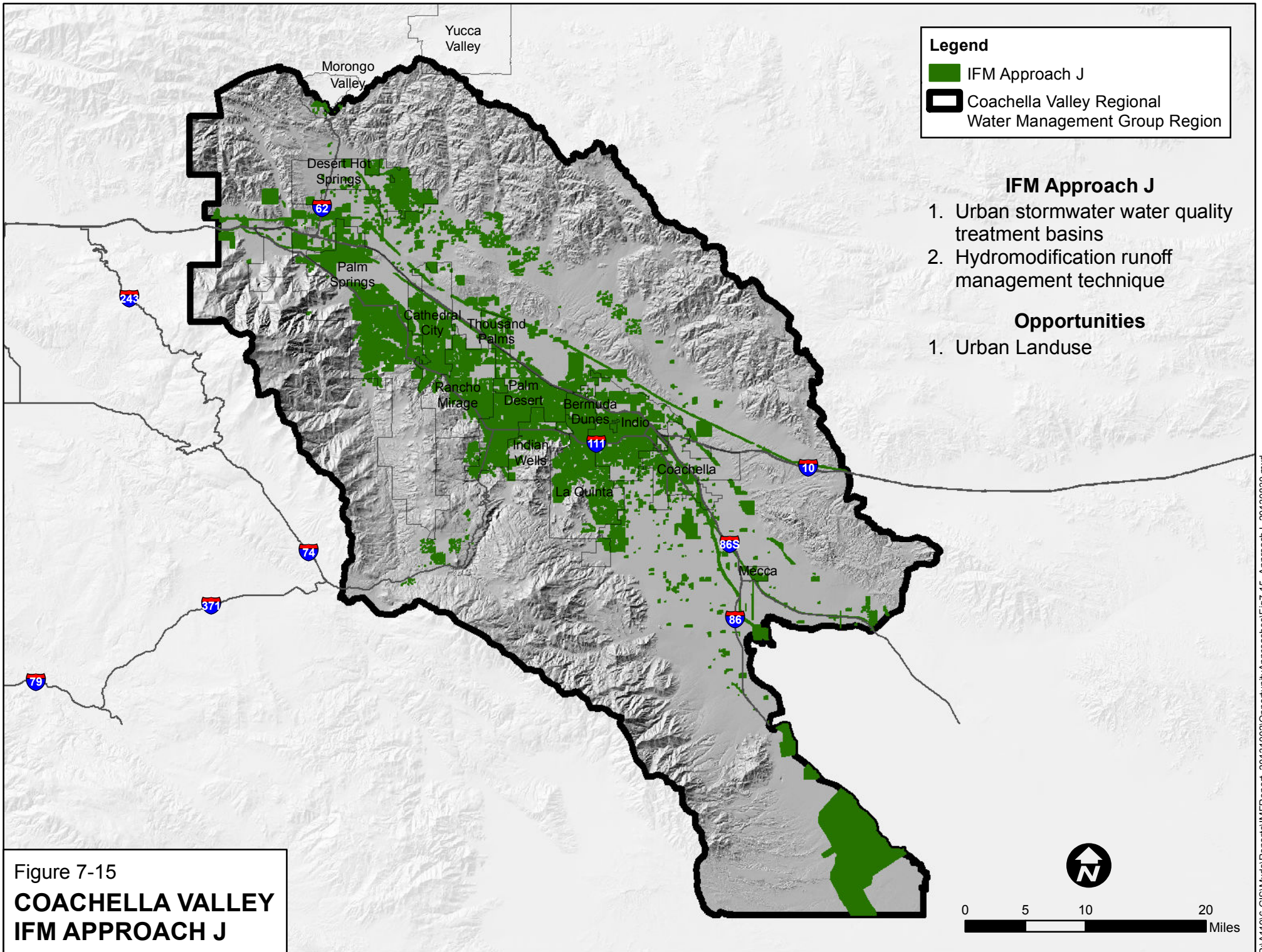


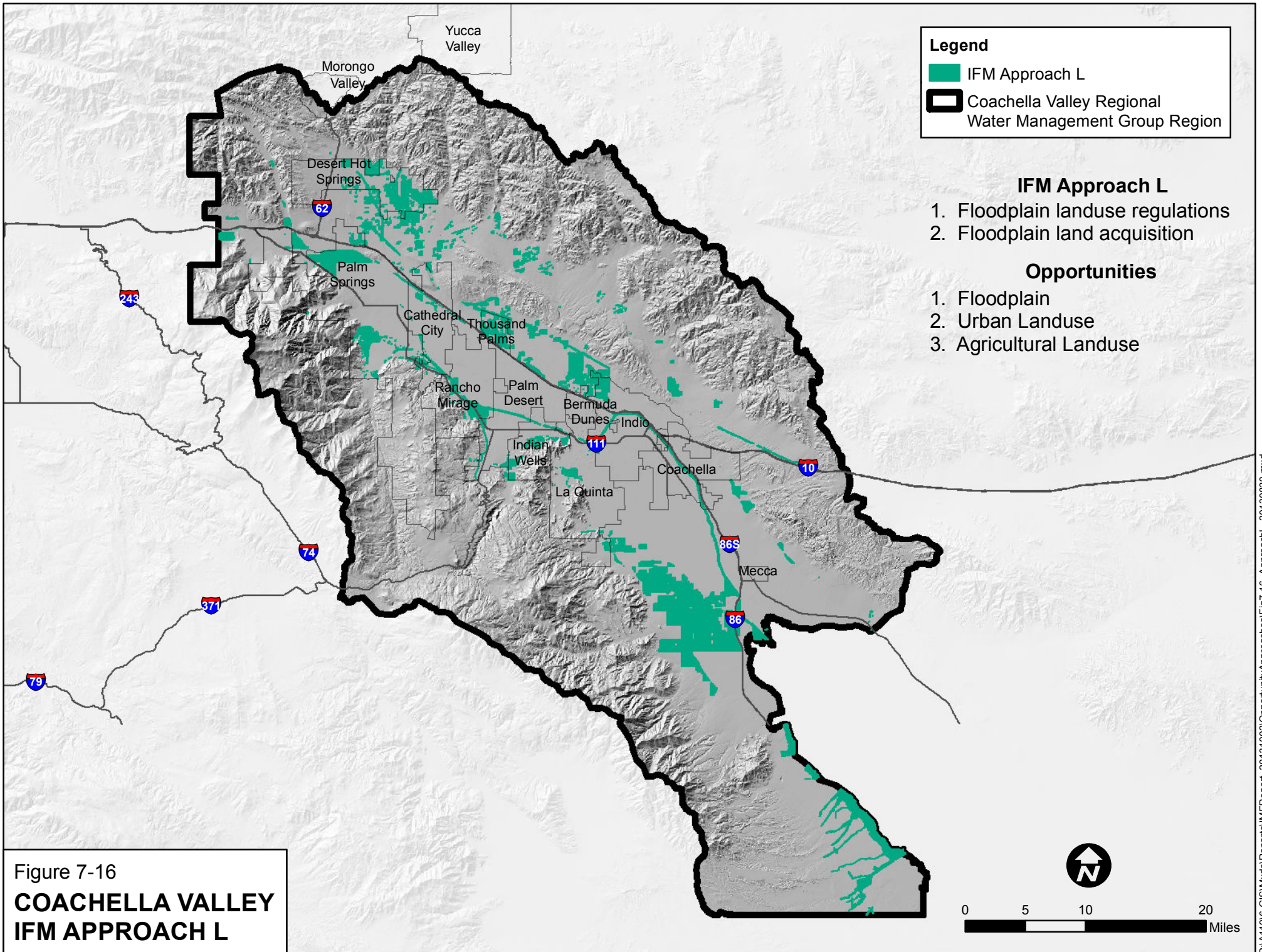


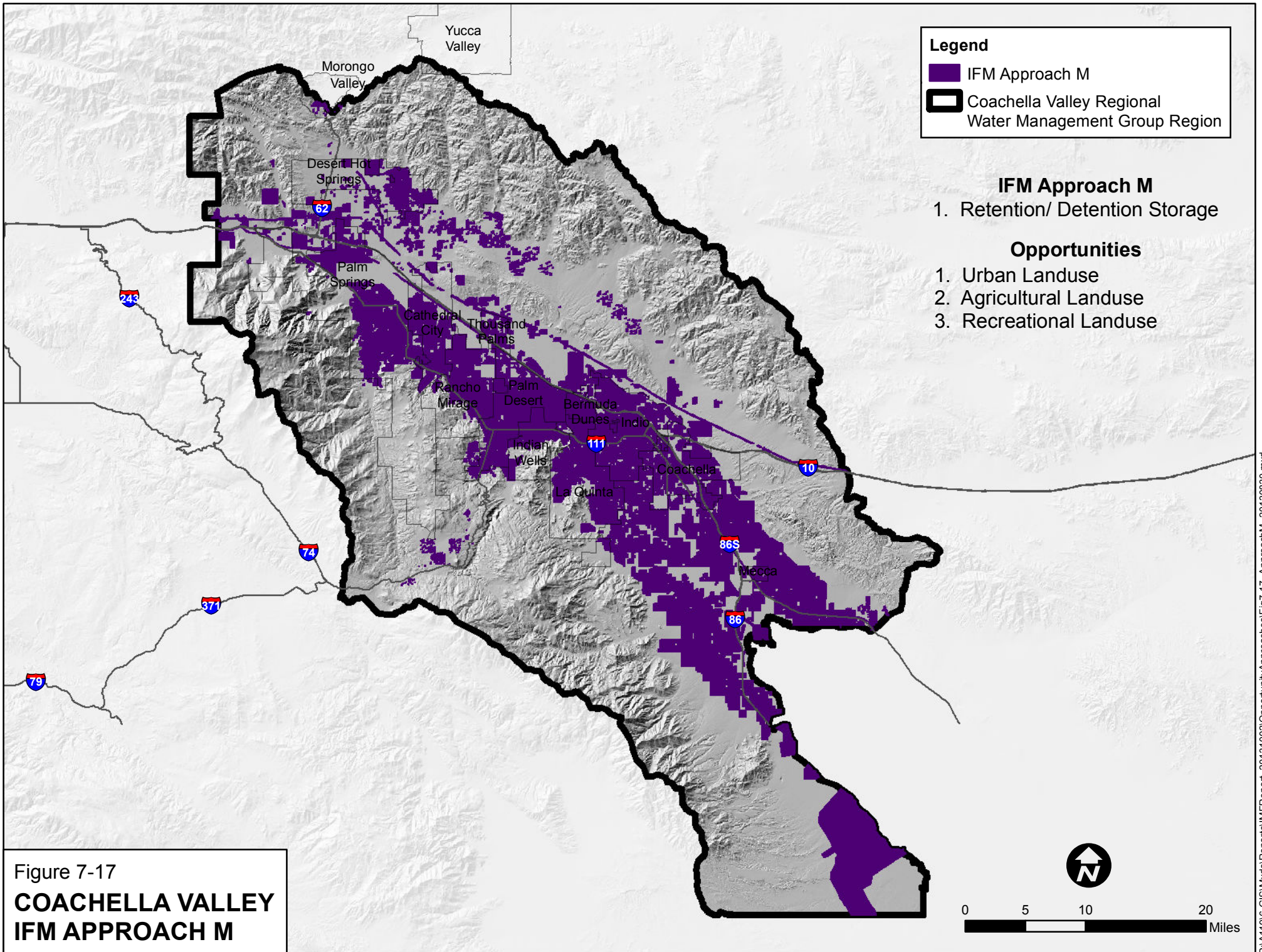


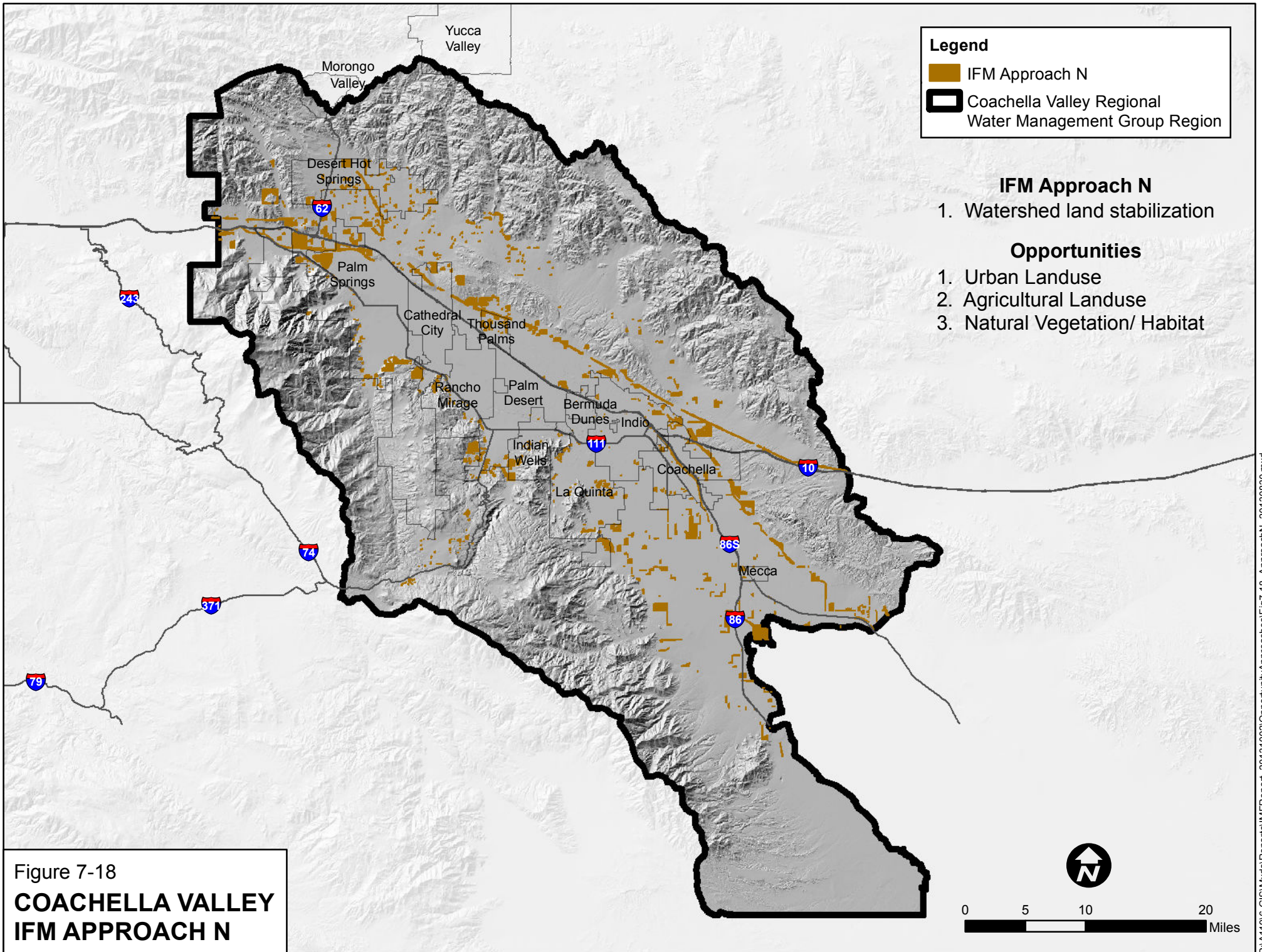













**Legend**

- IFM Approach N
- Coachella Valley Regional Water Management Group Region

- IFM Approach N**
1. Watershed land stabilization
- Opportunities**
1. Urban Landuse
  2. Agricultural Landuse
  3. Natural Vegetation/ Habitat

Figure 7-18  
**COACHELLA VALLEY  
 IFM APPROACH N**

  
 0      5      10      20  
 Miles

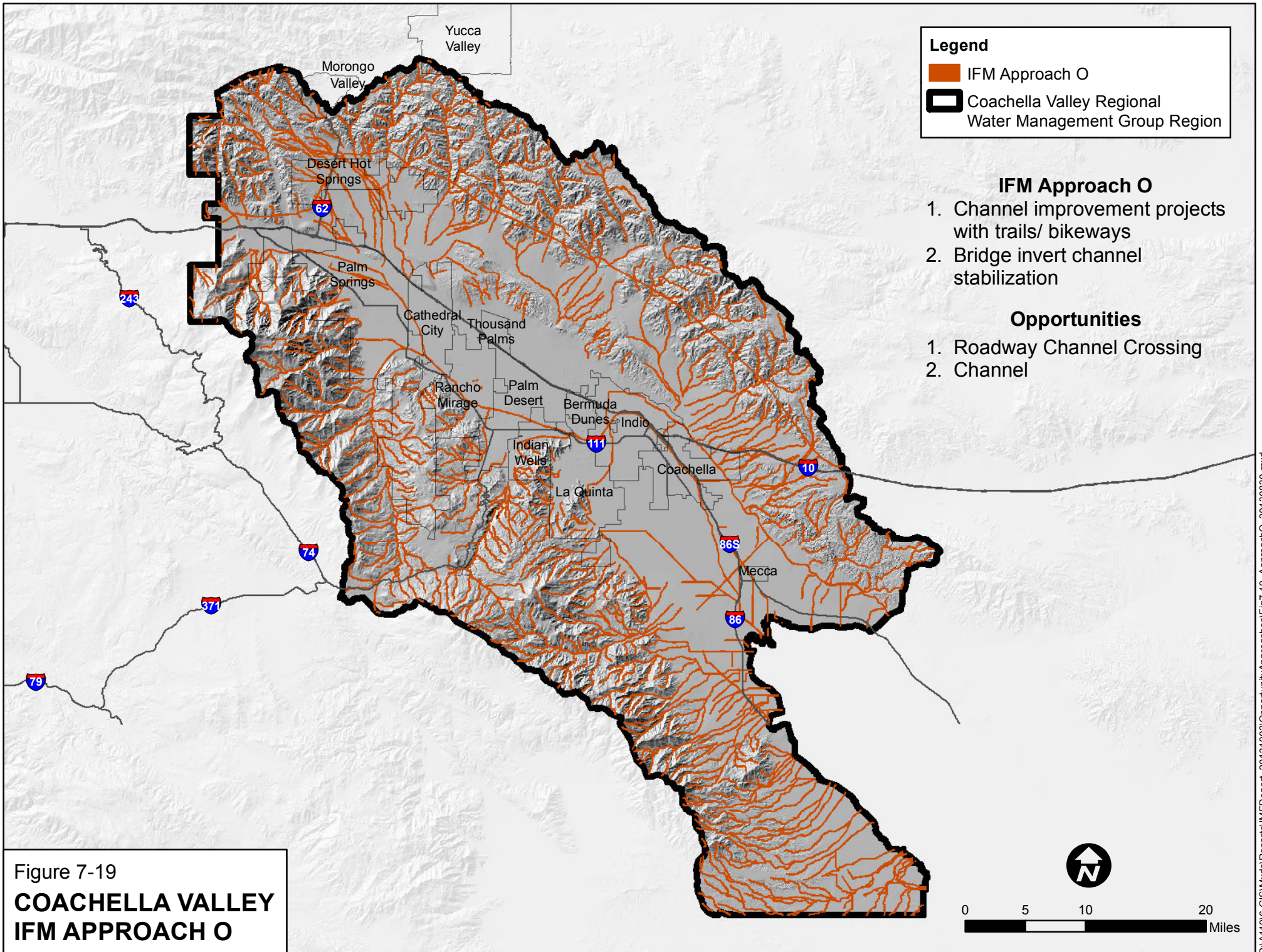
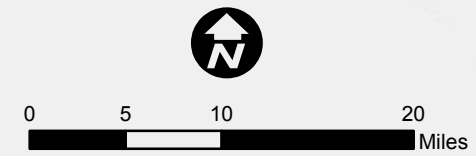
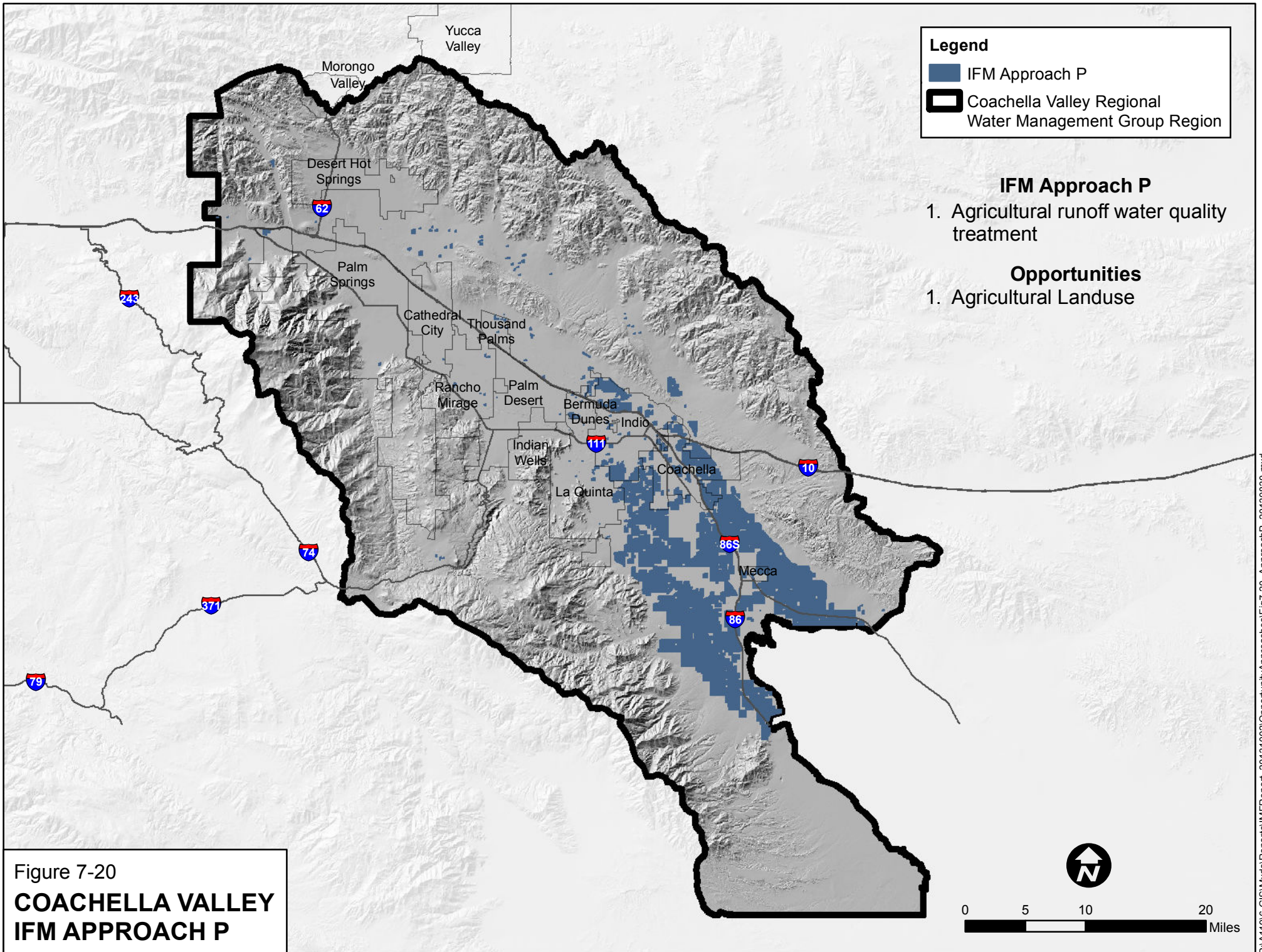


Figure 7-19  
**COACHELLA VALLEY  
 IFM APPROACH O**






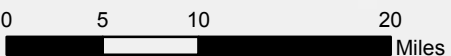
**Legend**

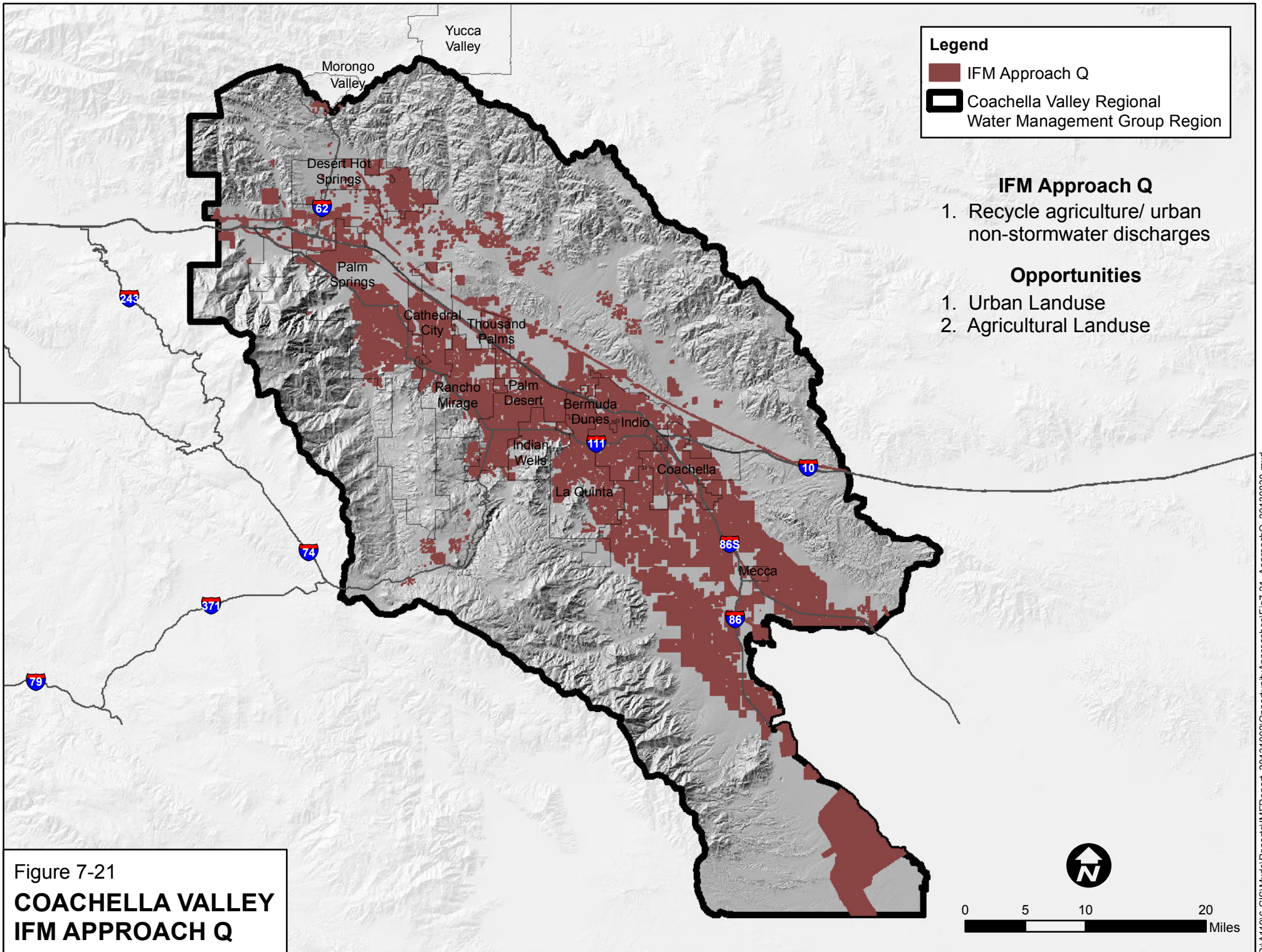
- IFM Approach P
- Coachella Valley Regional Water Management Group Region

**IFM Approach P**  
 1. Agricultural runoff water quality treatment

**Opportunities**  
 1. Agricultural Landuse

Figure 7-20  
**COACHELLA VALLEY**  
**IFM APPROACH P**

  
 0      5      10      20  
 Miles





## 7.5 IFM Project Formulation

The initial project formulation process should provide numerous alternative general concepts or approaches that cover an entire range or spectrum of available potential IFM solutions or applications of strategies. The range of alternatives generated from this process should be of sufficient extent that it would satisfy an alternative analysis as part of the environmental documentation or regulatory permitting. These different options are developed through the application of a variety of available conventional tools and flood protection techniques that can be developed into different creative and effective solutions.

Conceptual design solutions are developed through an in-depth understanding of the problems and fundamental hydraulic/hydrologic processes. A hierarchy of design components is pieced together utilizing the engineering “toolbox” to develop creative alternatives that provide the desired hydraulic/hydrologic function. Techniques are selected with respect to the hydraulic conditions and fulfilling the objectives/design criteria. The intent of this process is to ensure that novel and innovative solutions are generated rather than focusing on routine alternatives.

An integral component is application of different techniques as part of these solutions that embrace the natural river function/ecology and preservation/enhancement of these resources. An important first step in formulating alternative plans is the process of creating measure of performance of evaluating each alternative since the performance measures often assist in defining potential alternatives. The performance measure must be easily understood and directly related to the planning objective. For example for the flood protection evaluation the change in water surface elevation within the floodplain will be a clear indicator of the alternative performance related to that particular primary objective.

There are many unique challenges associated with the selection and prioritization of watershed projects in order to ensure that the correct or optimum is selected that provides the maximum benefits while addressing multiple watershed objectives, or ensuring the needs of all the watershed stakeholders are adopted. It is desirable to have a planning tool to assist in the alternative screening process which can provide guidance in understanding the relative importance of many different objectives through a numerical weighting scale which can be used in ranking alternatives in forming the decision nexus.

## 7.6 Recommended Actions

This study is intended to identify a general framework for the application of an IFM approach throughout the Coachella Valley on a regional basis that will ensure maximizing water resources benefits. General principles and strategies are also provided as guidance to assist in watershed planning. Using an IFM approach provides significant benefits including high-value multi-benefit projects, which the community can leverage through broader access to funding sources. This report is intended as a “guidance document” to facilitate an integrated water resources approach to flood management. This assessment is based on readily available information to perform planning level risk assessment in order to provide high level recommendations.

Based on the findings, the following actions are recommended to advance the use of IFM on regional basis within the Coachella Valley or development of flood management solutions. The majority of these actions were taken by the CVRWMG during development of the IFM Study, those actions that are ongoing (such as collaboration and communication) are recommended to continue as applicable and necessary:

- 1. Increase collaboration/communication of agencies responsible municipal and regional floodplain management which will increase effectiveness of flood management**
  - Develop framework and process for different level of communication for floodplain managers
  - Provide basis for a regional work-group forum of floodplain managers and watershed stakeholders that allows increased collaboration and future regular meetings. Utilize existing industry forums or regional planning agencies such as CVAG to establish these initial working groups.
- 2. Improve understanding and accuracy of regional and local flood risks on a watershed basis**
  - Develop understanding of the different types of flooding from both regional level and local level and include specific flood problems for the different areas as well inventory of common “hot spots” of chronic problems
  - Provide methodology to define the magnitude of flood risks to better prioritize the level of flood risk which integrates potential flood damage
  - Review common recurring flood damage losses and evaluate the sources of these flood problems.
  - Improve the accuracy of the existing flood hazard mapping and extend mapping of these hazards to areas which are currently not mapped
- 3. Develop regional watershed database to assist in flood management planning that will provide a data exchange of information for all watershed stakeholders as well as sharing of information between public agencies to foster collaboration**
  - Ensure that different watershed stakeholders have access to the different available information and studies being performed
  - Develop community based watershed groups to provide monitoring of floodplains and reduce costs of performing these services while increase the active field database
  - Collect and compile watershed mapping information related to flood hazards and watershed information in a GIS format as well as developing a schema for managing the data to benefit future watershed planning
  - Develop an updated GIS database of all the different flood control and flood management infrastructure
- 4. Develop watershed based planning, which includes collaboration with all the different stakeholder groups to minimize conflicts and define specific watershed goals**
  - Develop understanding of the different priority goals of the watershed stakeholders based on the common recurring flooding issues/problems/hazards

- Involve environmental groups and agencies in the planning process as well as develop an understanding of additional environmental resources
- 5. Initiate understanding and awareness of “integrated flood management” (IFM) for agencies and the community**
  - Prepare educational material and information on background of IFM to encourage better understanding of the required thought process
  - Provide examples of IFM projects to assist in understanding how to apply and the basis of the key planning principles which are different from conventional watershed planning
- 6. Identify applicable IFM strategies on a watershed basis that can be utilized within the Coachella Valley to assist agency’s understanding on how IFM can be implemented given the nature of the types of flood hazards within the Coachella Valley**
  - Define common types of IFM strategies which integrate different planning principles through different scales (1) watershed level, (2) city level, and (3) neighborhood/local level for the -arid climate
  - Develop regional mapping of both opportunities and constraints related to integrated flood management
  - Develop a specialized GIS based tool which assists in the defining locations of IFM projects at a regional scale and can provide maximum multiple benefits and provides method for prioritizing flood management projects
- 7. Develop watershed planning guidance program implementing IFM through different land planning regulations and collaboration with agencies during the development planning process**
  - Develop watershed planning process framework with key planning principles for implementing IFM that focuses on linking sustainability, water resource management, and land use planning to flood management and the entire hydrologic cycle
  - Prepare guidance on integrating “land use planning” as central element of IFM and define how it can be utilized for different type of floodplain hazards issues
  - Develop overall guidance document that provides stakeholders the basis for watershed planning with IFM

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# Appendix – GIS Mapping Database

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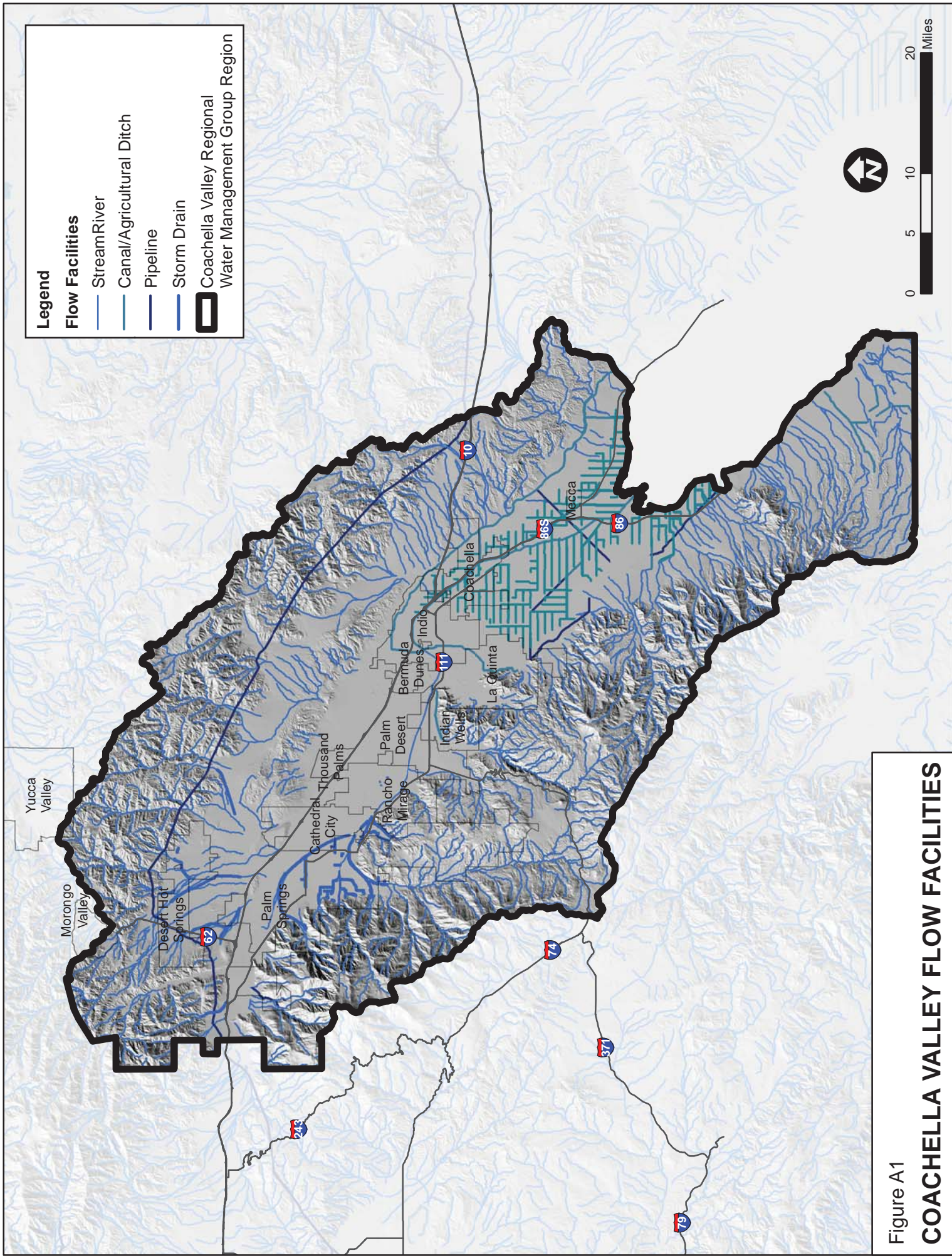
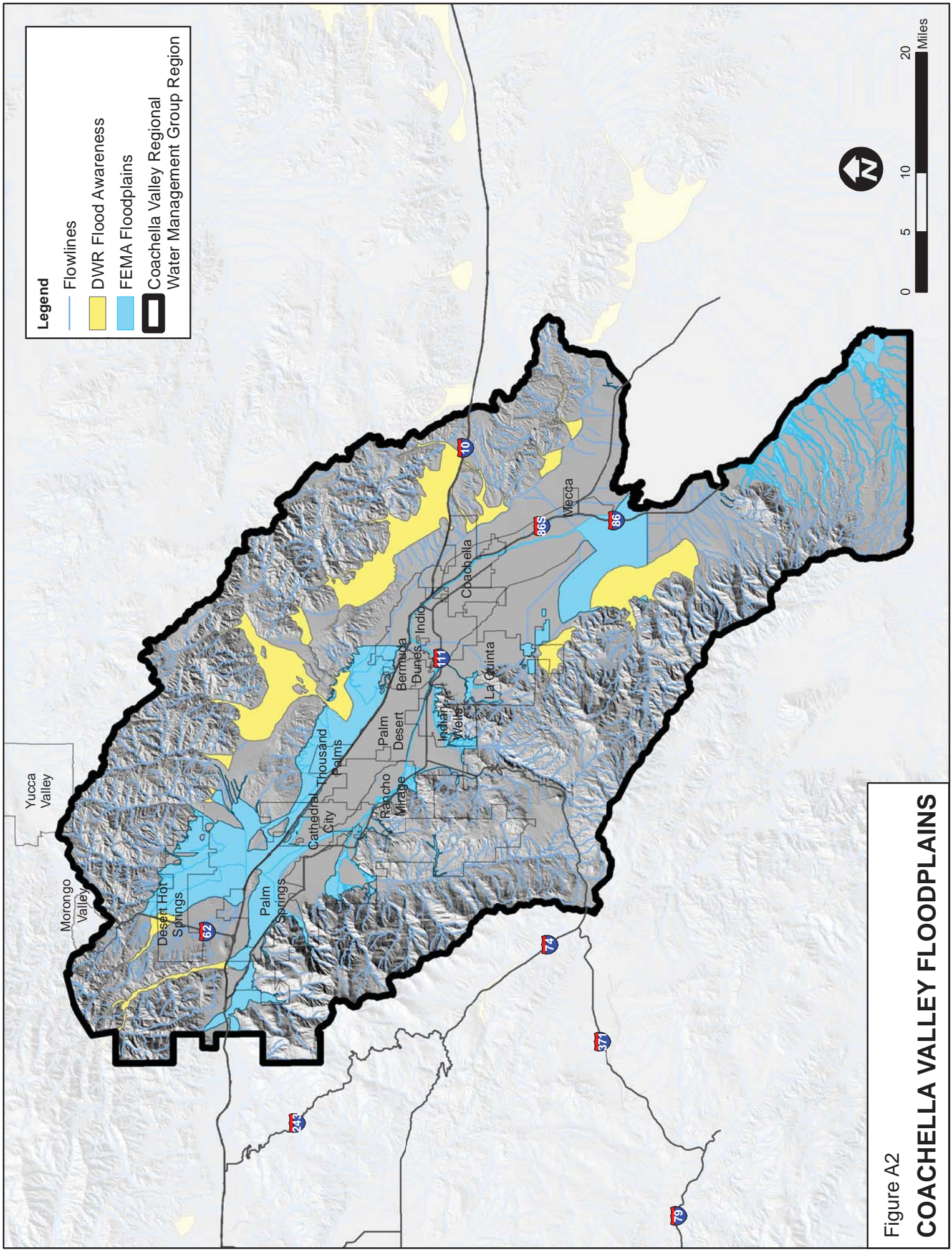


Figure A1  
**COACHELLA VALLEY FLOW FACILITIES**



**Legend**

- Flowlines
- DWR Flood Awareness
- FEMA Floodplains
- ▭ Coachella Valley Regional Water Management Group Region

Figure A2  
**COACHELLA VALLEY FLOODPLAINS**



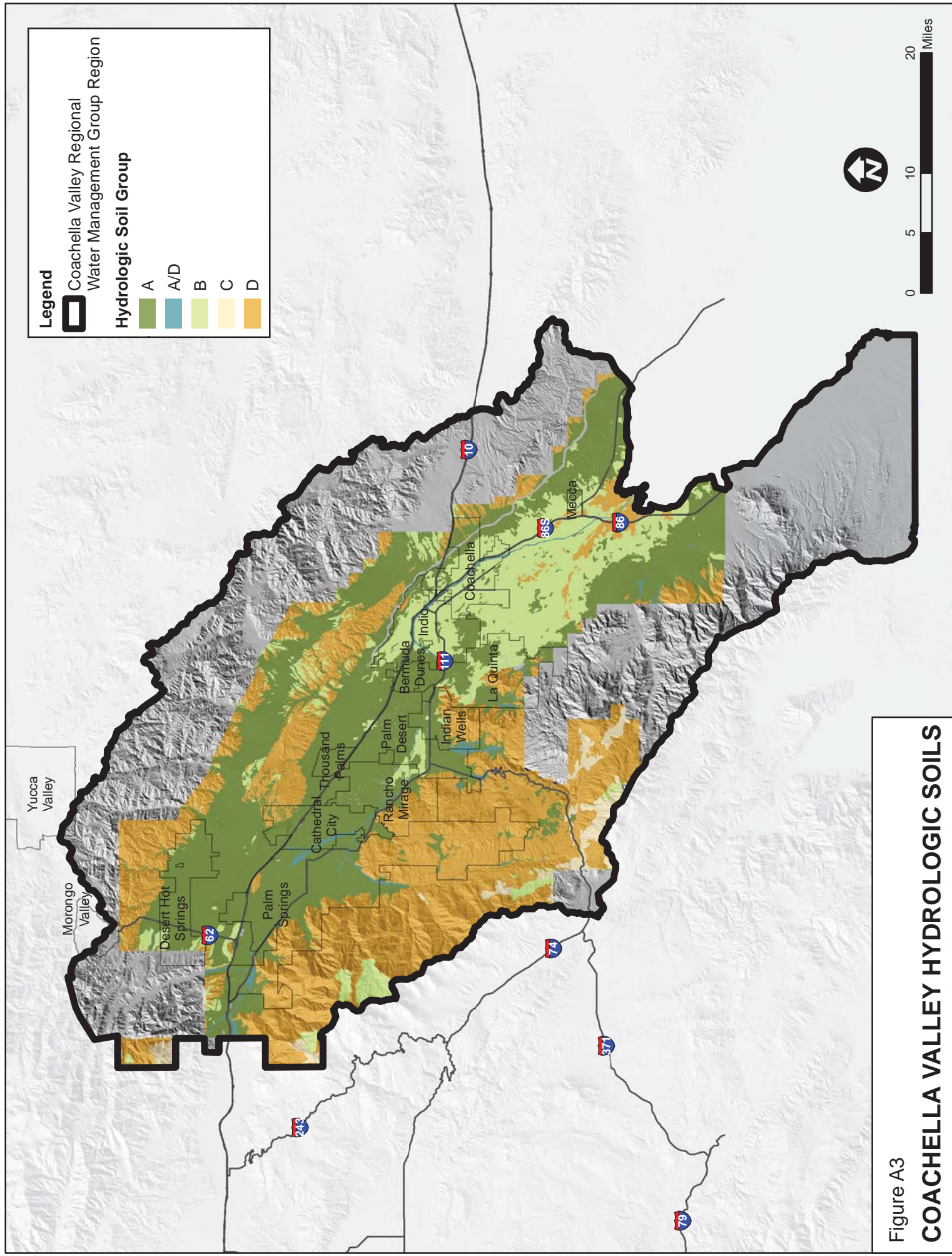


Figure A3  
**COACHELLA VALLEY HYDROLOGIC SOILS**

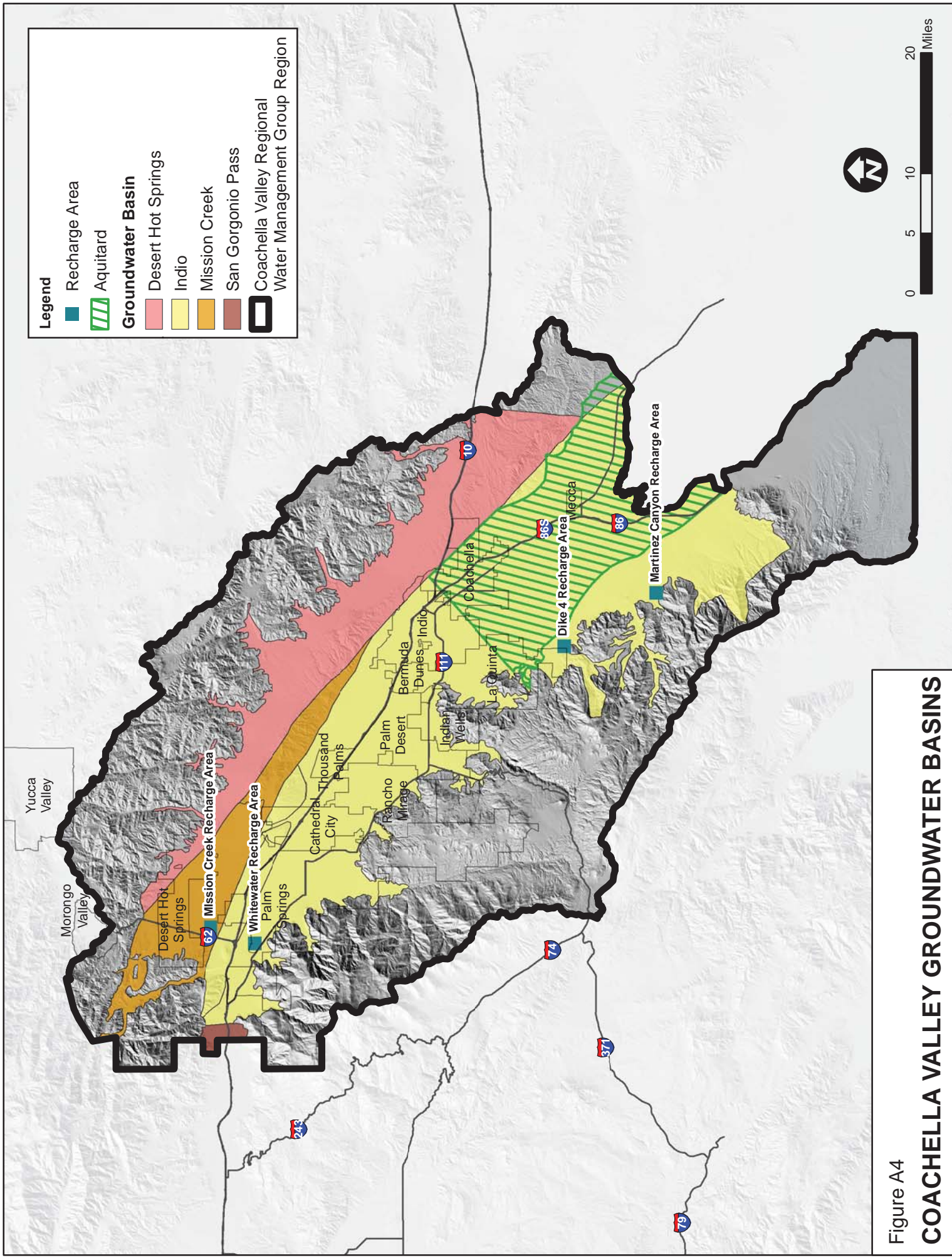


Figure A4  
**COACHELLA VALLEY GROUNDWATER BASINS**

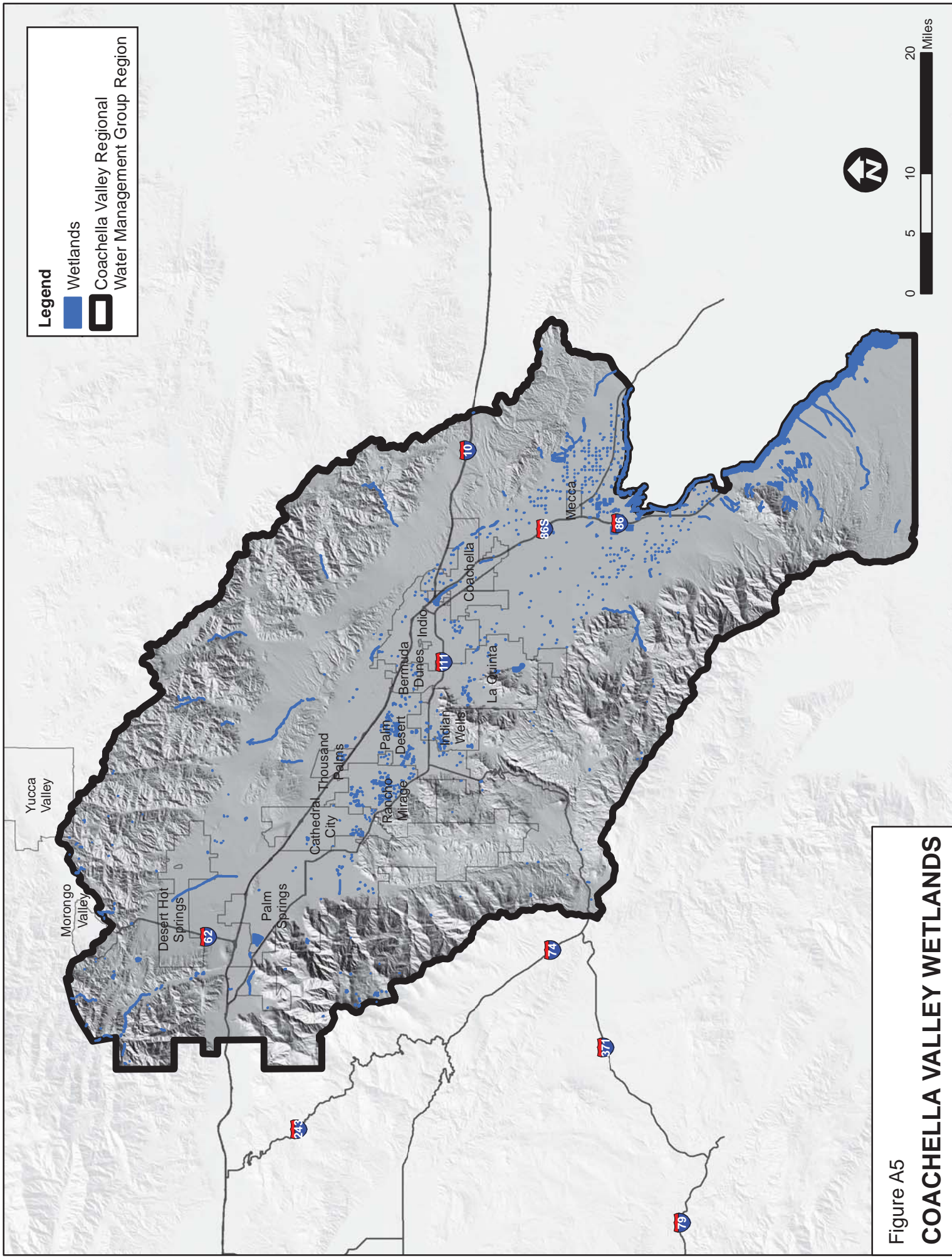


Figure A5  
**COACHELLA VALLEY WETLANDS**

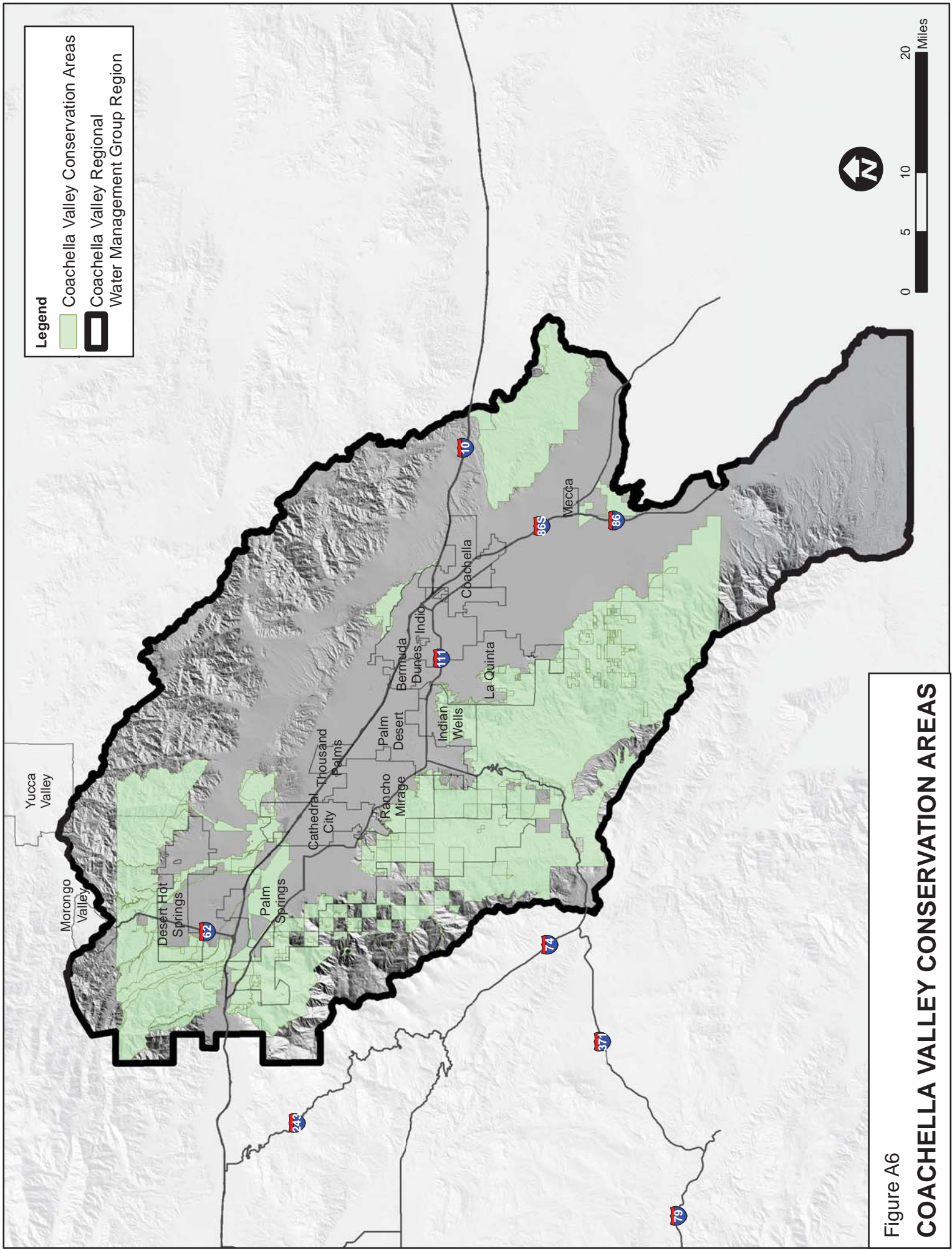


Figure A6  
**COACHELLA VALLEY CONSERVATION AREAS**

## Appendix VI-J: Evaluation of Valley-Wide Groundwater Monitoring Programs

This appendix includes the *Evaluation of Valley-Wide Groundwater Monitoring Programs* produced as part of the 2014 IRWM Plan Update process.



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**Coachella Valley Integrated Regional Water  
Management Plan Update**

**Evaluation of Valley-Wide  
Groundwater Monitoring Programs**

**Final Report**

**Prepared by:**



**January 28, 2013**

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## Introduction

The Coachella Valley Regional Water Management Group (CVRWMG) – comprised of Coachella Valley Water District (CVWD), Mission Springs Water District (MSWD), Desert Water Agency (DWA), Coachella Water Authority (CWA), and Indio Water Authority (IWA) – are preparing an update of the Coachella Valley Integrated Regional Water Management (IRWM) Plan. The purpose of the Coachella Valley IRWM Plan is to accurately characterize the existing water resources conditions, issues, and needs of the Valley, and then to establish a project selection process for funding water management projects that help to meet those needs. During the scoping process for the IRWM Plan update, stakeholders identified the need to better understand and document groundwater monitoring practices in order to confirm whether current monitoring is providing the necessary data to answer ongoing groundwater overdraft and quality concerns. Based on this assessment, the study shall identify recommended modifications/additions to current monitoring that address those data needs.

### 1.1 Project Purpose

This technical memorandum (TM) describes recommended modifications/additions to existing groundwater monitoring programs currently being implemented in the Coachella Valley Groundwater Basin (CVGB). This TM builds off recommended monitoring program modifications and additions included as part of the *Disadvantaged Community (DAC) Water Quality Evaluation* work products (which can be found in Appendix S of the public draft 2014 Coachella Valley IRWM Plan at [www.cvrwmg.org](http://www.cvrwmg.org)). Documents used in developing this TM include the following:

- Coachella Valley Water District (CVWD) *Groundwater Elevation Monitoring Plan for California Statewide Groundwater Elevation Monitoring (CASGEM) Program* (2011)
- CVWD *Coachella Valley Water Management Plan* (2010)
- CVWD *Coachella Valley Water Management Plan, 2010 Update, Administrative Draft Subsequent Program Environmental Impact Report*, SCH No. 2007091099 (2011)
- CVWD, Desert Water Agency (DWA), and Mission Springs Water District (MSWD) *Mission Creek and Garnet Hill Sub-basins Water Management Plan, Final Report* (2013)
- United States Geological Survey (USGS) and California State Water Resources Control Board (SWRCB) *Ground-Water Quality Data in the Coachella Valley Study Unit, 2007: Results from the California GAMA Program*. Data Series 373. (Prepared by Dara A. Goldrath, Michael T. Wright, and Kenneth Belitz, 2009)
- USGS and SWRCB *Status of Groundwater Quality in the California Desert Region, 2006 – 2008: California GAMA Priority Basin Project*. Scientific Investigation Report 2012-5040 (2012)

The purpose of this TM is to describe existing groundwater monitoring efforts in the Coachella Valley and to present recommended modifications and/or additions to existing monitoring programs for the CVGB as it relates to water quality constituents identified as impacting the basin. Specifically, this TM includes identification of groundwater sampling locations, sampling frequency, and constituents to be monitored. The entities responsible for monitoring and reporting are also described.

## 2 Existing Groundwater Monitoring Programs

To date, groundwater monitoring in the CVGB has been conducted by local water agencies, State and Federal agencies and through special interest studies. Some of these programs entail regular, on-going monitoring programs, while others provide one-time snapshots of groundwater conditions. These programs have provided both groundwater elevation and water quality data in all sub-basins of the CVGB, although more data are available in areas with more regular groundwater use (i.e. pumping).

## 2.1 Constituents of Concerns for Groundwater Quality Monitoring

As noted above, two water management plans and several other special studies have been prepared for the Coachella Valley; these documents include information regarding overdraft conditions and water quality issues in the CVGB. Using the information presented in these studies, along with data available in publically-accessible databases, key constituents of concern (COCs) were identified for the groundwater basin. Specifically, these COCs represent parameters whose concentrations in groundwater exceed either primary or secondary drinking water standards, as set forth by federal and state governments.

Water quality constituents of principal concern in Coachella Valley, as identified in the Coachella Valley Water Management Plan (WMP) are salinity, nitrate, fluoride, arsenic and perchlorate (CVWD, 2011a). COCs identified in the Mission Creek and Garnet Hill Sub-basins WMP include total dissolved solids (TDS), nitrate and uranium (MWH, 2013). Finally, most recently, elevated concentrations of naturally occurring chromium in groundwater in the CVGB have been considered cause for concern due to the development of a drinking water standard for hexavalent chromium ( $\text{Cr}^{+6}$ ). Constituents of concern addressed by the monitoring program analysis described herein (arsenic, nitrate, uranium, fluoride, perchlorate and hexavalent chromium) were initially identified in the DAC Water Quality Evaluation project, conducted as part of the Coachella Valley IRWM Plan Update. This water quality evaluation focused on DAC communities using groundwater as their primary drinking water source and documents those constituents known to exceed primary drinking water standards in groundwater in those DAC areas. This list of COCs was then updated based on constituents identified in the aforementioned studies.

In recent years, the USGS (in cooperation with SWRCB) has investigated the groundwater quality in CVGB as a part of the Priority Basin Project of the Groundwater Ambient Monitoring and Assessment (GAMA) Program. The GAMA Priority Basin project was developed in response to the Groundwater Quality Act of 2001. Most constituents in groundwater samples for these USGS studies were at concentrations below drinking water thresholds. However, major constituents detected at concentrations above either primary or secondary drinking water standards or advisory levels in the studies included perchlorate, arsenic, boron, molybdenum, strontium, nitrite plus nitrate (as nitrogen), radon-222, chloride, fluoride, sulfate, manganese, and TDS (USGS, 2009).

Based on an analysis of available groundwater quality data, arsenic, nitrate, uranium, fluoride, perchlorate, and hexavalent chromium are considered to be key COCs (RMC, 2013). These COCs were identified based on the Coachella Valley WMP, Mission Creek-Garnet Hill WMP, and the DAC Water Quality Evaluation. A discussion of these constituents, including their drinking water standards (or maximum contaminant levels, MCLs), and their concentrations within the valley, are provided below.

### 2.1.1 Arsenic

Arsenic occurs naturally in rock, soil and biota. California adopted the federal MCL for arsenic (10  $\mu\text{g}/\text{L}$ ) in 2006. In 2004, CVWD commenced studies to evaluate and design facilities to meet the new arsenic standard at several of its wells that exceeded the new requirements (CVWD, 2011a).

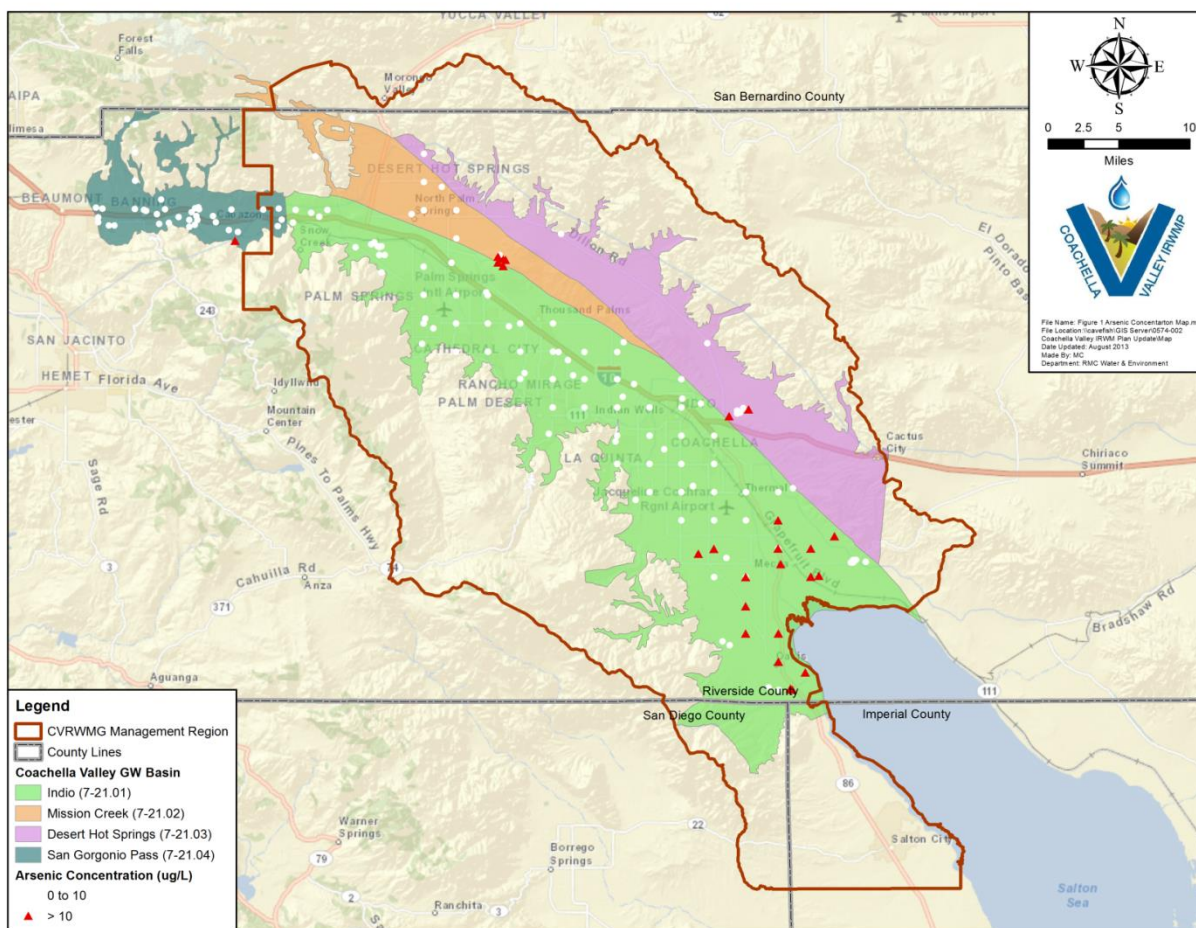
Figure 1 shows arsenic concentrations in Coachella Valley since 2000 as reported by GeoTracker-GAMA, a publically available database that includes data from public supply wells. Arsenic concentrations exceeding the primary MCL have been observed in some East Valley<sup>1</sup> municipal water supply wells; these wells have either been taken out of service or have been equipped with wellhead

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<sup>1</sup>For purposes of the 2010 WMP Update, the Coachella Valley has been divided geographically into the West Valley and the East Valley. The West Valley, which includes the cities of Palm Springs, Cathedral City, Rancho Mirage, Indian Wells and Palm Desert, has a predominately resort/recreation-based economy that relies on groundwater as its principal water source. The East Valley, which includes the cities of Coachella, Indio and La Quinta and the communities of Mecca and Thermal, has an agricultural-based economy utilizing groundwater and Colorado River water imported via the Coachella Canal. The East Valley is southeast of a line extending from Washington Street and Point Happy northeast to the Indio Hills near Jefferson Street, and the West Valley is northwest of this line (CVWD, 2011a).

treatment systems. About 10 percent of wells with reported monitoring results exceeded the arsenic MCL, most of which are in the southern portion of the East Valley. Similar results were reported by the CVWD (2011a) and USGS (2007, 2009). Arsenic concentrations above the primary MCL were also detected east of Palm Springs around the border of Indio and Mission Creek Sub-basins. MWH (2013) reported that arsenic was detected in several groundwater wells in the Mission Creek Sub-basin. However, the measurements were below the primary MCL for arsenic in all cases except for one well for one measurement. There is limited information available on groundwater quality in the Garnet Hill Sub-basin. The available data are not sufficient to make any meaningful conclusions about temporal or spatial distribution of arsenic in this sub-basin.

**Figure 1: Arsenic Concentrations in Coachella Valley Groundwater Basin**



### 2.1.2 Nitrate

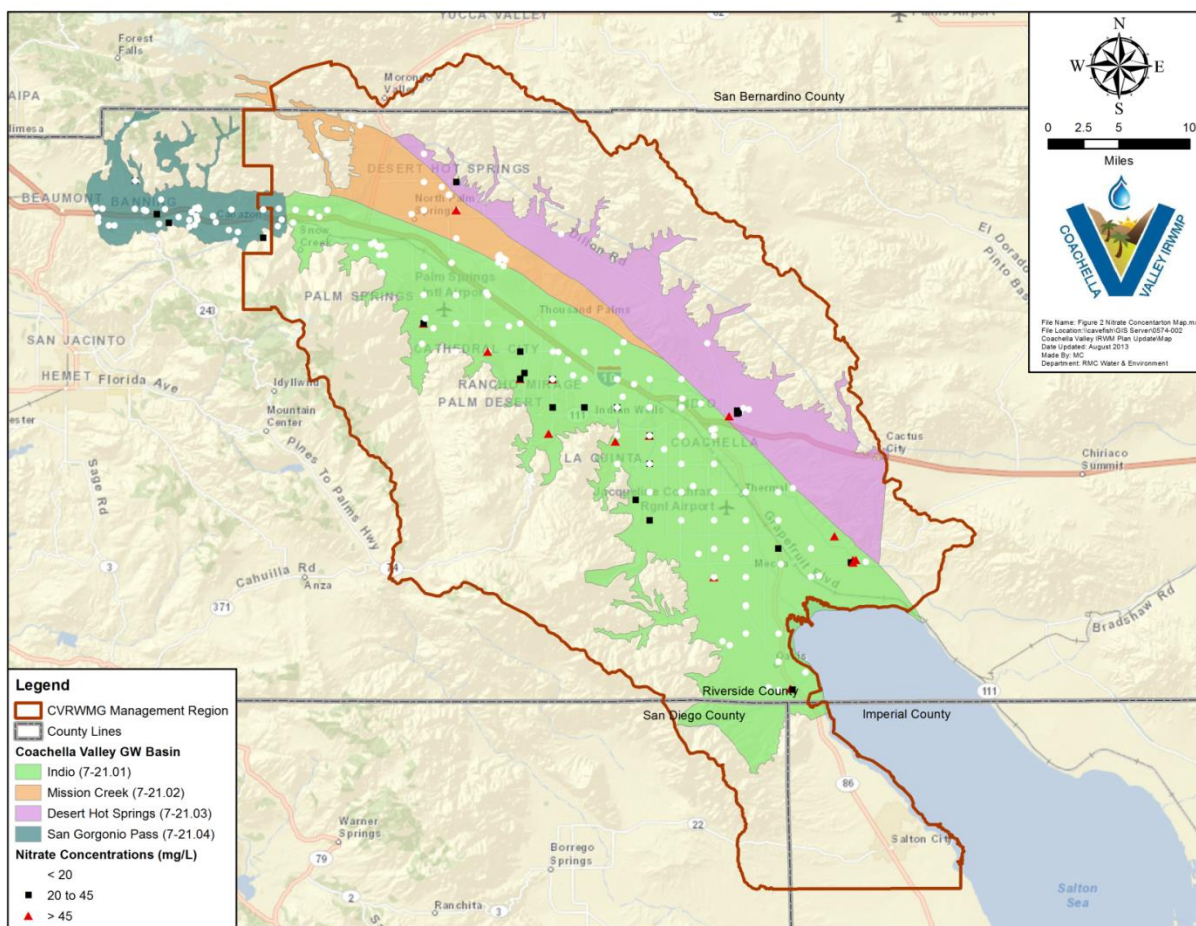
Potential sources of elevated nitrate in Coachella Valley groundwater include natural sedimentary deposits and leaching of decomposed plant materials high in nitrogen content (Huberty et al., 1948), fertilizers, and effluent from septic tanks. The state and federal primary MCL for nitrate is 45 mg/L as NO<sub>3</sub> (or 10 mg/L as N). Generally, nitrates exist in the unsaturated and shallow aquifer zones above 300 to 400 feet below the ground surface (bgs), and have not been observed in the deeper aquifer zones below depths of 500 feet (MWH, 2013; CVWD, 2010).

Figure 2 presents a map showing the distribution of nitrates for the period 2000 through 2012 using data from the GeoTracker-GAMA water quality database. Groundwater is currently sampled for nitrate annually following CDPH requirements. In areas with elevated nitrate concentrations, CDPH requires

more frequent monitoring – quarterly for sources with nitrate levels above 50% of the MCL and monthly for sources above 75% of the MCL. This is a satisfactory approach for nitrate monitoring in the basin.

Clusters of wells around the North Palm Springs, Indio and Coachella areas show nitrate concentrations as high as 90 mg/L. Nitrate concentrations above the primary MCL have also been detected in the southern portion of the East Valley and along the southwest border of the Indio Sub-basin. Nitrate concentrations are below the MCL for all recorded public water supply samples in the Mission Creek Sub-basin; however, several private wells have recorded nitrate concentrations exceeding the primary MCL (MWH, 2013). There is limited information available on groundwater quality in the Garnet Hill Sub-basin. Nitrate concentrations have varied between 1 mg/L and 7 mg/L in that sub-basin (MWH, 2013).

Figure 2: Nitrate Concentrations in Coachella Valley Groundwater Basin



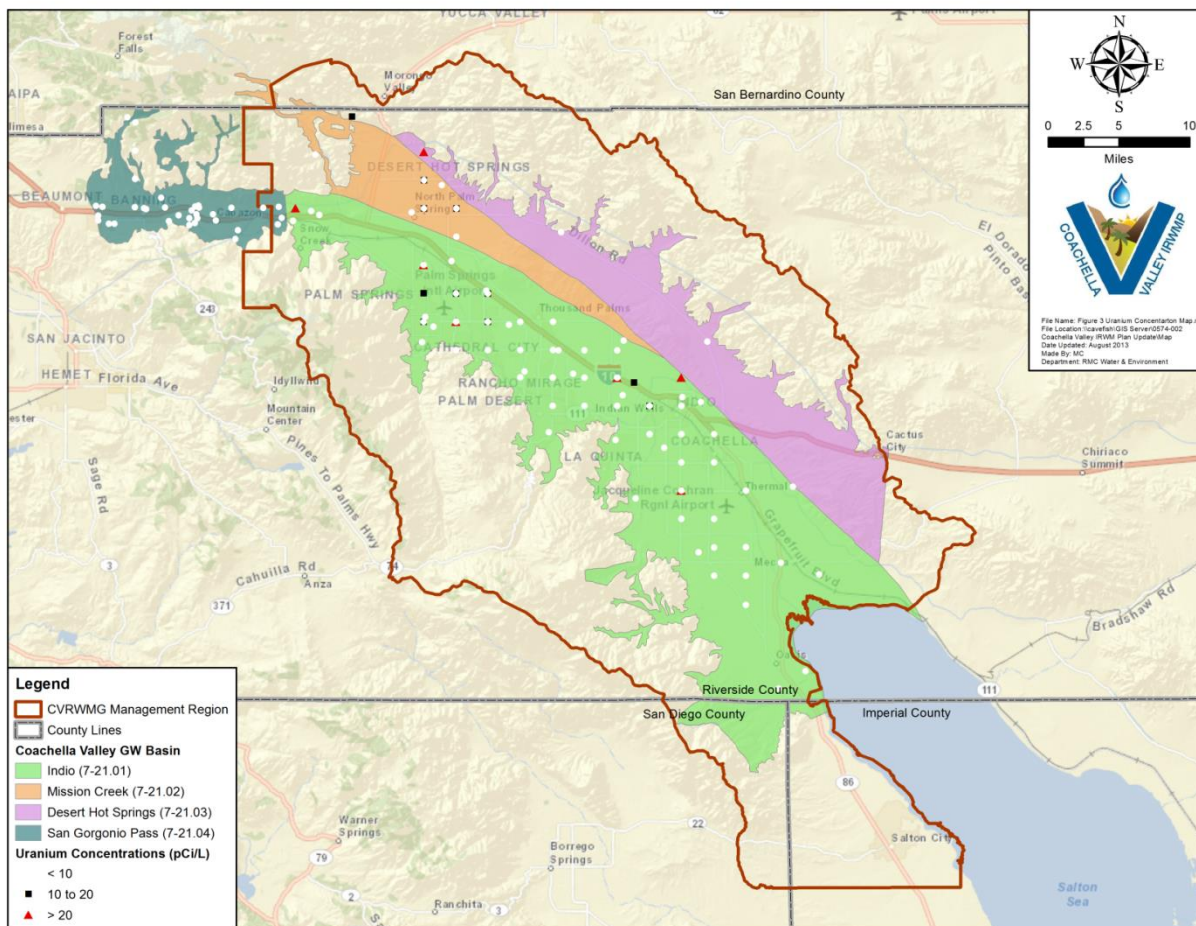
### 2.1.3 Uranium

The primary source of uranium in the Coachella Valley is naturally occurring uranium in the geologic formations of the basin. This uranium leaches into the groundwater basin under natural conditions. The primary MCL for uranium is 20 picocuries/liter (pCi/L) based on a four-quarter average.

Figure 3 shows uranium concentrations in the basin since 2000 as reported by GeoTracker-GAMA. Uranium has been detected above the MCL in several groundwater wells in the Indio Sub-basin based on data collected in 2012 and in one well in Desert Hot Springs based on samples collected in 2010. Samples collected in 2003 and 2004 show uranium concentrations above MCL north of Palm Springs, north of

Indian Wells, and east of Thermal. MWH (2013) reported that uranium was detected in several groundwater wells in the Mission Creek Sub-basin. Concentrations ranged from 4.4 pCi/L to 23 pCi/L, but none of the wells exceed the four-quarter average MCL of 20 pCi/L. There is limited information available on groundwater quality in the Garnet Hill Sub-basin.

Figure 3: Uranium Concentrations in Coachella Valley Groundwater Basin

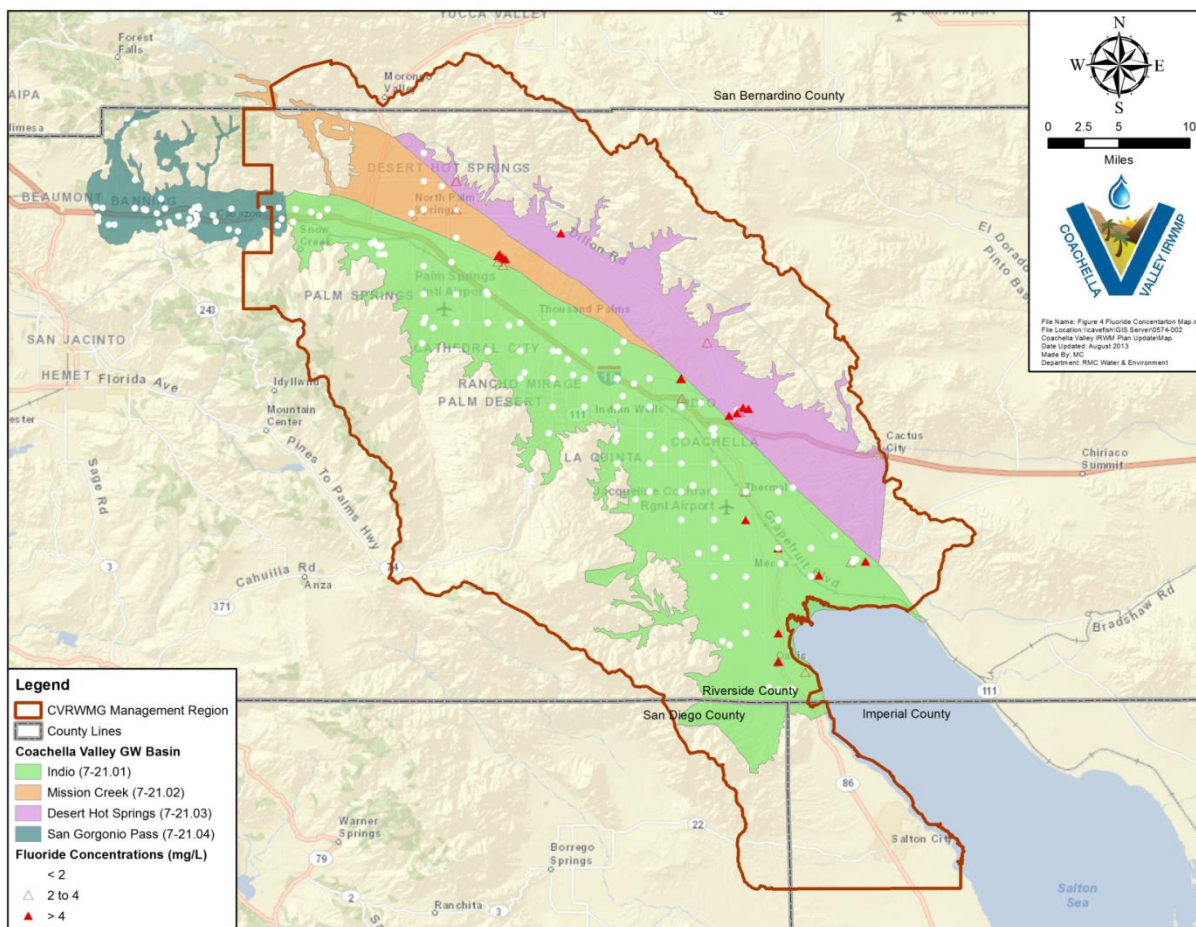


## 2.1.4 Fluoride

Low levels of fluoride naturally occur in most sources of drinking water, and are the result of leaching from rock formations. The state and federal primary MCLs for fluoride are 2 mg/L and 4 mg/L, respectively. State law requires water agencies to install fluoride treatment at water supply sources contingent upon the availability of funds. Currently, there is no fluoride treatment at drinking water wells in the Mission Creek or Garnet Hill Sub-basins (MWH, 2013).

Fluoride concentrations in Coachella Valley groundwater for the period from 2000 to 2012 based on data from the GeoTracker-GAMA water quality database are shown in Figure 4. High fluoride levels are found in the East Valley near the Salton Sea and near the San Andreas Fault. High levels of fluoride can also be found in several wells in Desert Hot Springs Sub-basin. There has been no apparent change in the distribution or concentration of fluoride in the past 10 years (CVWD 2011a).

**Figure 4: Fluoride Concentrations in Coachella Valley Groundwater Basin**



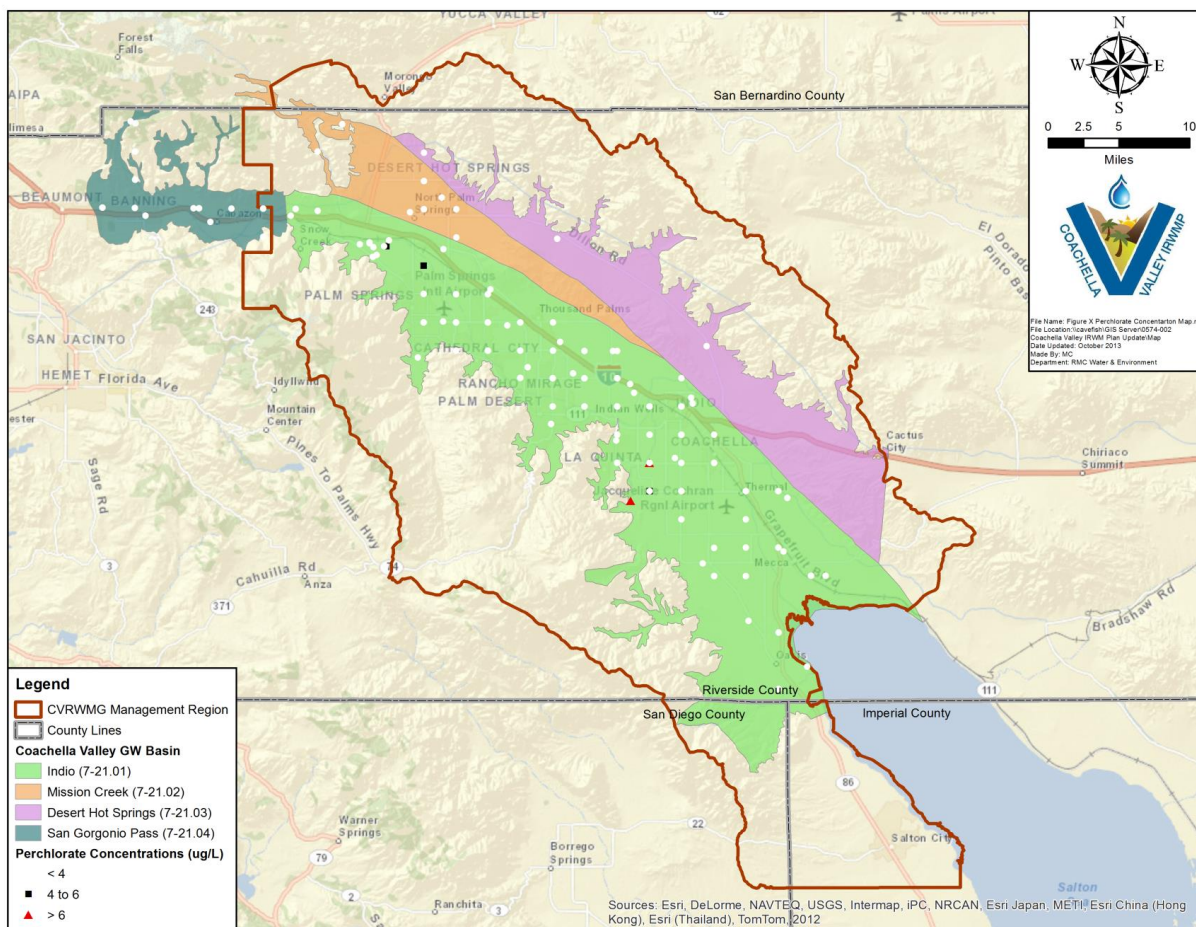
### 2.1.5 Perchlorate

Perchlorate is used for the ignition of solid rocket fuel and is a common solvent for dry-cleaning or other industrial operations. Perchlorate salts are also found in roadside flares, airbag inflators, and are used in the manufacturing of matches. Perchlorate has also been found in sodium nitrate fertilizers. Perchlorate is highly mobile in aqueous systems and can persist under typical groundwater and surface water conditions for decades. Perchlorate is highly soluble in water. The state primary MCL for perchlorate is 6 µg/L.

Perchlorate was detected in Colorado River water imported to the Coachella Valley at the Kerr-McGee plant in Nevada on Las Vegas Wash, upstream of Lake Mead, beginning in 1997. Since that time, extensive source control at Las Vegas Wash has reduced perchlorate concentrations in Colorado River water to less than the 4 µg/L reporting detection limit and the 6 µg/L California MCL (CVWD, 2010 and CVWD, 2011a).

Figure 5 shows perchlorate concentrations in Coachella Valley since 2000 as reported by GeoTracker-GAMA. Perchlorate levels in Coachella Valley groundwater since 2000 range from less than detectable to 12 µg/L, with 5 out of 257 wells having samples with concentrations above the 6 µg/L MCL. Most of the wells where perchlorate has been detected are shallow private wells in East Valley and northwest of Palm Springs. DWA has detected low levels of perchlorate (below the MCL) in some wells since 2001 (CVWD, 2011a). Perchlorate has not been detected in groundwater samples within the Mission Creek and Garnet Hill Sub-basins (MWH, 2013).

**Figure 5: Perchlorate Concentrations in Coachella Valley Groundwater Basin**



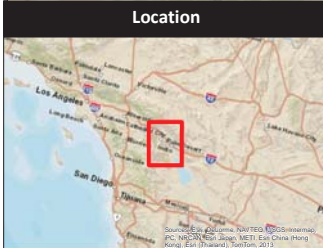
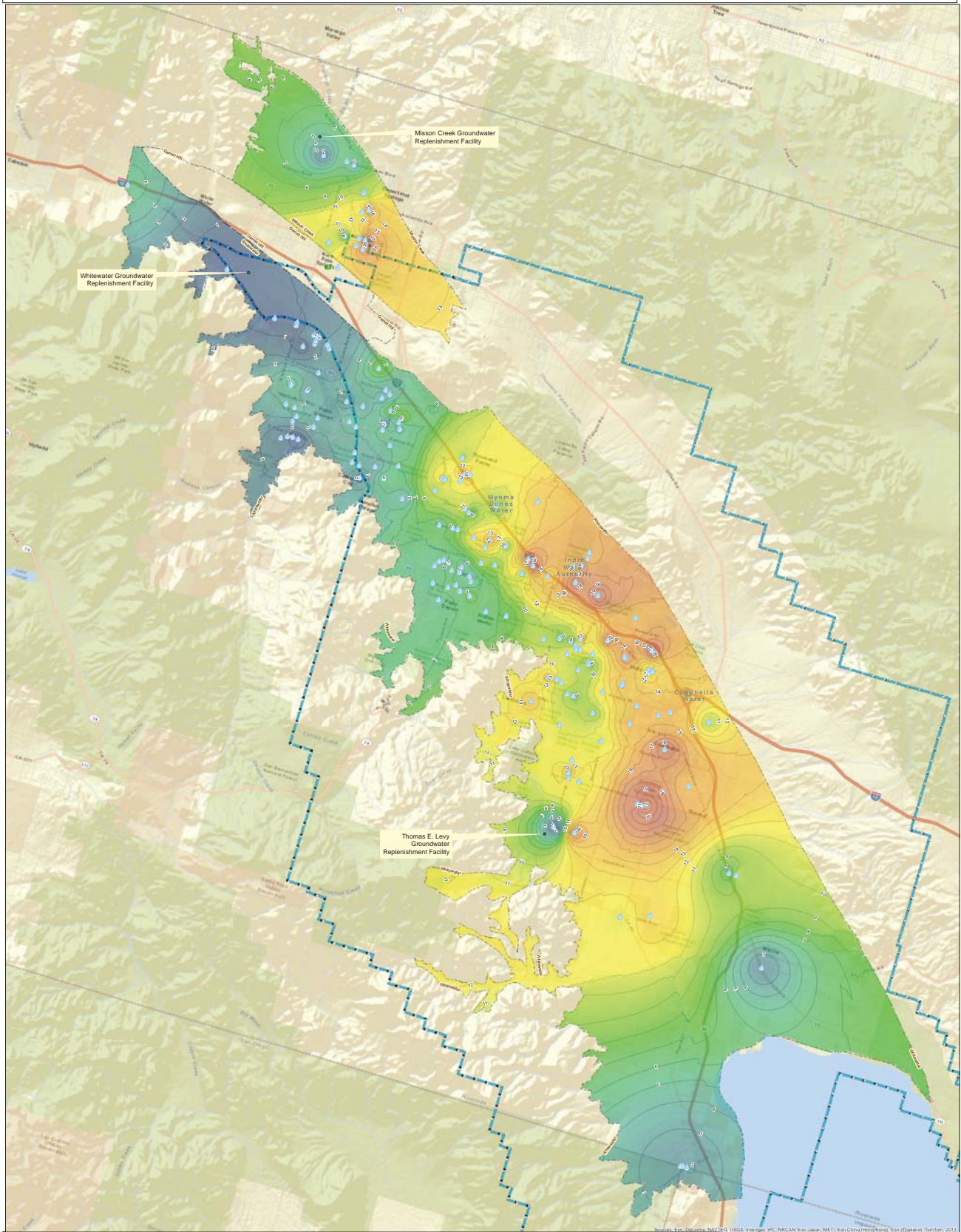
### 2.1.6 Hexavalent Chromium (Chromium 6)

Hexavalent chromium is a metallic chemical that can originate as a contaminant in the groundwater from the discharges of dye and paint pigments, wood preservatives, chrome-plating liquid wastes, and leaching from hazardous waste sites. Hexavalent chromium may also occur naturally in groundwater. Naturally occurring hexavalent chromium in groundwater is caused by the erosion of sediments containing elevated levels of chromium including serpentine-containing rocks commonly found near the margins of fault systems (CVWD 2013). Hexavalent chromium is currently regulated by the State as part of total chromium MCL of 50 µg/L; however, CDPH is currently proposing a primary MCL of 10 µg/L for hexavalent chromium which may be implemented in April 2014.

Currently, there are no wells in the Coachella Valley with hexavalent chromium groundwater concentrations that exceed the 50 µg/L. However, there are various wells in the Coachella Valley with concentrations that exceed the proposed primary MCL of 10 µg/L. For 39 unique well names within the available dataset, hexavalent chromium has been reported at concentrations higher than the proposed primary MCL.

Figure 6 shows CVWD-generated contours of chromium-6 levels within the Whitewater and Mission Creek groundwater basins. Contours that are represented in yellow, orange, or red show areas that are thought to exceed the proposed primary MCL of 10 µg/L (ppb).

# Figure 6: Coachella Valley Groundwater Chromium-6 Occurrence



**Legend**

**Chromium-6 Levels**

- High : 24 ppb
- 10 ppb
- Low : 0 ppb

Domestic Water Well  
 Contours

CVWD Boundary  
 Subbasin Boundary

**Coachella Valley Water District**

75515 Hovley Lane East  
 Palm Desert, CA 92211  
[www.cvwd.org](http://www.cvwd.org)  
 Ph. (760) 398-2662  
 Fx. (760) 568-1789

0 0.75 1.5 3 4.5 6 7.5  
 Miles

The Water District and its employees are not responsible for the accuracy of the information provided in this report. The user assumes all liability for the use of the information provided in this report. The user agrees to hold the Water District and its employees harmless for any and all claims, damages, and expenses, including reasonable attorneys' fees, arising from the use of the information provided in this report.



## 2.2 Existing Monitoring Programs

Groundwater levels and quality in the Coachella Valley have been monitored by various entities for many years. These include ongoing programs implemented or required by:

- California Department of Water Resources (DWR)
- CDPH
- CVWD
- MSWD
- Other Agencies (CWA, DWA, IWA)

Additionally, there is currently ongoing groundwater elevation monitoring occurring in the groundwater basin to meet the requirements of the California Statewide Groundwater Elevation Monitoring (CASGEM) Program; and monitoring of water supply wells on tribal lands completed by tribes and reported to the Environmental Protection Agency (EPA). Several programs are described in the following sections.

### 2.2.1 DWR-Related Monitoring

Groundwater elevations in the Indio Sub-basin (also called Whitewater River Sub-basin), Mission Creek Sub-basin, and Desert Hot Springs Sub-basin have been monitored since the late 1920's. A network of 45 wells has been selected to demonstrate long-term and seasonal trends in groundwater elevations in these three sub-basins as part of DWR's CASGEM program<sup>2</sup> (see Figure 7). The groundwater elevations in the San Geronio Pass Sub-basin are not included in the CASGEM monitoring program as it is located outside the CVWD jurisdictional area. Two monitoring wells are located in Mission Creek Sub-basin (28 sq. mi.), four are located in the Desert Hot Springs Sub-basin (129 sq. mi.), and 39 are in the Indio Sub-basin (360 sq. mi.), (CVWD, 2011b). CVWD and MSWD have been designated as monitoring entities for the CVWD portion of the Desert Hot Springs and Mission Creek Sub-basins; CVWD has been designated as the monitoring entity for the CVWD portion of the Indio Sub-basin, and Desert Water Agency (DWA) has been designated as the monitoring entity for the DWA portion of the Indio Sub-basin. A list of these wells is shown in Attachment A. As described in the CVWD CASGEM monitoring plan, data gaps in the well network include the southeastern portion of the Mission Creek Sub-basin and the southeastern portion of the Desert Hot Springs Sub-basin; these data gaps exist due to lack of groundwater use in these areas.

The primary purpose of the CASGEM program is to monitor groundwater elevations. No groundwater quality data are obtained during monitoring activities. CASGEM monitoring occurs three times per year, or once per trimester, at each network well. The trimesters are 1) January through April, 2) May through August, and 3) September through December. Specific procedures and methods have been developed for this monitoring program, including establishing static groundwater conditions if sampling occurs at a production well rather than a monitoring well, establishing methods for recording measurements, taking measurements, conducting calculations, conducting quality assurance/quality control, and validating data.

In addition to the required CASGEM monitoring, DWR collects groundwater samples on separate wells to be analyzed for mineral, nutrient, minor element characteristics and contamination, as well as for

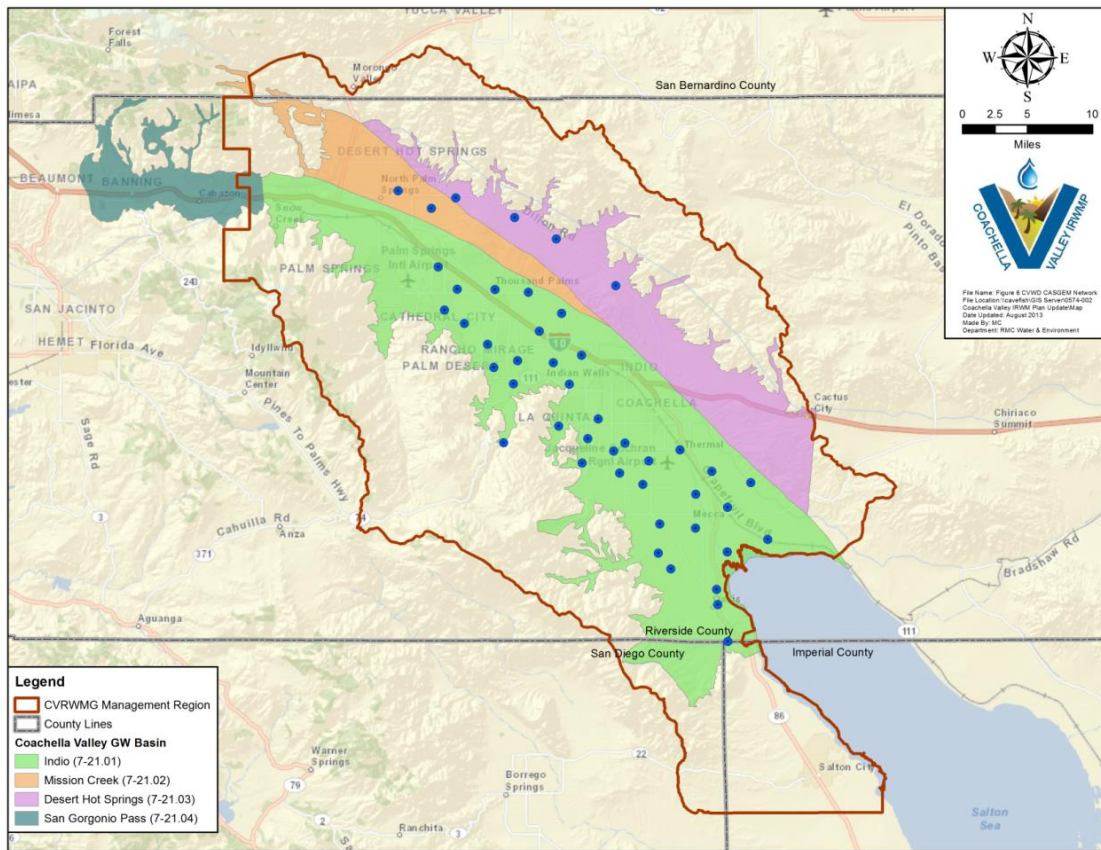
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<sup>2</sup>In response to legislation, DWR developed the CASGEM program to establish a permanent, locally-managed program of regular and systematic groundwater elevation monitoring in all of California's groundwater basins. The CASGEM program relies and builds on the many, established local long-term groundwater monitoring and management programs. DWR's role is to coordinate the CASGEM program, to work cooperatively with local entities, and to maintain the collected elevation data in a readily and widely available public database.

overall quality and usage, as part of its regular statewide water management responsibilities. Table 1 shows the suite of constituents monitored by DWR, including arsenic, nitrate and fluoride which are COCs identified in the *DAC Water Quality Evaluation*.

DWR has 11 wells in Coachella Valley, all of which are located in the Indio Sub-basin. Figure 8 shows the approximate location of DWR monitoring wells. Construction information, well depth and screened interval for these wells are not readily available. Based on publically-available data, water quality samples were collected only in 2004.

**Figure 7: CVWD CASGEM Well Network**

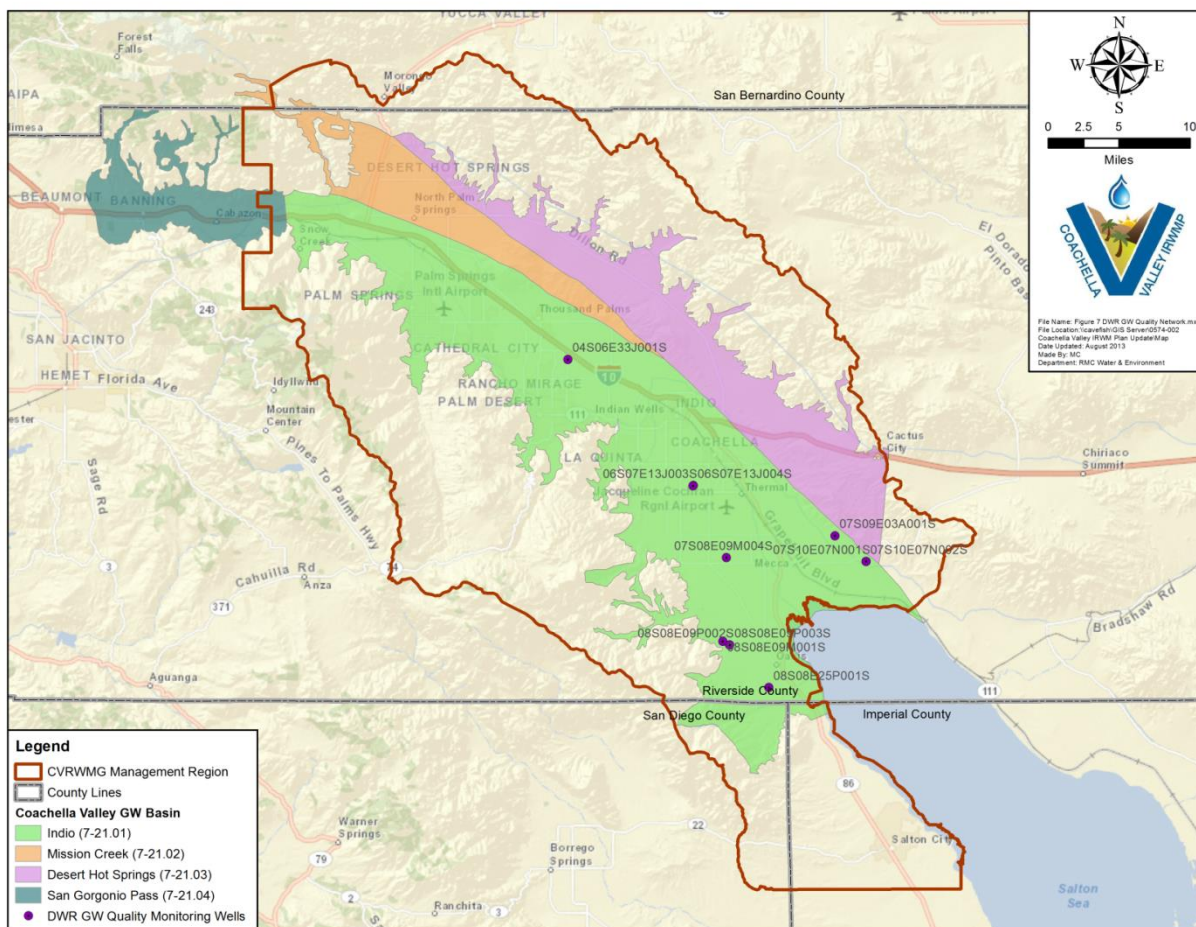


**Table 1: Constituents Monitored by DWR**

List of Constituents Monitored by DWR	
pH	Fluoride <sup>1</sup>
Specific conductance or electrical conductivity (EC) (field & lab)	Total dissolved solids (TDS)
Temperature	Chloride
Hardness	Sulfate
Calcium	Boron
Magnesium	Bromide
Potassium	Barium
Sodium	Iron
Alkalinity	Manganese
Bicarbonate	Arsenic <sup>1</sup>
Nitrate <sup>1</sup>	Stable Isotopes of Oxygen and Hydrogen

1 – Constituent of concern identified in the *DAC Water Quality Evaluation*

Figure 8: DWR Groundwater Quality Monitoring Wells



### 2.2.2 CDPH-Related Monitoring

The CDPH regulates public drinking water systems. A public drinking water system is defined as a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. Private domestic wells and irrigation wells are not regulated by the CDPH. The CDPH regulates all public water systems in the State to ensure the delivery of safe drinking water from these systems.

As part of their permit enforcement, CDPH establishes monitoring requirements for drinking water wells and all data collected must be reported to CDPH by the well owner. Production wells that supply drinking water are regulated under Title 22 of the California Code of Regulations (CCR). Title 22 also establishes the regulatory limits (i.e. MCLs) for volatile organic compounds, non-volatile synthetic organic compounds, inorganic chemicals, radionuclides, disinfection byproducts, and other general physical constituents in potable waters.

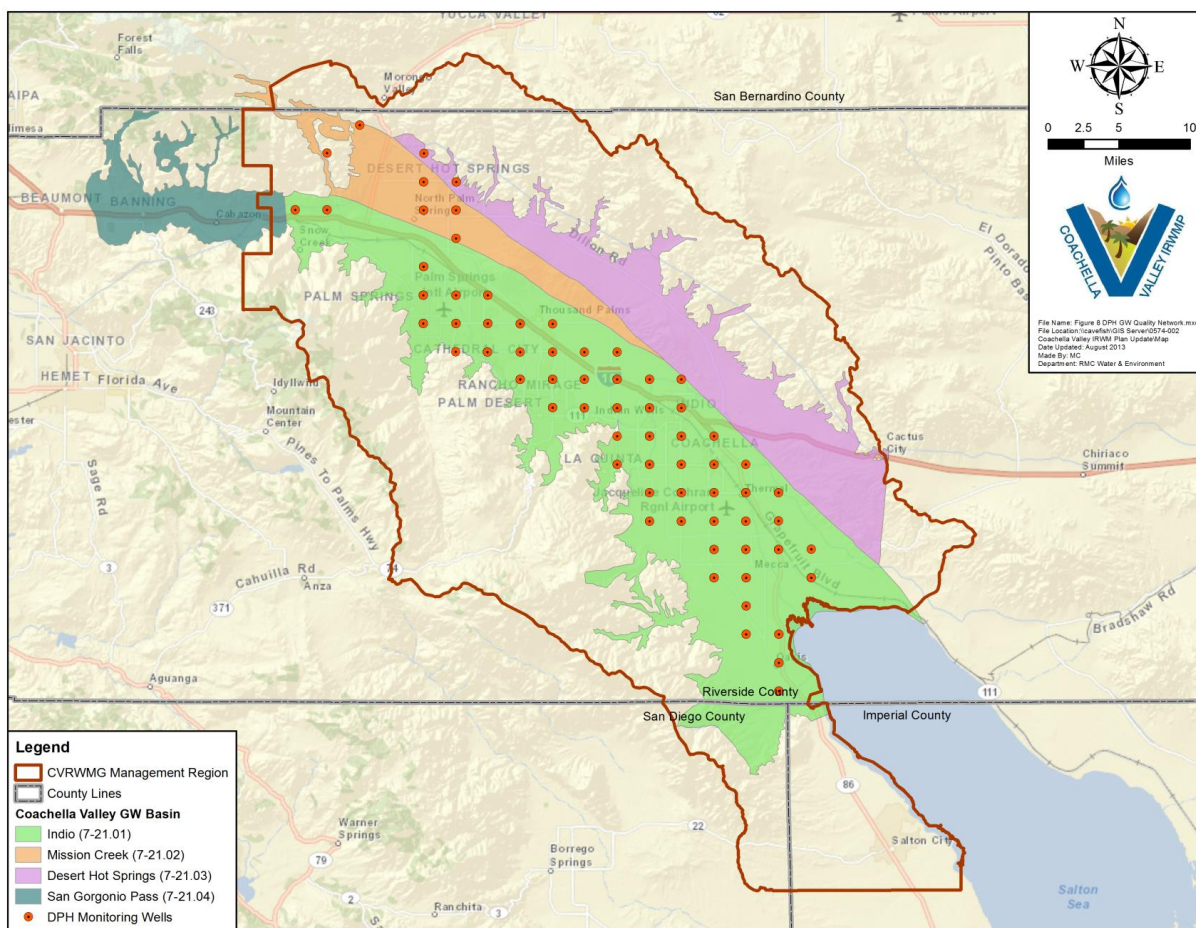
Public groundwater purveyors are obligated by their permits to collect groundwater samples to determine compliance with MCLs in accordance with monitoring schedules developed by CDPH, based on the size of the water system. Purveyors are required to submit data directly to CDPH via electronic transfer. The constituents monitored and the frequency of monitoring varies based on the well, size of the water system, and history of water quality monitoring results. CDPH provides water systems with monitoring plans to

identify required contaminant monitoring frequencies. These are updated periodically and vary for each water system.

There are currently 93 wells with recent data (2000 to 2012) for at least one of the COCs within Coachella Valley; these data were reported to CDPH and were, in turn, included in the Geotracker-GAMA online database. Well data reported to CDPH may change in the future as wells are put on standby or abandoned and as new wells are drilled and brought online. Accordingly, the CDPH data included in the analysis documented in this TM may change over time. However, the general geographic distribution and sampling frequency is not anticipated to vary significantly.

Figure 9 shows the approximate locations of wells in the CDPH monitoring network. Two of these wells are located in Desert Hot Springs Sub-basin, while six of them are located in the Mission Creek Sub-basin and the rest of the wells are located in Indio Sub-basin. Attachment B provides a 10-year period of record for each of the COCs (2003-2013). All production wells are monitored for Title 22 constituents with the exception of waived synthetic organic chemicals and gross beta particle activity. Construction information, well depth and screened interval for CDPH wells are not available.

**Figure 9: CDPH Groundwater Quality Monitoring Wells**

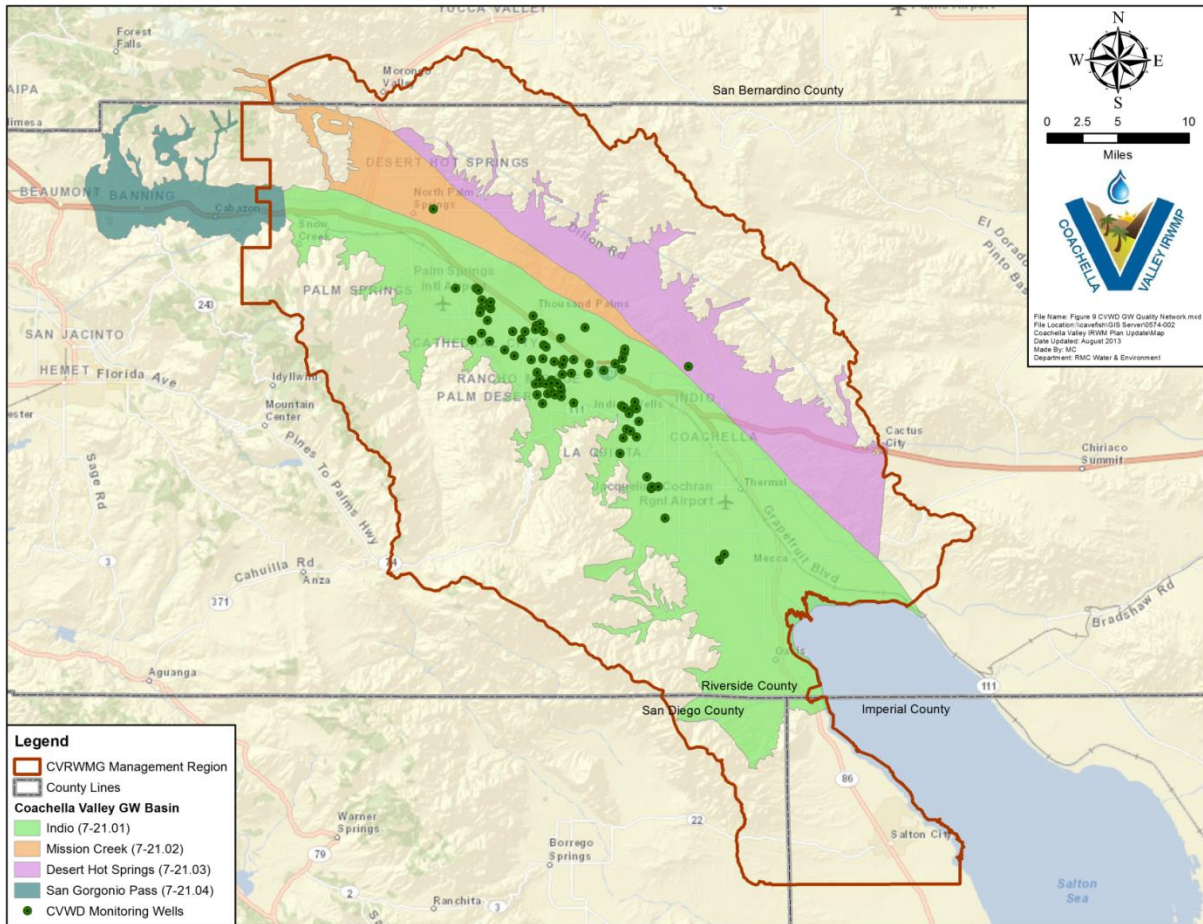


### 2.2.3 CVWD-Related Monitoring

CVWD monitors groundwater elevations and quality within the Coachella Valley within its jurisdictional boundaries as required by CDPH and as needed to manage the groundwater supplies to its water system. The approximate locations of CVWD's monitoring wells are shown in Figure 10. All of the CVWD

monitoring wells, except one in Mission Creek Sub-basin and one in Desert Hot Springs Basin, are located in Indio Sub-basin. Well depth and screened interval information is available for all the wells (see Attachment C). Attachment C also provides the period of record for COCs. Table 2 shows the suite of constituents monitored, including the COCs.

**Figure 10: CVWD Groundwater Quality Monitoring Wells**



**Table 2: Constituents Analyzed by CVWD**

Inorganic Chemicals	General Minerals	General Physical	Radiological	Bacteriological	VOCs	SOCs
Aluminum	Total	Specific	Gross Alpha	Total Coliform	Benzene	Alachlor
Antimony	Hardness	Conductance	Gross Beta	Fecal Coliform	Carbon Tetrachloride	Atrazine
Arsenic <sup>1</sup>	(as CaCO <sub>3</sub> )	Turbidity	Radium 226		1,2-Dichlorobenzene	Bentazon
Asbestos	Bicarbonate	pH	Radium 228		1,4-Dichlorobenzene	Benzo(a)pyrene
Barium	Alkalinity	Odor Threshold	Strontium-90		1,1-Dichloroethane	Carbofuran
Beryllium	Carbonate	Foaming	Tritium		1,2-Dichloroethane	Chlordane
Cadmium	Alkalinity	Agents	Uranium <sup>1</sup>		1,1-Dichloroethylene	2,4-D
Chromium (Total) <sup>1</sup>	Calcium	Index			CIS-1,2-	Dalapon
Copper	Magnesium				Dichloroethylene	Dibromochloropropane (DBCP)
Cyanide	Sodium				TRANS-1,2-	Di (2-Ethylhexyl)
Fluoride <sup>1</sup>	Sulfate				Dichloroethylene	Adipate
Iron	Chloride				Dichloromethane	Di (2-Ethylhexyl)
Manganese					1,2-Dichloropropane	Phthalate
Mercury					1,3-Dichloropropane (Total)	Dinoseb
Nickel					Ethylbenzene	Diquat
Nitrate (as NO <sub>3</sub> ) <sup>1</sup>					Methyl-Tert-Butyl-Ether	Endothall
Nitrite (as N)					Monochlorobenzene	Endrin
Perchlorate					Styrene	Ethylene Dibromide (EDB)
Selenium					1,1,2,2-	Glyphosate
Silver					Tetrachloroethane	Heptachlor
Thallium					Tetrachloroethylene	Heptachlor Epoxide
Zinc					Toluene	Hexachlorobenzene
					1,2,4-	Hexachlorocyclo-
					Trichlorobenzene	Pentadiene
					1,1,1-Trichloroethane	Lindane
					1,1,2-Trichloroethane	Methoxychlor
					Trichloroethylene	Molinate
					Trichlorofluoromethane	Oxamyl
					1,1,2-Trichloro-	Pentachlorophenol
					1,2,2-Trifluoroethane	Picloram
					1,1,2-Trichloro-	Polychlorinated
					1,2,2-Trifluoroethane	Biphenyls
					Vinyl Chloride	Simazine
					Xylenes	Toxaphene
						2,3,7,8-TCDD (Dioxin)
						2,4,5-TP (Silvex)

Source: CVWD

1 – Constituent of concern identified in the DAC Water Quality Evaluation Project

Inorganic chemicals, general minerals, general physical parameters and volatile organic compounds are monitored for all the wells in the CVWD monitoring network every three years. However, radiologicals, bacteriologicals and synthetic organic compounds (SOCs) are not tested in all the wells and the frequency of monitoring varies based on the well and history of water quality monitoring results. Therefore, all COCs except uranium are monitored regularly (every three years) for all wells in the network. Uranium monitoring frequencies vary depending on the level of gross alpha particle activity found in each well.

### 2.2.4 Monitoring in Mission Creek and Garnet Hill Sub-basins

CVWD, DWA and MSWD currently collect production, water level and water quality data from production and monitoring wells to monitor groundwater conditions in the Mission Creek and Garnet Hill Sub-basins (MWH, 2013). CVWD, MSWD and DWA monitor groundwater levels in wells within the Mission Creek and Garnet Hill Sub-basins. Ten wells are monitored in Desert Hot Springs Sub-basin, 22 wells are monitored in the Mission Creek Sub-basin, and six wells are monitored in the Garnet Hill Sub-basin as shown in Attachment D. MSWD monitoring is limited to District wells with levels taken

monthly. CVWD monitors both its own wells and a number of private wells in these sub-basins with water levels taken three times per year (MWH, 2013).

CVWD and MSWD are monitoring the groundwater quality within the Mission Creek and Garnet Hill Sub-basins (at 21 wells) for physical constituents, general minerals, metals, radiological constituents and regulated organic compounds at least once every three years and annually for nitrate in accordance with current CDPH requirements. Attachment D provides the wells monitored for groundwater quality and the frequency of monitoring.

### **2.2.5 Other Agencies-Related Monitoring**

IWA, CWA and DWA monitor the groundwater quality in their service areas in accordance with current CDPH requirements and schedules.

### **2.2.6 Special Studies**

The USGS has also sampled and analyzed groundwater quality in CVGB as part of the GAMA Program (USGS, 2009). Groundwater quality in the approximately 820 square mile Coachella Valley Study Unit (COA) was sampled and analyzed in 2007 with the results compiled and analyzed in subsequent years. The COA for this study consisted of the San Gorgonio Pass Sub-basin, the Indio Sub-basin, the Mission Creek Sub-basin, and the Desert Hot Springs Sub-basin. The USGS well network consists of 31 wells in CVRWMG Management Region, including 17 “grid wells<sup>3</sup>” and 14 additional “understanding wells<sup>4</sup>”.

The USGS well network is shown on Figure 11. Two of the USGS monitoring wells are located in Desert Hot Springs Sub-basin, while four are located in Mission Creek Sub-basin, and remainder are located in Indio Sub-basin. Samples were collected from these monitoring wells during February and March of 2007. Samples were collected in accordance with the protocols established by the USGS National Water Quality Assessment (NAWQA) program (Koterba and others, 1995) and the USGS National Field Manual (USGS, variously dated). Well depth and screened interval information is provided in Attachment E.

All wells sampled during the USGS study were analyzed for a standard set of constituents, including volatile organic compounds, pesticides and pesticide degradates, pharmaceutical compounds, perchlorate, and uranium, stable isotopes of hydrogen and oxygen of water, tritium, nutrients, hexavalent chromium, major ions, and trace elements. Groundwater samples were analyzed for up to 370 constituents, including the COCs.

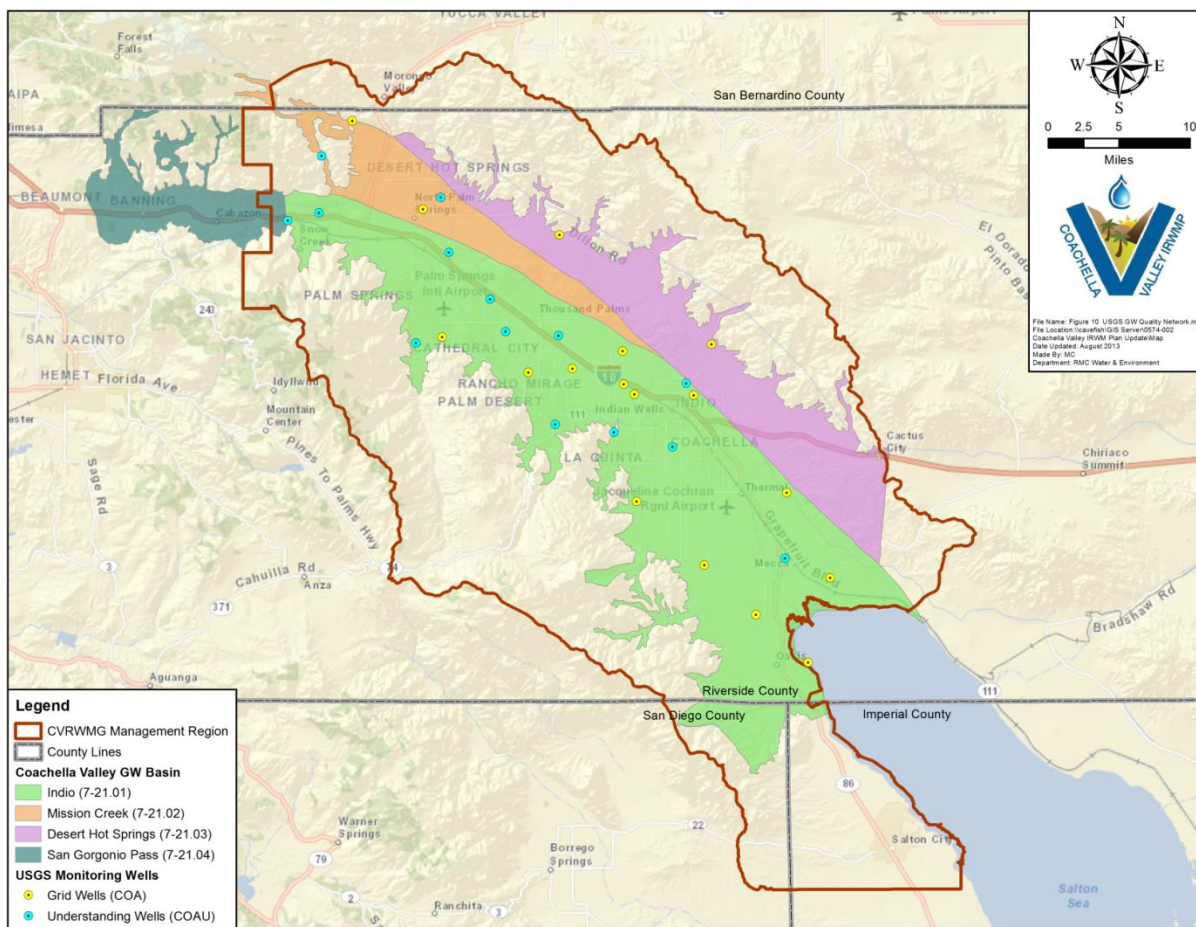
The USGS, DWA, CVWD, and the Riverside County Flood Control and Water Conservation District also participate in basin monitoring through the Cooperative Water Resources Program. The Cooperative Water Resources Program includes stream monitoring (through stream gaging facilities), as well as a groundwater and surface water quality program.

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<sup>3</sup>“Grid wells” were selected using a randomized grid-based method (Scott, 1990) - statistically unbiased, spatially-distributed assessment of the water quality. CDPH and USGS wells were plotted on a map; a grid of 20 equal-area cells were drawn on the unit, and wells were selected from at least one public-supply well per grid (wells in 18 of 20 cells were sampled).

<sup>4</sup>“Understanding wells” were selected to aid in the understanding of specific groundwater-quality issues in the COA Study Unit. These wells were not included in the statistical characterization of water quality

Figure 11: USGS Groundwater Quality Monitoring Wells



### 3 Identified Data Gaps

The Coachella Valley WMP identifies specific data gaps in basin groundwater monitoring, including the following:

- Lack of a centralized groundwater database that allows all water agencies to share data.
- Non-uniform water quality monitoring data for several COCs
- Existing groundwater models lack water quality predictive capabilities.

Similarly, the Mission Creek and Garnet Hill Sub-basins WMP identified the following data gaps in sub-basin data collection:

- Groundwater elevation canvass
- Private well canvass
- Groundwater quality (major ions)
- Garnet Hill Sub-basin monitoring well



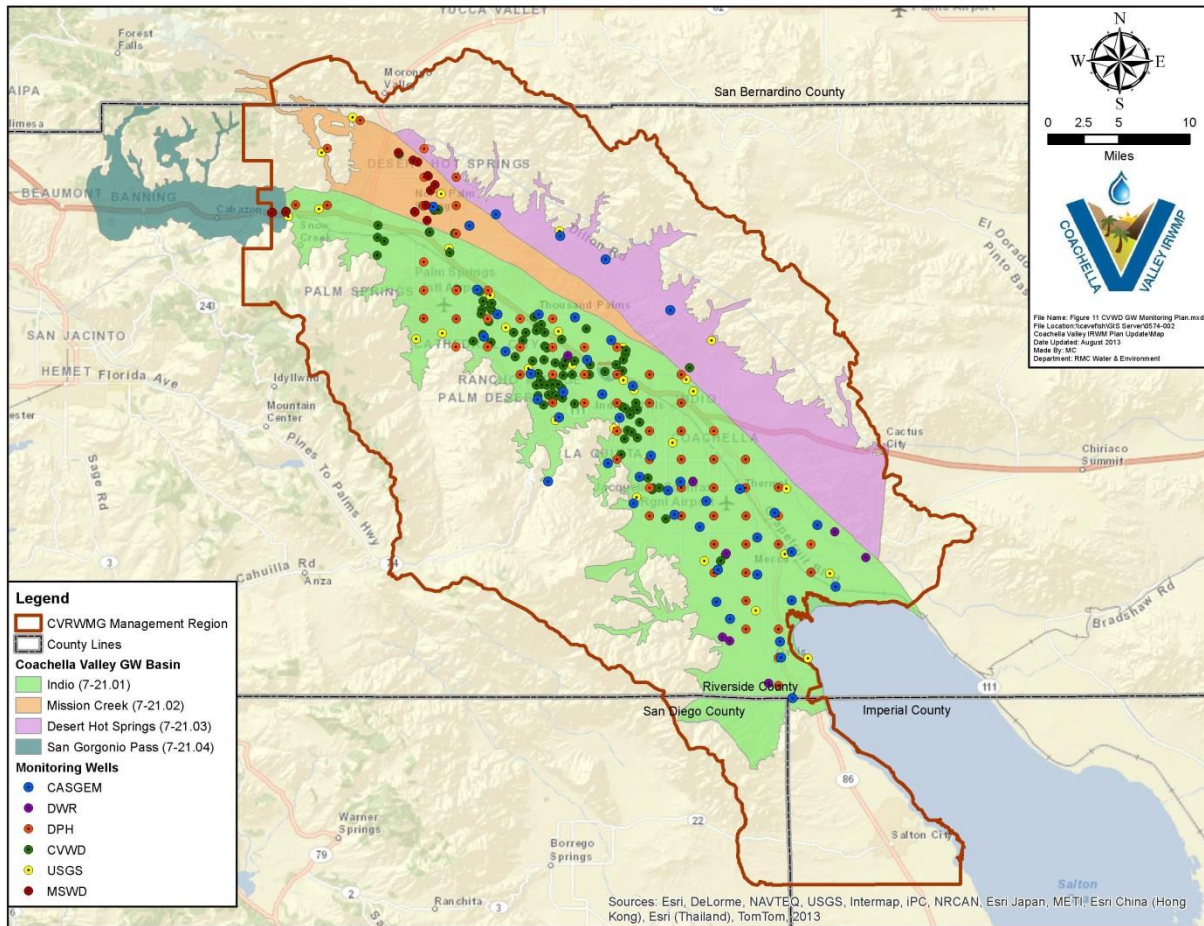
Finally, the *DAC Groundwater Quality Evaluation* identified several similar data gaps, grouping these data gaps into three categories:

- Category 1: Specific Well Locations in identified Areas of Concern - For this category, identified data gaps included identifying/confirming the well locations and owners/users, and confirming groundwater quality at those locations
- Category 2: Other Locations in identified Areas of Concern not yet Identified with Groundwater Concerns – For this category, identified data gaps included identifying existing wells in these areas, confirming well construction details, identifying possible locations for new monitoring wells, and confirming groundwater quality in these locations.
- Category 3: Basin-Wide Data Gaps – Data gaps identified for this category included confirming the construction details of existing wells, identifying where in the groundwater basin additional wells are recommended for spatial coverage, and developing a basin- sampling and analysis program to provide snapshot(s) of water quality conditions

Figure 12 shows all of the wells monitored within the CVGB. As shown on Figure 12, there are apparent spatial gaps that suggest monitoring is not taking place in certain places of the Coachella Valley. However, these apparent gaps generally occur in areas where monitoring is not necessary or appropriate such as the mountainous areas located at the edges of groundwater basins, areas that are prone to flooding, and areas where there is a lack of groundwater use. Spatial monitoring gaps are also discussed in the CVWD Groundwater Elevation Monitoring Plan for CASGEM which states that there are small data gaps in the southeastern portion of the Mission Creek Sub-basin and the southeastern portion of the Desert Hot Springs Sub-basin and that these data gaps exist due to lack of groundwater use in these areas.

However, the existing WMPs also discuss spatial monitoring data gaps and provide recommendations for modifications and additions to existing monitoring programs that could be made to improve knowledge of the region's groundwater basins. The WMPs specifically note that obtaining additional groundwater monitoring information in areas located at the edges of groundwater basins (generally along fault lines) could help with understanding groundwater basin recharge at the edges of the alluvial fans.

Figure 12: Wells Monitored in the CVGB



## 4 Recommended Modifications/Additions to Existing Monitoring Programs

The following sections comprise the recommended modifications and/or additions to existing groundwater monitoring programs presently being implemented in the CVGB. The suggested sampling locations, frequency of sampling, and monitoring parameters are described in Table 3.

The proposed monitoring program modifications and additions, described herein, acknowledge the recommendations and activities proposed by the Coachella Valley WMP and Mission Creek and Garnet Hill Sub-basins WMP.

**Table 3: Recommended Sampling Program**

Monitoring Type	Program	Implementing Agency	Monitoring Frequency	Additional Monitoring Wells?	Estimated Sampling and Analysis Cost per Well
Groundwater Level	CASGEM	CVWD, MSWD, DWA	3 times per year	No	\$150 <sup>4</sup>
	Agency Monitoring	CVWD, MSWD		Yes <sup>2</sup>	
Groundwater Quality <sup>1</sup>	CDPH	CDPH	Variable <sup>3</sup>	No	\$550 <sup>4</sup>
	Agency Monitoring	CVWD, MSWD, DWA	Variable <sup>3</sup>	Yes <sup>2</sup>	

1 – Monitoring should be done for all the constituents of concern (nitrate, arsenic, uranium, fluoride, perchlorate and hexavalent chromium)

2 – At proposed areas of concern

3 – Arsenic, perchlorate and fluoride should be sampled every three years. Wells should be sampled annually for arsenic if an increasing or decreasing trend is noted. Nitrate should be monitored consistent with CDPH recommendations and hexavalent chromium should be monitored consistent with forthcoming CDPH recommendations.

4 – Lab fees, per sample: metals (method 200.8) are \$225, fluoride is \$15, Chromium6 is \$90, perchlorate is \$70, and Nitrate is \$15 for a total sample cost of \$415. Assuming one labor hour for sampling per site at \$125/hour for a total sampling and analysis cost of approximately \$550/sample (round up to \$550 to cover miscellaneous such as shipping, etc.). Assume water elevations collected at time of sampling.

#### 4.1 Recommended Modifications to Existing Monitoring Programs per Mission Creek and Garnet Hill Sub-basins WMP

The Mission Creek and Garnet Hill Sub-basins WMP identifies the following recommended modifications to existing monitoring programs in the Mission Creek and Garnet Hill Sub-basins to address identified data gaps.

##### Groundwater Levels

The Mission Creek and Garnet Hill Sub-basins WMP identified a list of prospective additional wells within Mission Creek and Garnet Hill Sub-basins that could be included in the groundwater level monitoring program; these wells are summarized in Attachment F. Most of the recommended wells are existing wells whose status and physical condition should be evaluated for suitability for inclusion in the monitoring programs.

In addition to the selection of existing wells included in the monitoring network for improved distribution of water level measurements, the WMP recommends that several new dedicated monitoring wells be constructed. Additional wells near the Mission Creek Spreading Basin would provide a better indication of the extent of mounding due to recharge operations and allow for tracking of water quality changes to document the movement of imported recharge water in the aquifer (MWH, 2013). Additional monitoring wells near the basin boundaries and in identified spatial voids in the existing monitoring network will provide better data to document natural inflow to and outflow from the basin, changes in groundwater elevations and quality near the recharge basin, and to understand overall basin water levels and quality.

The WMP also recommends installation of transducers and data loggers on selected monitoring wells to collect more accurate groundwater level data on a regular basis during both static and pumping conditions.

##### Groundwater Quality

Since the current monitoring programs of MSWD and CVWD are sufficient for regulatory compliance, no major changes are recommended by the Mission Creek and Garnet Hill Sub-basins WMP. The WMP does have the following recommendations to improve groundwater quality monitoring in the Mission Creek and Garnett Hill Sub-basins:

- More frequent monitoring of private wells for temperature, TDS and general minerals to provide a better indication of water quality variations across the Mission Creek and Garnet Hill Sub-basins.
- Monthly analysis of the Mission Creek Monitoring Well and future monitoring wells near the recharge basins for TDS and possibly sulfate to track the movement of imported recharge water in the basin.
- Construction of nested monitoring wells to allow collection of water samples at varying depths. Nested wells may also provide information on uranium occurrence and movement with depth in the aquifer.
- Analysis of general minerals for the wells selected for monitoring of recharge water on annual basis.
- Analysis of radiological constituents for the wells previously identified with radiological constituents on an annual basis.
- Evaluations of water quality for general minerals for surface water sources, such as Mission Creek, at least on a triennial basis

### **Groundwater Use**

The Mission Creek and Garnet Hill Sub-basins WMP recommends the following additional measures be implemented to improve groundwater production and use monitoring:

- Update the existing well database to determine well location, operational status, and metering status.
- Make arrangements for installation of production meters with routine production reporting on wells not currently metered.
- Evaluate unused wells for use as potential monitoring wells.
- For inactive wells whose physical condition prevents their use for monitoring, develop a program to cap or destroy the wells to prevent water quality degradation and/or safety hazards.

## **4.2 Recommended Modifications to Existing Monitoring Programs per Coachella Valley WMP**

The Coachella Valley WMP identifies the following recommended modifications to existing monitoring programs to address identified data gaps in the CVWD and DWA service areas.

### **Groundwater Levels**

In terms of monitoring groundwater elevations in the groundwater basin, the following five monitoring modifications/projects were recommended in the Coachella Valley WMP:

CVWD monitors water levels in 307 public and private wells in its service area three times per year on a rotating basis. These data are stored in a database and plotted as hydrographs. In accordance with SBx7-6, which created the CASGEM program, the CVRWMG agencies are currently working to meet the public reporting requirements of the CASGEM program. However, CVWD and DWA will need to compare data collected during CASGEM-related monitoring with modeled groundwater levels to ensure that the numerical model is accurately simulating basin conditions. To this end, it is recommended that an annual assessment of data be conducted, comparing measured water levels with modeled levels to document progress towards meeting the WMP and CASGEM objectives. And, as needed, the model should be updated and recalibrated to accurately reflect the new information collected.

Secondly, it is proposed that additional groundwater level hydrographs for wells in each sub-basin should be prepared to better indicate the changes in groundwater levels, and an annual accounting of the amount of water stored in the basin should be prepared. CVWD has already been creating such hydrographs, which are available in annual *Engineer's Reports* produced by the district.

Thirdly, areas in the Valley with identified spatial data gaps for existing wells should be surveyed to identify existing wells that could potentially be added to the existing monitoring network. For each identified well that may fill a monitoring void, the well location and operational status (active, inactive, abandoned, destroyed) should be determined, along with whether a meter is installed, whether production is being reported, and if any water level and/or groundwater quality data exist for that well.

Fourth, it is recommended that data loggers be installed on selected, dedicated monitoring wells in the groundwater basin to provide more continuous water level data. This will allow for real-time evaluation of groundwater elevation data, allowing for timely decision-making.

Finally, a lack of a centralized groundwater database presently inhibits the sharing of water elevation and quality data between agencies. To this end, it was recommended that a water resource database be developed for the Valley which will be used as a mechanism for data sharing among the participating water agencies and Tribes. At a minimum, this database should be capable of storing well ownership data, well logs, groundwater production, water level and water quality data. The database should be capable of interfacing with other outside databases, as needed, for reporting and utilizing common data.

### **Groundwater Quality**

While surface and groundwater quality monitoring is performed by a number of agencies in the Coachella Valley and these data are reported to customers through annual consumer confidence reports, these activities need to be maintained and new requirements brought into the annual monitoring programs as required. The Coachella Valley WMP recommends assessment of groundwater quality due to lack of a comprehensive water quality monitoring program and database for the Valley. It is also recommended that water quality data be incorporated into the centralized groundwater database mentioned above.

The WMP also recommends CVWD work jointly with the water agencies and Tribes in the Valley to investigate if perchlorate exists in water supply wells due to a lack of data for private and Tribal wells.

Finally, the WMP recommends development and calibration of a water quality model capable of simulating the changes in salinity and possibly other conservative water quality parameters in conjunction with the salt/nutrient management plan.

### **Groundwater Use**

As documented in the Coachella Valley WMP, a reporting threshold of 25 AFY is required for pumpers within the CVWD areas of benefit, while the same threshold in the DWA service area is 10 AFY. With the exception of wells in the Garnet Hill Sub-basin, all producers whose combined groundwater production is greater than 25 AFY are required to have a measuring device capable of measuring and registering the amount of water produced. However, not all wells in the Valley are metered. To address this deficiency, the following recommendations are made:

- Maintain up-to-date groundwater production records for the Coachella Valley groundwater basin to properly manage the basin and fairly allocated basin management costs. This includes conducting an updated survey of production wells, using power records and pump tests to develop more accurate estimates of pumping by unmetered wells, and requiring the installation of meters on wells where necessary to obtain accurate production information.
- Compile and document the amount of in-lieu recharge that takes place through delivery of recycled or imported water to reduce groundwater production on an annual basis.

## **4.3 Additional Recommendations for Data and Monitoring Program Modifications**

The following are several additional recommendations for activities or projects beyond those recommended in the WMPs to address data gaps in the existing monitoring programs.

### **Spatial Monitoring Well Distribution**

In general, the existing monitoring programs described above are adequate for monitoring the spatial variability in groundwater levels and quality in the CVGB, except in areas where there are existing spatial gaps in monitoring. As described in Section 3, it is recognized that installation of additional monitoring wells in these areas which are mountainous, prone to flooding, or where groundwater is not used is not necessary, and therefore not recommended. However, consistent with the Region's existing WMPs, obtaining additional groundwater monitoring information in areas located at the edges of groundwater basins (generally along fault lines) could provide additional insight on groundwater conditions at the margins of the groundwater sub-basins.

### **Vertical Monitoring Well Distribution**

Well completion information for some wells is not available. Well completion information allows better characterization of the vertical distribution of groundwater levels and COCs in the Coachella Valley. To address the data deficiency in regards to the vertical distribution of monitoring wells, the following is recommended for wells without well completion information:

- Contact DWR, CDPH and well owners to ask for available well completion information.
- Review available DWR well logs for completion information on wells in the monitoring network.
- Analyze all wells in the monitoring networks to identify any data gaps in terms of the vertical distribution of data collected.

As needed, based on the results of this analysis, additional existing wells or new monitoring wells can be added to the monitoring networks to ensure that there is a vertical distribution in data collected. It should be noted, however, that well completion information is not necessarily public information and may not be obtained by the CVRWGM agencies in some cases.

### **Monitoring Program Documentation and Update**

Formal documentation of on-going monitoring activities in the CVGB will ensure consistency in monitoring implementation and data analysis and reporting. It is therefore recommended that formalized monitoring program documentation be prepared, similar to that prepared for the CASGEM water level monitoring program, for each ongoing monitoring program in the groundwater basin. As part of this documentation preparation, opportunities for program integration and streamlining should be considered and discussed with the monitoring entities.

The afore-described monitoring program modifications/additions are based on publically available data existing at the time this document was prepared and at the time the region's existing WMPs were previously prepared. As such, it is recognized that, as additional data becomes available and is synthesized with existing databases, data gaps will be addressed and changes to the CVGB monitoring programs will be required. Therefore, it is recommended that all basin-wide monitoring programs be revisited in five years, and updated as appropriate given the information learned and programs implemented in the Coachella Valley.

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**Attachment A: CVWD Network Wells for CASGEM**

State Well No.	Sub-basin	Confined or Unconfined Aquifer	GSE (ft)	RPE (ft)	Well Use	Well Status	Total Well Depth (ft)
03S05E10R01S	Dst Hot Sprg	Unconfined	925.4	967.4	Monitoring Well	Inactive	210
03S06E21F02S	Dst Hot Sprg	Unconfined	1,026.2	1,069.2	Monitoring Well	Inactive	N/A
03S06E25Q01S	Dst Hot Sprg	Unconfined	898.8	942.8	Monitoring Well	Inactive	N/A
04S07E14E01S	Dst Hot Sprg	Unconfined	1,032.0	1,077.0	Irrigation	Inactive	N/A
04S05E09B01S	Indio	Unconfined	397.5	400.5	Monitoring Well	Inactive	806
04S05E15R02S	Indio	Unconfined	313.3	349.3	Irrigation	Active	N/A
04S05E27E01S	Indio	Unconfined	313.4	317.4	Monitoring Well	Inactive	400
04S05E35G03S	Indio	Unconfined	269.7	274.7	Monitoring Well	Inactive	N/A
04S06E18R01S	Indio	Unconfined	239.0	245.0	Monitoring Well	Inactive	518
04S06E22C01S	Indio	Unconfined	216.0	223.0	Monitoring Well	Inactive	328
04S06E25J02S	Indio	Unconfined	136.6	160.6	Irrigation	Inactive	350
04S06E35P01S	Indio	Unconfined	128.9	153.9	Irrigation	Inactive	600
05S06E06Q01S	Indio	Unconfined	214.6	222.6	Monitoring Well	Inactive	1,202
05S06E13G02S	Indio	Unconfined	151.1	160.1	Monitoring Well	Inactive	N/A
05S06E16A03S	Indio	Unconfined	140.8	181.8	Monitoring Well	Inactive	275
05S06E18R01S	Indio	Unconfined	185.1	195.1	Monitoring Well	Inactive	458
05S06E28C02S	Indio	Unconfined	246.9	257.9	Monitoring Well	Inactive	680
05S07E08Q01S	Indio	Unconfined	21.2	58.2	Irrigation	Active	N/A
05S07E30A01S	Indio	Unconfined	66.5	78.5	Monitoring Well	Inactive	1,000
06S06E12G01S	Indio	Unconfined	80.5	93.5	Monitoring Well	Inactive	377
06S06E17K01S	Indio	Unconfined	927.3	961.3	Irrigation	Active	N/A
06S07E04H01S	Indio	Confined	5.8	24.8	Monitoring Well	Inactive	740
06S07E13M02S	Indio	Confined	-75.3	-55.3	Monitoring Well	Inactive	387
06S07E16D02S	Indio	Confined	-9.6	4.4	Monitoring Well	Inactive	1,170
06S07E23F01S	Indio	Confined	-90.8	-52.8	Irrigation	Active	N/A
06S07E26Q01S	Indio	Confined	-106.8	-80.8	Irrigation	Inactive	N/A
06S07E29B01S	Indio	Unconfined	-0.6	26.4	Irrigation	Active	750
06S08E19R01S	Indio	Confined	-142.5	-103.5	Irrigation	Active	N/A
06S08E22D02S	Indio	Confined	-131.9	-116.9	Monitoring Well	Inactive	1,100
06S08E25Q01S	Indio	Confined	-150.9	-122.9	Irrigation	Active	648
06S08E31P01S	Indio	Confined	-150.3	-115.3	Irrigation	Active	575
06S09E33K01S	Indio	Unconfined	3.0	32.0	Irrigation	Active	430
07S08E02L03S	Indio	Confined	-191.4	-161.4	Irrigation	Active	N/A
07S08E14N01S	Indio	Confined	-203.1	-172.1	Irrigation	Active	N/A
07S08E17G01S	Indio	Confined	-94.3	-78.3	Monitoring Well	Inactive	750
07S08E29G01S	Indio	Confined	50.9	82.9	Irrigation	Active	N/A
07S08E31R01S	Indio	Confined	206.5	239.5	Monitoring Well	Inactive	800
07S09E07J01S	Indio	Confined	-203.2	-181.2	Monitoring Well	Inactive	880
07S09E23N01S	Indio	Confined	-199.6	-182.6	Monitoring Well	Inactive	865



State Well No.	Sub-basin	Confined or Unconfined Aquifer	GSE (ft)	RPE (ft)	Well Use	Well Status	Total Well Depth (ft)
07S09E30R04S	Indio	Confined	-221.8	-200.8	Monitoring Well	Inactive	395
08S08E24A01S	Indio	Confined	-191.0	-151.0	Irrigation	Active	N/A
08S09E07N04S	Indio	Confined	-225.7	-202.7	Monitoring Well	Inactive	1,380
08S09E31R01S	Indio	Confined	-33.6	-15.6	Monitoring Well	Inactive	442
03S04E12B02S	Mission Creek	Unconfined	884.6	885.6	Monitoring Well	Inactive	503
03S05E17J01S	Mission Creek	Unconfined	788.6	790.6	Monitoring Well	Inactive	N/A

Source: CVWD, 2011b

Notes: NA = Not Available; all elevations are relative to mean sea level

**Attachment B: Wells Monitored for CDPH**

CDPH Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
1310011						1987-2005	1987-2007	1998-2006	1987-2005	2000-2004	2000-2001
3301027						2012	2006-2012		2012	2012-2012	
3301031										2001-2010	
3301040						1999-2009	1999-2012	2005-2009	1999-2009	2008-2009	
3301046						2008	2002-2012	2002-2007	2008	2005-2012	2005
3301082						1993-2008	1993-2008		1993-2008		
3301103										2001-2001	2001
3301107						2001-2011	2001-2011	2008-2011	2001-2011	2008-2011	
3301147						2004-2009	2004-2012		2004	2008-2008	
3301148							2007-2012		2011		
3301149						2005-2011	2005-2012	2010	2005-2011	2005-2011	2005
3301152						2005-2009	2005-2008		2005-2009	2008-2008	
3301153						2005	2004-2012		2005	2004-2008	
3301155						2004-2008	2002-2012	2008-2009	2004-2008	2003-2008	2004-2005
3301170						1993-1998	1993-2000	1999	1993-1999		
3301206							2008-2012		2011-2012		
3301209						2009-2011	2009-2012	2010-2012	2009-2011	2009-2009	
3301220						1997-2006	1997-2007	1997-2006	1997-2006		
3301238						1987-2011	1987-2012	2005-2012	1987-2011	2000-2012	2000
3301241							2008-2011		2009	2008-2008	
3301247						2003	2003-2011	2001-2012	2003	2008-2009	
3301276						2004-2010	2004-2012	2010	2004-2010	2008-2011	
3301297							2006-2007				
3301305						2005	2005-2009	2009	2005	2008-2008	
3301372						2003-2007	2001-2007		2003-2007	2001-2008	2008

CDPH Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
3301373						2010	2004-2011		2008-2010	2010-2010	
3301380						2006-2012	2006-2011		2006-2010	2008-2009	
3301388						2006-2009	2005-2012	2010	2006	2008-2008	
3301445						1993-2009	1993-2004		1993-2009		
3301471						2008	2008	2008	2008		
3301476						2006-2009	2006-2010		2006-2009	2008-2009	
3301489						2002	2001-2004	2001	2002		
3301493							2001				
3301557							2006				
3301566							2002-2006				
3301618							2001-2003				
3301683							2006-2008				
3301717						1996-2010	1996-2012	2012	1996-2010	2004-2010	2004
3301734						2001	2001	2002	2001		
3301735						2003-2010	2003-2010		2003-2010	2004-2010	2004
3301746						2002-2005	2000-2008	2006	2002-2005	2008-2008	
3301750							2001-2012				
3301755						2007-2012	2002-2011	2006	2009	2008-2009	
3301758										2009-2010	
3301803						2010	2009-2012	2001-2010	2010	2008-2010	2009
3301834							2006-2012				
3301850						2001	2001		2001		
3301875						2003	2003	2003	2003		
3301888						2007-2010	2007		2007-2010		
3301933						1995-2001	1995-2002		1995-2001	2000-2001	2000-2001
3301935						2004-2012	2004-2012	2010	2004-2012	2012-2012	
3301937						2001-2009	2001-2011	2001-2011	2001-2009	2006-2009	2006

CDPH Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
3301939						2007-2010	2004-2010	2011	2007-2010	2008-2010	
3301965							2001				
3301980										2006-2009	
3301981							2003-2010				
3301989							2000				
3301990						2004	2004-2012		2004		
3301991							2001				
3302008						2001-2008	2001-2008	2002-2003	2001-2008	2008-2008	
3302009						2008	2008		2008	2008-2008	
3302027							2000-2012		2000		
3302034							2001				
3302069						2005-2009	2005-2009		2005-2009	2009-2009	
3302079						2007	2007		2007		
3302081						2001	2001		2001		
3302088									2010-2012		
3303002						2003-2009	2001-2012		2003-2009		
3303003						2002-2010	2002-2012	2009	2002-2010	2010-2010	
3303007						2007	2007		2007		
3303012							2003-2010				
3303025						2010			2008-2012		
3303026							2008	2008-2012	2011-2012		
3303028						2004	2002-2004		2004	2004-2004	2004
3303035							2010	2011		2009-2010	
3303041						2009-2012					
3303048						2009					
3303085							2003				
3303090							2004-2011				

CDPH Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
3303092						2009-2012	2012			2009-2009	
3303100						2004-2012	2004-2012	2011-2012	2004-2012	2008-2012	
3310001						1987-2012	1987-2012	1990-2012	1987-2012	2000-2012	2000-2011
3310006										2003-2012	
3310005						1986-2010	1985-2012	1989-2012	1985-2010	2001-2010	2001
3310007						1986-2010	1985-2012	1989-2012	1986-2010	2001-2012	2000-2012
3310008						1993-2011	1993-2012	1994-2012	1993-2011	2002-2011	2001-2005
3310020						1987-2011	1986-2012	1992-2012	1987-2011	2004-2011	2000-2011
3310047										2002-2012	
3310048						1987-2011	1987-2012	1992-2012	1987-2011	2000-2011	2000-2001
3310051						1987-2011	1987-2011	1998-2011	1987-2011	2002-2011	2000-2004
3310063						1987-2012	1987-2012		1987-2011	2000-2011	2000-2001
3310078						1993-2011	1993-2012	1999-2012	1993-2011	2002-2011	2000-2005
3310081										2002-2011	

Source: <http://geotracker.waterboards.ca.gov/gama/>

**Attachment C: Wells Monitored by CVWD**

CVWD Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
4502-1			315	627	251	1963-2011	1963-2011	2004	1963-2011	1963-2011	1963-2011
4504-1			600	1000	273	1971-2011	1971-2011		1971-2011	1971-2011	1971-2011
4507-2			540	850	325	2008-2011	2008-2011		2008-2011	2008-2011	2008-2011
4509-1			1030	1310	0	2003-2009	2003-2009	2006	2003-2009	2003-2009	2003-2009
4510-1			940	1300	350	2003-2011	2003-2011	2011	2003-2011	2003-2011	2003-2011
4519-1			500	925	318	1974-2011	1974-2011		1974-2011	1974-2011	1974-2011
4520-1			456	835	314	2008-2011	2008-2011		2008-2011	2008-2011	2008-2011
4521-1			500	800	357	2009-2011	2009-2011		2009-2011	2009-2011	2009-2011
4522-1			450	840	397	2009-2010	2009-2010	2009-2010	2009-2010	2009-2010	2009-2010
4523-1			430	660	372	2009-2010	2009-2010		2009-2010	2009-2010	2009-2010
4524-1			470	820	354	1991-2010	1991-2013		1991-2012	1991-2010	1991-2011
4525-1			650	1000	368	1993-2010	1991-2010		1991-2010	1991-2010	1991-2010
4526-1			950	1200	356	1999-2010	1999-2010		1999-2010	1999-2010	1999-2010
4527-1			850	1155	297	2002-2011	2002-2011		2002-2011	2002-2011	2002-2011
4562-2			500	900	396	1962-2010	1962-2010		1962-2010	1962-2010	1962-2010
4563-1			520	890	428	1982-2010	1982-2010		1982-2010	1982-2010	1982-2010
4564-1			410	670	397	1987-2010	1987-2010		1987-2010	1987-2010	1987-2010
4565-1			500	900	444	1987-2010	1987-2010		1987-2010	1987-2010	1987-2010
4566-1			500	990	350	2009-2010	2009-2010		2009-2010	2009-2010	2009-2010
4567-1			855	1150	375	2002-2011	2002-2011		2002-2011	2002-2011	2002-2011
4610-1			1000	1300	219	1999-2011	1999-2011		1999-2011	1999-2011	1999-2011
4611-1			840	1300	186	2000-2009	2000-2009		2000-2009	2000-2009	2000-2009
4613-1			780	1300	312	2004-2010	2004-2010		2004-2010	2003-2009	2004-2010
4614-2			780	1300	306	2004-2010	2004-2010		2004-2010	2004-2010	2004-2010
4628-2			755	1290	207	2003-2009	2003-2009		2003-2009	2003-2009	2003-2009
4629-1			496	796	173	1979-2010	1979-2010		1979-2010	1979-2010	1979-2010

CVWD Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
4630-1			480	990	243	1984-2010	1984-2010		1984-2010	1984-2010	1984-2010
4631-2			540	940	229	2000-2011	2000-2011		2000-2011	2000-2011	2000-2011
4720-1			500	840	86	1993-2010	1993-2010		1993-2010	1993-2010	1993-2010
4721-1			550	950	90	1993-2010	1993-2010		1993-2010	1993-2010	1993-2010
4722-1			570	1160	97	2002-2011	2002-2011		2002-2011	2002-2011	2002-2011
5620-1			445	965	180	1975-2009	1975-2009		1975-2009	1975-2009	1975-2009
5623-1			450	780	192	1979-2009	1979-2009		1979-2009	1979-2009	1979-2009
5624-1			650	920	203	2008-2009	2008-2009		2008-2009	2008-2009	2008-2009
5625-2			550	890	184	2007-2010	2007-2010		2007-2010	2007-2010	2007-2010
5629-1			570	970	246	1987-2010	1987-2010		1987-2010	1987-2010	1987-2010
5630-1			455	890	283	1985-2009	1985-2009		1985-2009	1985-2009	1985-2009
5631-1			740	1010	192	1985-2010	1985-2010		1985-2010	1985-2010	1985-2010
5632-2			820	1300	145	2002-2011	2002-2011		2002-2011	2002-2011	2002-2011
5639-1			548	872	151	2008-2011	2008-2011		2008-2011	2008-2011	2008-2011
5656-1			450	930	197	1987-2010	1987-2010		1987-2010	1987-2010	1987-2010
5657-1			420	720	118	1988-2009	1988-2009		1988-2009	1988-2009	1988-2009
5658-1			480	850	183	2009-2009	2009-2009		2009-2009	2009-2009	2009-2009
5659-1			550	890	180	1989-2009	1989-2009		1989-2009	1989-2009	1989-2009
5662-1			625	925	200	1996-2011	1996-2011		1996-2011	1996-2011	1996-2011
5664-1			500	930	151	2009-2009	2009-2009		2009-2009	2009-2009	2009-2009
5667-1			470	800	188	1993-2010	1993-2010		1993-2010	1993-2010	1993-2010
5668-1			520	900	173	1994-2009	1994-2009		1994-2009	1994-2009	1994-2009
5669-1			500	980	170	1993-2009	1993-2009		1993-2009	1993-2009	1993-2009
5670-1			570	930	195	1995-2010	1995-2010		1995-2010	1995-2010	1995-2010
5671-2			550	990	200	1994-2009	1994-2009		1994-2009	1994-2009	1994-2009
5672-1			680	1010	211	1997-2009	1997-2009		1997-2009	1997-2009	1997-2009
5673-1			740	1000	203	1997-2009	1997-2009		1997-2009	1997-2009	1997-2009

CVWD Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
5675-1			670	790	201	1999-2011	1999-2011		1999-2011	1999-2011	1999-2011
5676-1			1000	1300	0	2003-2009	2003-2009		2003-2009	2003-2009	2003-2009
5677-1			900	1260	267	1999-2011	1999-2011		1999-2011	1999-2011	1999-2011
5678-1			1000	1300	261	1999-2011	1999-2011		1999-2011	1999-2011	1999-2011
5679-1			900	1305	135	2000-2009	2000-2009		2000-2009	2000-2009	2000-2009
5680-1			1000	1300	215	2000-2009	2000-2009		2000-2009	2000-2009	2000-2009
5681-1			900	1200	164	2000-2009	2000-2009		2000-2009	2000-2009	2000-2009
5682-1			850	1300	242	2000-2003	2000-2003		2000-2003	2000-2003	2000-2003
5701-1			900	1270	46	1999-2011	1999-2011		1999-2011	1999-2011	1999-2011
5708-1			450	970	90	1989-2011	1989-2011		1989-2011	1989-2011	1989-2011
5709-1			480	840	77	1990-2011	1990-2011		1990-2011	1990-2011	1990-2011
5711-1			450	850	58	2002-2011	2002-2011		2002-2011	2002-2011	2002-2011
5714-1			900	1270	81	1999-2011	1999-2011		1999-2011	1999-2011	1999-2011
5715-1			840	1380	56	2000-2009	2000-2009		2000-2009	2000-2009	2000-2009
5716-1			900	1200	61	2003-2009	2003-2012		2003-2011	2000-2009	2003-2010
5717-1			915	1123	0	2003-2009	2003-2009		2003-2009	2003-2009	2003-2009
5718-1			940	1480	0	2003-2009	2003-2009		2003-2009	2003-2009	2003-2009
5720-1			540	860	111	1993-2010	1993-2010		1993-2010	1993-2010	1993-2010
5721-1			1010	1210	0	1999-2011	1999-2014		1999-2013	1999-2011	1999-2012
5725-1			1130	1430	0	2004-2010	2004-2010		2004-2010	2004-2010	2004-2010
5727-1			930	1440	0	2004-2010	2004-2010		2004-2010	2004-2010	2004-2010
6701-1			580	800	40	1982-2010	1982-2010		1982-2010	1982-2010	1982-2010
6723-1			350	800	-6	1989-2009	1989-2009		1989-2009	1989-2009	1989-2009
6724-1			350	740	-18	1991-2009	1991-2009		1991-2009	1991-2009	1991-2009
6725-1			360	840	0	2001-2010	2001-2010		2001-2010	2001-2010	2001-2010
6726-1			640	1160	-64	2003-2009	2003-2009		2003-2009	2003-2009	2003-2009
6728-1			500	750	-78	2003-2009	2003-2009		2003-2009	2003-2009	2003-2009



CVWD Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
6805-1			490	950	-95	1996-2011	1996-2014		1996-2013	1996-2011	1996-2012
7802-1			245	990	0	2002-2011	2002-2011		2002-2011	2002-2011	2002-2011
7803			250	710	119	2003-2009	2003-2009		2003-2009	2003-2009	2003-2009

Source: CVWD

**Attachment D: Existing Wells Monitored within Mission Creek and Garnet Hill Subbasins**

Sub-basin	Owner	Owner's Well Number	Monitored for Levels	Frequency	Monitored for Quality	Frequency
DHS	MSWD	8	Yes <sup>1</sup>	2 per year	?	--
DHS	MSWD	5	Yes <sup>1</sup>	2 per year	?	
DHS	Howard		Yes	3 per year	No	--
DHS	Dorothy & Orville Smith		Yes	3 per year	No	--
DHS	Erwin And Assoc.		Yes	3 per year	No	--
DHS	Johnson		Yes	3 per year	No	--
DHS	Tru Wall Const.		Yes	3 per year	No	--
DHS	Knudsen		Yes <sup>1</sup>	3 per year	No	--
DHS	William W. Tarbutton		Yes	3 per year	No	--
DHS	Manthei Bros.		Yes <sup>1</sup>	3 per year	No	--
DHS	Honig		Yes <sup>1</sup>	3 per year	No	--
DHS	M. J. Grieshaber		Yes	3 per year	No	--
MC	DWA	Mission Creek Monitoring Well	Yes	Monthly	No	--
MC	MSWD	23	Yes <sup>1</sup>	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	30	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	28	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	34	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	35	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	22	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	24	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	29	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	37	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	32	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	27	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	MSWD	31	Yes	Monthly	Yes	Triennially <sup>2</sup>
MC	CVWD	3406	No	--	No	--

Sub-basin	Owner	Owner's Well Number	Monitored for Levels	Frequency	Monitored for Quality	Frequency
MC	CVWD	3408	Yes <sup>1</sup>	3 per year	Yes	Triennially <sup>2</sup>
MC	CVWD	3405	Yes	3 per year	Yes	Triennially <sup>2</sup>
MC	CVWD	3410	Yes	3 per year	Yes	Triennially <sup>2</sup>
MC	CVWD	3409	Yes	3 per year	Yes	Triennially <sup>2</sup>
MC	KLATT		Yes	3 per year	No	--
MC	CVWD (?)	3518	Yes <sup>1</sup>	3 per year	No	--
MC	Desert Dunes Golf Course	1	Yes	3 per year	Yes	Every six years
MC	Cronholm		Yes	3 per year	No	--
GH	Duryea		Yes	3 per year	No	--
GH	Unknown		Yes	3 per year	No	--
GH	MSWD	33	Yes	Monthly	Yes	Triennially <sup>2</sup>
GH	Valley View MWC		Yes	3 per year	No	--
GH	Margolias		Yes	3 per year	Yes	Periodically
GH	Frank Mack		Yes	3 per year	Yes	Periodically
GH	Jack in the Box		No	--	Yes	Periodically

Source: MWH, 2013

DHS: Desert Hot Springs Sub-basin

MC: Mission Creek Sub-basin

GH: Garnet Hill Subbasin

CVWD – Coachella Valley Water District

MSWD – Mission Springs Water District

DWA – Desert Water Agency

1 – CASGEM Well

2 – CDPH requires triennial monitoring for general minerals, metals, radiological and regulated organics (VOCs and SOCs) and annual monitoring of nitrate

**Attachment E: Wells Monitored by USGS**

USGS Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
COA-01						2007	2007	2007	2007	2007	
COA-02			230	480	-221	2007	2007	2007	2007	2007	
COA-03	1070				147	2007	2007	2007	2007	2007	
COA-04	1090		500	1060	79	2007	2007	2007	2007	2007	
COA-05	654		710	1090	237.23	2007	2007	2007	2007	2007	
COA-06	240		203	654	52.2	2007	2007	2007	2007	2007	
COA-07	342				2	2007	2007	2007	2007	2007	
COA-08			258	342	-16	2007	2007	2007	2007	2007	
COA-09					392	2007	2007	2007	2007	2007	
COA-10					106	2007	2007	2007	2007	2007	
COA-11					-110	2007	2007	2007	2007	2007	
COA-12	525		445	525	-173	2007	2007	2007	2007	2007	
COA-13						2007	2007	2007	2007	2007	
COA-14	820		420	820	232	2007	2007	2007	2007	2007	
COA-15	400		180	380	872	2007	2007	2007	2007	2007	
COA-16	650		300	650	477	2007	2007	2007	2007	2007	
COA-17					2475	2007	2007	2007	2007	2007	
COA-18	790		280	790	43	2007	2007	2007	2007	2007	
COA-19					1063	2007	2007	2007	2007	2007	
COAU-01	96		12	43	2218	2007	2007	2007	2007	2007	
COAU-02	600		288	600	382	2007	2007	2007	2007	2007	
COAU-03					332	2007	2007	2007	2007	2007	
COAU-04	400		280	400	2	2007	2007	2007	2007	2007	
COAU-05	909		306	906	1175	2007	2007	2007	2007	2007	
COAU-06						2007	2007	2007	2007	2007	

USGS Well No.	Depth Drilled (feet)	Depth Cased (feet)	Depth of Top Perf. (feet)	Depth of Bottom Perf. (feet)	Land Surface Elevation	Period of Data					
						Arsenic	Nitrate	Uranium	Fluoride	Perchlorate	Hexavalent Chromium
COAU-07	553		225	553	1353	2007	2007	2007	2007	2007	
COAU-08	730		476	726	499.42	2007	2007	2007	2007	2007	
COAU-09					183	2007	2007	2007	2007	2007	
COAU-10	1070		410	1050	1016	2007	2007	2007	2007	2007	
COAU-11	400		220	400	589	2007	2007	2007	2007	2007	
COAU-12						2007	2007	2007	2007	2007	
COAU-13					171	2007	2007	2007	2007	2007	
COAU-14	550		330	530	62	2007	2007	2007	2007	2007	
COAU-15	700		400	700	344	2007	2007	2007	2007	2007	
COAU-16					-3	2007	2007	2007	2007	2007	

Source: USGS, 2009

**Attachment F: Proposed Wells for Monitoring by Mission Creek and Garnet Hill Subbasins WMP**

<b>Sub-basin</b>	<b>Owner<sup>1</sup></b>	<b>Status</b>	<b>Purpose</b>	<b>Comment</b>
MC	Will Claiborne	926 ft deep, drilled 1989	Subsurface inflow upstream of recharge basin	Mission Creek West of SR 62 and Indian
MC	TW Burnham	Unknown	Subsurface inflow from Mission Creek	Mission Creek 2 mi NW of SR 62
MC	Mrs A K Walters	Drilled 1965	Subsurface inflow from Mission Creek	Mission Creek 2 mi NW of SR 62
MC	TW Burnham	Unknown	Subsurface inflow from Mission Creek	Mission Creek 1 mi NW of SR 62
MC	Norman Lamaroux	Unknown	Improved water level contours between MSWD's Wells 35 and 24	Select one of these wells
MC	Edwards	Unknown, drilled 1966		
MC	Snellenberger (?)	Unknown; Not in CVWD records	Subsurface inflow and water level west of SR 62	West of SR 62 near Pierson
MC	Park West Mobil Park	Well deepened to 495 ft	Improved water level contours west of MSWD's Well 37	Select one of these wells
MC	MSWD – Well 13	May be dry – capped per CVWD records		
MC	MSWD Airport	?	CASGEM Well – improved water level contours	Recent MSWD acquisition, only levels are monitored monthly
MC	CPV Sentinel	New well; not in CVWD records	Improved water level contours west of Indian Ave.	Recently constructed; SWN unknown
MC	Dr Aiken/USGS <sup>2</sup>	Unknown	Improved water level contours near Mission Creek fault	May be monitored by USGS
MC	Klatt	Unknown	Improved water level contours near Mission Creek fault	Near Mission Creek fault
MC	Mr O Scarcelli	Unknown, drilled 1978	Improved water level contours near Banning fault	Select one of these wells
MC	Durst	Unknown, drilled 1978		
MC	Jay Schultz	Unknown, drilled 2003	Improved water level contours near Mission Creek fault in Willow Hole area	Select one well from this group
MC	Mary Herzog	Unknown, drilled 1970		
MC	Ron Studebacker	Unknown, drilled 1978		
MC	Charles Ross	Unknown, drilled 1978		
MC	James Stanley	Unknown		
MC	Blanche Kelly	Unknown, drilled 1991		
MC	Peterson	Unknown, old log		

Sub-basin	Owner <sup>1</sup>	Status	Purpose	Comment
MC	Leon Mason	Inactive per CVWD records	Improved water level contours in Willow Hole area	Select one well from this group
MC	Tom Svenneby	Unknown, drilled 1981		
MC	John Guldseth	Unknown, drilled 1983		
MC	William Stapely	Unknown, no log		
MC	William Stapely	Unknown		
MC	Keith McGraw	Unknown, drilled 2000		
MC	John Barker	Unknown, drilled 1981		
MC	M G Astleford	Unknown, drilled 1981		
GH	Bill Adams	Unknown, drilled 1997	Improved water level contours near Banning fault south of Devers Hills	
GH	Indigo Power Plant	Location uncertain, no log in CVWD records	Improved water level contours west of Indian Ave.	SWN unknown

Source: MWH, 2013

DHS: Desert Hot Springs Sub-basin

MC: Mission Creek Sub-basin

GH: Garnet Hill Subbbasin

CVWD – Coachella Valley Water District

MSWD – Mission Springs Water District

1 – Name of the well owner based on CVWD master well records for the Coachella Valley.

2 – Well shown in CASGEM database as monitored by USGS. No data available.

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