

Coachella Valley
Regional Water Management Group

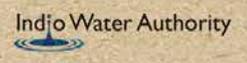
Final
Volume II : Disadvantaged Communities
**2014 Coachella Valley
Integrated Regional Water
Management Plan**

*Plan Prepared by:
Coachella Valley Regional Water Management Group
In collaboration with the Planning Partners*

February 2014



City of Coachella



Final

**Coachella Valley Disadvantaged
Community Outreach
Demonstration Program Report**

Prepared by:



In association with:



February 2014

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List of Abbreviations

CVRWMG	Coachella Valley Regional Water Management Group
CVWD	Coachella Valley Water District
CWA	Coachella Water Authority
DAC	Disadvantaged Community
DAC Outreach Program	Coachella Valley DAC Outreach Program
DWA	Desert Water Agency
DWR	California Department of Water Resources
ESRI	Environmental Systems Research Institute
IRWM	Integrated Regional Water Management
IWA	Indio Water Authority
LLU	Loma Linda University
MHI	Median Household Income
MSWD	Mission Springs Water District
NGO	Non-Governmental Organization
Region	Coachella Valley Integrated Regional Water Management Region
El Sol	El Sol Neighborhood Educational Center
Pueblo Unido	Pueblo Unido Community Development Corporation

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Section 1 Executive Summary

In 2011, the Coachella Valley Regional Water Management Group (CVRWMG), represented by the Coachella Valley Water District (CVWD), entered into a contract with the Department of Water Resources (DWR) to develop a Disadvantaged Community (DAC) Outreach Demonstration Program (DAC Outreach Program) for the Coachella Valley Integrated Regional Water Management Region (Region). The DAC Outreach Program was supported by a separate stream of funding associated with the Proposition 84 Integrated Regional Water Management (IRWM) Program specific to conducting outreach to DACs, and concluded at the end of 2013.

The Coachella Valley is home to numerous disadvantaged communities (DACs). DACs are defined as areas having a mean household income (MHI) that is 80 percent or less than the state MHI. Severely economically disadvantaged communities are defined as those communities with a MHI of less than 60 percent of the statewide MHI. DACs can face multiple water-related challenges, which can be more difficult to address as compared to other residents due to a lack of financial and other resources. The Coachella Valley IRWM Region, shown in **Figure 1** below, is managed by the CVRWMG, which is comprised of the five Coachella Valley water purveyors: CWA, CVWD, DWA, IWA, and MSWD.

The overall purpose of the Coachella Valley DAC Outreach Program, in addition to improving participation in the development of the 2014 Coachella Valley IRWM Plan Volume I, was to identify DAC issues, address DAC issues through project development and support, and provide DWR with suggestions for improving DAC involvement in IRWM planning and IRWM Program activities on a statewide-level. This report chronicles the work, activities, and outcomes from the DAC Outreach Program in the Coachella Valley and makes recommendations that could be incorporated into the statewide IRWM Program. While the Coachella Valley DAC Outreach Program has been very successful in the Coachella Valley, techniques used locally may not necessarily work as well in other regions of the State. Therefore, this report recommends elements of a model program, not a complete program that DWR should implement in other DAC areas of California.

This report includes the main body of work for the DAC Outreach Program, which is Volume II of the 2014 Coachella Valley IRWM Plan. This volume also includes a series of appendices containing the results of the DAC Outreach Survey, mapping efforts, DAC demonstration projects, and other materials developed in support of the DAC Outreach Program and to improve regional understanding of DACs in the Region (see below for more information). When referencing material or appendices contained in Volume II of the IRWM Plan, text will say “Volume II” and “Appendix VII,” respectively and will say “Volume I” and “Appendix VI” in reference to materials associated with Volume I. Volume II of the IRWM Plan is designed to act as a stand-alone DAC-focused resource for stakeholders and Volume I contains the IRWM Plan Chapters and Appendices, which were completed through a separate planning effort.

1.1 Program Recommendations

Elements of a statewide model program that are recommended for DWR’s consideration (refer to **Section 6** for more information) include the following:

1. Utilize assistance from and partner with community-based local non-profit organizations;

2. DWR should seek Legislative or Executive approval to better support the ability of DAC NGOs to apply for grant funding and financially manage projects by developing a DAC Track that would include specifically tailored grant application requirements, payment of DAC pre-project costs, and expedited project expense reimbursements.
3. DWR should provide IRWM funding support for RWMG agencies to assist DACs in a multi-year program to develop and implement the projects which directly assist DAC areas.
4. Expand the role of DWR regional representatives to spend more time serving as in-the-field DAC liaisons

1.2 Program Accomplishments

The accomplishments of the DAC Outreach Program include increased participation in the IRWM planning process, better identification of DAC locations, refinement of DAC needs and issues, support for projects that address DAC needs and issues, and delivery to DWR of recommendations for improving the statewide IRWM DAC Program. The program accomplishments are summarized below and detailed in the following sections of this report.

1.2.1 Increased DAC Participation in the IRWM Planning Process

Participation of disadvantaged community members steadily increased throughout implementation of the DAC Outreach Program as demonstrated by increasing attendance at the five DAC workshops. The first two workshops had a modest turnout. However, the third and fourth workshops that were held in the disadvantaged communities of Mecca and Desert Hot Springs gathered a combined attendance of over 100 DAC residents. The final workshop attracted approximately 40 engaged citizens including representatives of DAC non-profits, the Riverside County Board of Supervisors, County and city departments, community volunteer organizations, and water districts and agencies. The increase in participation was likely due to effective outreach communication by staff and non-profit partners, and the interest in the DAC Outreach Program itself that brought multiple benefits to the communities.

1.2.2 Better Identification of DAC Locations

To better identify the locations of DACs, the DAC Outreach Program first identified DAC focus areas using the following sources: 2010 United States Census income data, information solicited through one-on-one outreach to DACs, and demographic data from the Environmental Systems Research Institute's (ESRI's) Community Analyst tool, called Tapestry Segmentation. With this information, non-profit partners that worked with the technical consulting team to complete work associated with the DAC Outreach Program, Loma Linda University (LLU), Pueblo Unido Community Development Corporation (PUCDC), and El Sol Neighborhood Education Center (El Sol), first developed and then conducted a multi-lingual survey in multiple DAC areas throughout the Coachella Valley. The demographic data and in-the-field surveying enabled the DAC Outreach Program to more precisely identify, map, and characterize disadvantaged communities and community issues. Detailed community maps and characterization can be found in the 2014 Coachella Valley IRWM Plan Volume I, *Chapter 4, Disadvantaged Communities*.

1.2.3 Identification of DAC Water-Related Needs and Issues

Throughout the outreach and surveying process, three primary water-related concerns were consistently raised by DAC stakeholders: water supply (drinking water), wastewater, and

flooding. Further information on DAC needs and issues can be found in the 2014 Coachella Valley IRWM Plan Volume I *Chapter 4, Disadvantaged Communities* and *Chapter 3, Issues and Needs*. Of the three primary water-related concerns, stakeholders considered wastewater and drinking water quality the most critical with specific focus on the following:

- Wastewater systems that require maintenance and DAC residents' interest in better understanding of how to maintain onsite wastewater systems to avoid failures, overflows, and other issues
- Faulty septic system that require rehabilitation or, where feasible, connection to municipal sewer systems
- Education on the source of water supply to help individuals learn who is responsible for regulating, testing, and ensuring quality drinking water and know who to contact when issues arise
- Lack of access in some areas to clean drinking water (either due to lack of municipal services or through some source of contamination between the meter and the tap) and need for water treatment systems

1.2.4 Support for the Development of Projects that Address DAC Issues

Utilizing the list of DAC needs and issues referenced above in Section 1.2.3, a number of project concepts were developed that were later refined into projects that could potentially be implemented in future rounds of IRWM funding. From the project concept list, projects were then selected to receive planning and engineering support. The projects are briefly described below and are provided in their entirety in **Appendix VII-C, Appendix VII-F, Appendix VI-G, and Appendix VII-H** to this report.

Project 1: Educational Materials – A short bilingual educational handout was developed for DAC areas experiencing significant water quality and wastewater issues. The handout describes water and wastewater systems and lists sources of assistance for specific problems. The handout was distributed to and discussed with local residents by the participating non-profit organizations prior to completion for review and feedback, and will be distributed to residents and non-profit organizations to use as an educational resource (refer to **Appendix VII-F**).

Project 2: Determining Connection Opportunities - While the demand for municipal connections is high in DACs, it has been found that many connection projects are not technically or economically feasible. This project provided technical information and mapping to help prioritize future projects that would connect communities to existing water and wastewater infrastructure (refer to **Appendix VII-G**).

Project 3: Regional Program for Septic Rehabilitation – This project conducted preliminary work providing a framework to demonstrate how to appropriately design septic systems for a range of different site conditions. In addition, it provided actual design and engineering plans (construction and permitting) for four mobile home parks, making those sites potentially eligible for future project implementation funding. Finally, this project also involved development of a work plan, budget, and schedule that can be used by potential future project proponents that may be interested in replicating the project at other locations (refer to **Appendix VII-H**).

Project 4: Regional Program for Onsite Water Treatment – The primary purpose of this project was to build on previous work completed by local non-profit organizations and by the Coachella Valley IRWM Program to develop a regional program that clarifies how to install

onsite water treatment (point of use or POU) systems for DACs that do not have access to water that meets drinking water standards. The project provided detail information about how to select and install appropriate, commercially-available reverse-osmosis under-the-counter treatment systems to address a variety of water quality concerns. This project also involved development of a work plan, budget, and schedule that can be used by potential future project proponents that may be interested in replicating the project at other locations (refer to **Appendix VII-C**).

1.3 Purpose and Content of the Report

Within the first IRWM Program initiated under Proposition 50 (before Proposition 84), there was limited involvement by DACs and some criticized the program for not providing enough funding to DACs. Because of this, there was increased sensitivity to DAC needs during the allocation and distribution of Proposition 84 funding. Despite the Coachella Valley IRWM Region having some of the largest tracts of DACs in California and completing substantial outreach to DACs, the CVRWMG was interested in exploring methods to increase DAC involvement and participation in IRWM-related activities. This trend of wanting to increase DAC involvement in IRWM planning, which was not unique to the Coachella Valley, was noticed by the Department of Water Resources (DWR) as a potential IRWM-related issue. To understand why there was limited IRWM participation by DACs, DWR dedicated a portion of Proposition 84 funding to several regions to initiate directed DAC outreach efforts that could potentially be used to develop a model program for DAC outreach and involvement in IRWM planning.

In the Coachella Valley, the CVRWMG initiated efforts to update the existing (2010) IRWM Plan at the same time that the DAC Outreach Program was initiated in an effort to join both efforts together and ensure DAC stakeholder involvement took place during development of the 2014 Coachella Valley IRWM Plan Volume I. Given that the 2014 Coachella Valley IRWM Plan Update effort also had components to provide outreach and technical support to DACs, the IRWM Plan Update effort and the DAC Outreach Program were considered joint efforts aimed at supporting and enhancing one another to accomplish both the goals of the DAC Outreach Program and develop a meaningful IRWM Plan Update.

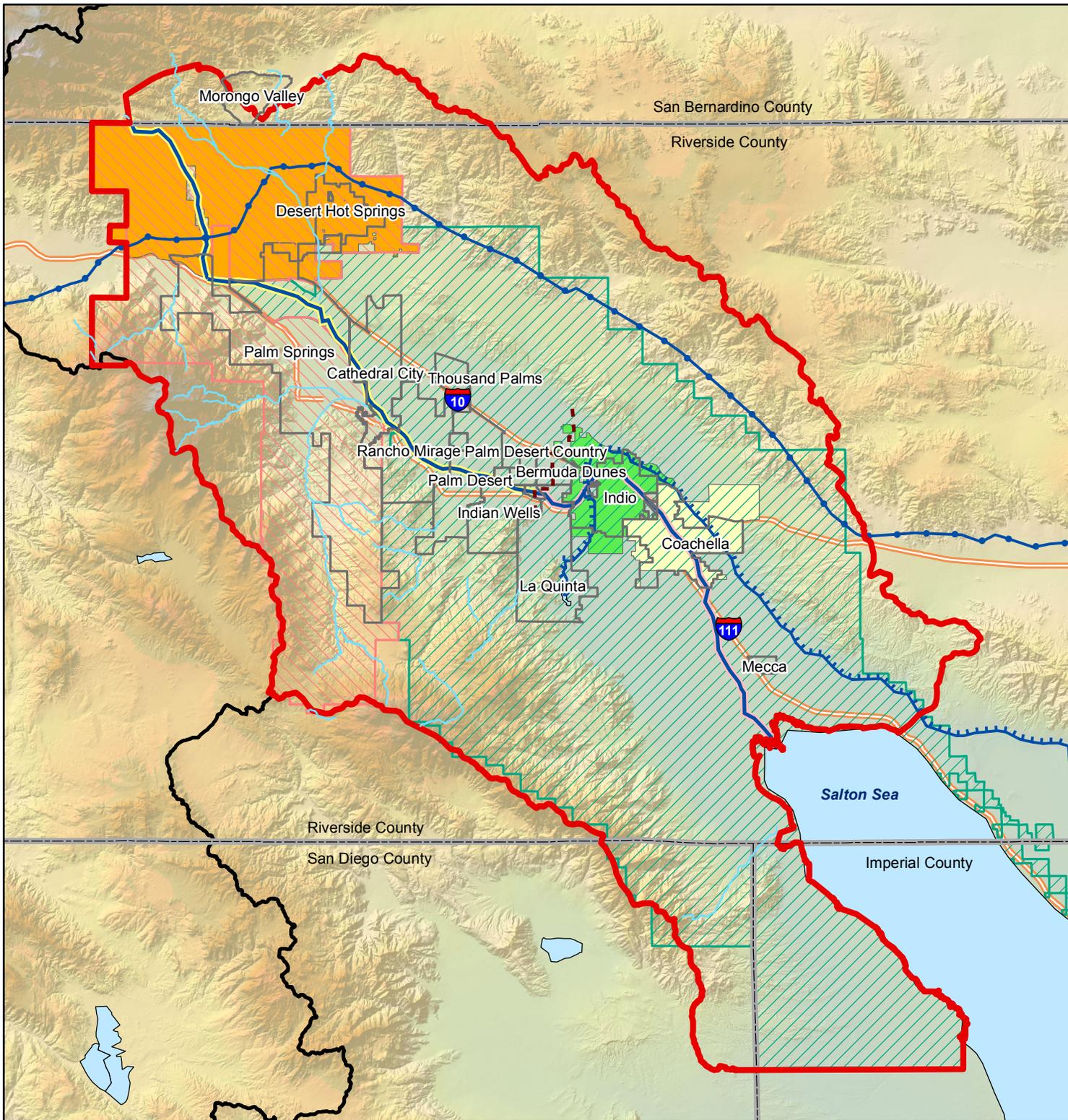
The purpose of this report is to summarize the efforts that were undertaken as part of the DAC Outreach Program, provide the DAC Outreach Program Model information as required by DWR, and incorporate various deliverables that were developed as part of the DAC Outreach Program into a volume (Volume II) of complete information regarding DAC outreach efforts associated with the Coachella Valley IRWM Program.

Other sources of information used for this report include observations that were made during DAC outreach efforts that were conducted during development of the 2010 IRWM Plan and directed DAC Outreach conducted in 2012 and 2013 for the DAC Outreach Program and the 2014 Coachella Valley IRWM Plan Volume I. Furthermore, information was provided by non-profit partners (El Sol, Pueblo Unido, and Loma Linda University) as part of their individual contracts for the DAC Outreach Program. Lastly, the CVRWMG has provided input on challenges and opportunities regarding DAC participation in the IRWM Program based on extensive work that has been conducted by the agencies throughout the Coachella Valley IRWM planning process and other water management planning processes.

Further information about the DAC Outreach Program can be found on the CVRWMG website: <http://cwrwm.org/dac.php>.

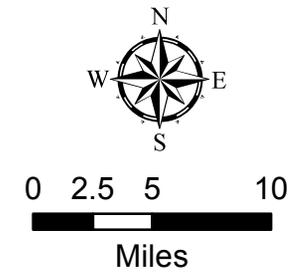
Coachella Valley Regional Water Management Group

Figure 1



- Division between West and East Valley
- Colorado River Aqueduct
- Coachella and All American Canals
- Whitewater River Storm Water Channel
- Coachella Valley Storm Water Channel
- Highways
- Water Bodies
- City
- Coachella Valley IRWM Region
- Colorado River Funding Area
- Indio Water Authority
- Mission Springs Water District
- Coachella Water Authority
- Coachella Valley Water District
- Desert Water Agency

Source: CVRWMG



Section 2 History of DAC Outreach

The CVRWGMG agencies have interacted and coordinated with economically disadvantaged communities for a long time. Some of the CVRWGMG agencies such as Mission Springs Water District (MSWD) are almost completely within DAC areas. For others, significant areas within their boundaries are DAC areas but by no means do DACs cover their entire service area. The following sub-sections detail DAC outreach efforts conducted prior to initiation of the 2014 Coachella Valley IRWM Plan Volume I and DAC Outreach Program.

2.1 Pre-Coachella IRWM Outreach Efforts

In the period just prior to and during the formation of the Coachella Valley IRWM Program, DAC groups in the region were becoming more organized. For instance, the IRWM Disadvantaged Community Planning Group was formed in 2007 to track the progress of DAC Outreach Programs being developed under Proposition 84. Many factors caused this group and others to organize and address pertinent issues affecting DACs such as economic development, roads, flooding, schools, and other issues affecting health and safety and quality of life. During this same time, arsenic became regulated at lower levels, and problems with septic systems and water supply became more important to the DAC groups. Early efforts on behalf of the water supply agencies, Colorado River Regional Water Quality Control Board (Regional Board), and Riverside County were successful; however, water-related needs of DACs proved to be substantial, requiring additional support. Community groups stepped in to assist with these issues, as they had also identified other problems facing their communities. Specifically, affordability of water and wastewater services and water quality of available water supplies were key issues for DACs.

2.2 2010 Coachella Valley IRWM Plan Efforts

In 2010, IRWM-related planning was initiated and DAC needs and issues were identified as special and different than other groups. The DAC Issues Group was formed that same year to provide direct outreach to DACs as part of the IRWM Program and gain input on water-related DAC issues. Several DAC representatives were also invited to join the Planning Partners - representatives from local cities, County of Riverside, tribal governments, disadvantaged community representatives, and other local water management stakeholders that serve in an advisory role for the development of the IRWM Plan and grant applications.

The Planning Partners, during the development of the 2010 IRWM Plan, worked to identify DAC water-related issues and projects to address those issues. Three projects, the Short-Term Arsenic Treatment Project and a septic-to-sewer conversion project, were funded by the Proposition 84 Implementation Grant in 2011. Those projects are more fully described in Section 2.3 below.

2.2.1 Characterized Issues and Needs

During the development of the 2010 IRWM Plan, water-related issues concerning DACs in the Coachella Valley were identified and are detailed below.

1. **Affordability:** Addressing DAC water-related issues without increasing rates
2. **Connection to the Sewer System:** The need for septic to sewer conversion is great, but jurisdictional issues and high costs may delay or prohibit construction

3. **Drinking Water Quality:** Other groundwater sources, such as wells above the perched aquifer, hot water basin wells, and agricultural wells, are not suitable for drinking. In places where local groundwater wells supply water that does not meet drinking water standards, other water sources such as hauled water can be scarce or entirely inaccessible
4. **Water Supply:** Many DACs are not within urban areas, making water supply even more difficult. One example is concentrated communities of farm workers in rural areas in the eastern Coachella Valley. Rural water treatments systems (generally onsite point of source or other new technologies) and training are needed in these rural/remote areas to ensure residents have a reliable supply of water that meets drinking water standards
5. **Flooding and Stormwater:** Flooding and stormwater management improvements are needed to address flooding hazards in DAC areas, particularly in portions of the eastern Coachella Valley that are not protected by regional flood control infrastructure and unincorporated communities that do not receive stormwater services from an incorporated city

2.2.2 Identified Projects

Preliminary work with DAC groups in the Coachella Valley IRWM Region prior to development of the Coachella Valley IRWM Plan resulted in the projects that would benefit DACs. Each of these projects, which are summarized below, has multiple partners and benefits, but the primary beneficiaries are DACs.

1. **Bacterial Indicators Total Maximum Daily Load (TMDL):** Implementing projects to ensure that discharges do not contribute to the load of bacterial indicators is required to ensure compliance with the Regional Board TMDL for bacterial indicators. These projects will include implementation of best management practices and solutions to prevent dry weather runoff flows from entering regional facilities such as the Coachella Valley Stormwater Channel. Along with complying with the TMDL for bacterial indicators, the project will result in improvements to water quality by specific DACs who do not have access to other water supplies.
2. **Integrated Resource Development and Protection Project:** Septic to sewer conversion that provides alternatives to failing septic tanks and generates additional wastewater to water reclamation facilities, thereby providing additional water that will be beneficially reused and protect groundwater supplies.
3. **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.
4. **Integrated Regional Groundwater Quality Protection Project:** Septic to sewer conversion that complies with a State mandate to eliminate septic tanks, generates recycled water, reduces dependence on imported water, and protects regional groundwater supplies.
5. **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.
6. **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 concerns about water 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.

In 2010, the DAC Planning Group that was formed prior to the IRWM effort identified some specific projects or areas of effort critical for DACs in the Coachella Valley IRWM Region. While the projects vary over time, to the purpose of each project involves solving similar issues that are relevant today. The projects and project concepts developed by the DAC Planning Group in 2010 included:

1. Septic conversion to combine advanced water treatment and sewer systems to impart additional water supply benefits from beneficial reuse of wastewater, with the focus on low income and significant DACs in both urban and rural areas
2. Basic provision of water supply meeting water quality regulations, and wastewater services supporting basic quality of life and health and safety needs
3. Conservation of water resources including stormwater to minimize reliance on imported water
4. Accurate DAC stakeholder profiles and accurate data
5. Floodplain and alluvial fan mapping and planning to identify funding for stormwater 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 development, and economic development

2.3 Funded Projects in Proposition 84 Round 1 Implementation Grant

In response to projects and project concepts raised by the DAC Planning Group and recognition on behalf of the IRWM DAC Issues Group, Planning Partners, and the CVRWGM regarding the need for projects to address DAC issues, two projects that directly benefitted DACs were included in the Region's Proposition 84-Round 1 Implementation Grant application. The two DAC projects, the Short-Term Arsenic Treatment Project and a septic-to-sewer conversion project, were funded by the Proposition 84 Implementation Grant. Those projects are described in detail below.

2.3.1 Short-term Arsenic Treatment (STAT) Project

The STAT Project is based on a pilot program implemented at a mobile home park (San Antonio del Desierto) by Pueblo Unido Community Development Corporation (PUCDC), a local non-profit organization that provides support to DACs in the eastern Coachella Valley (East Valley). PUCDC developed engineering design for an onsite water treatment system using reverse



Example of a reverse osmosis system installed in the San Antonio del Desierto Mobile Home Park by Pueblo Unido Community Development Corporation for the STAT Project.

osmosis at San Antonio del Desierto that will be replicated at new sites in the East Valley. The STAT Project uses cost-effective and reliable technology to remove naturally-occurring arsenic and provide new short-term alternatives to improve the quality of drinking water for DACs without access to public water systems. Additionally, the program has training and education components that consist of helping farm worker families understand proper water quality monitoring and operation of decentralized wastewater systems. This project, which is currently being implemented by PUCDC, will address water quality issues in DACs located in the eastern Coachella Valley. This project received \$564,000 in IRWM grant funding, and will directly help to increase the affordability of water for DACs by providing safe drinking water at a low cost and negating the need for DACs to purchase bottled water.

2.3.2 Groundwater Quality Protection Program – Desert Hot Springs

This project will extend MSWD’s existing municipal sewer system to Sub-area D1 in Assessment District 12, thus eliminating the need for on-site septic systems that overlie the Desert Hot Springs Sub-basin. This project will eliminate 181 septic tanks that threaten contamination of groundwater supply, and will protect hot mineral water which is the economic basis of the Desert Hot Springs community’s (a DAC) spa industry. The project will, therefore protect residents of a DAC from significant costs that would result if treatment of the potable water supply were necessary due to contamination. \$1.025 million in grant funding was provided to Mission Springs Water District and this project is currently being implemented.

Section 3 IRWM DAC Outreach Overview

As mentioned in Section 1 above, the Coachella Valley IRWM Region implemented two IRWM-related planning efforts with DAC components simultaneously, although each effort had different overall goals. The following sub-sections document the activities and findings of both the DAC Outreach Program (Volume II) and the 2014 Coachella Valley IRWM Plan Volume I, with an emphasis on the goals and outcomes of the DAC Outreach Program. Some of the activities and findings are specific to one program, while some are included in both programs.

3.1 DAC Outreach Program Overview

The DAC Outreach Program was developed and executed to identify stakeholders interested in DAC issues, broaden participation in the IRWM planning process, disseminate water management-related information to the Region’s DAC stakeholders, and provide technical support to help identify and develop DAC projects that could potentially be funded through the IRWM Program. The DAC Outreach Program involved formal partnerships with several local non-profits organizations whereby the non-profits worked with the technical consulting team to complete work for the DAC Outreach Program (refer to Section 3.2.7 for more information), which increased its effectiveness in reaching interested DAC stakeholders. An effective outreach approach was developed and executed by the CVRWGMG and the non-profit partners to meet the specific goals and objectives established for the DAC Outreach Program; those goals and objectives are described below.

3.1.1 DAC Outreach Program Goals

When the DAC Outreach Program was initiated in 2012, the CVRWGMG developed goals and objectives to guide the process and subsequent outreach methods. The goals of the DAC Outreach Program include:

1. Increase DAC participation in development of the 2014 Coachella Valley IRWM Plan Volume I and the Coachella Valley IRWM process/program in general
2. Better identify the locations of DACs in the Coachella Valley
3. Identify and characterize water-related issues and needs of the identified DACs
4. Support the development of projects that address DAC issues and needs
5. Provide DWR with information to assist in developing a DAC Model Program

3.1.2 DAC Outreach Program Objectives

The objectives of each of the DAC Outreach Program goals are listed in **Table 1**. Please note that because the DAC Outreach Program was implemented by the CVRWGMG and three non-profit partners (see Section 3.2.7 for more information), there are separate objectives that were established for the CVRWGMG and for the non-profit partners.

Table 1: DAC Outreach Program Goals and Objectives

Goals	Objectives
Increase DAC Participation in the IRWM Planning Process	<ul style="list-style-type: none"> • Establish a contact management system for logging contact information and tracking interactions with DAC contacts • Utilize a variety of outreach mechanisms including, email, letter, phone calls, flyers, in-person meetings, and community workshops to expand DAC participation • Work with individuals and groups already involved in DAC water-related issues to expand stakeholder involvement • Contract with non-profit organizations to support outreach • Conduct DAC workshops (both at water agencies and in DACs) • Update IRWM website to include DAC Outreach Program information • Make contact information available to CVRWGMG for ongoing outreach
Better Identify the Locations of DACs	<ul style="list-style-type: none"> • CVRWGMG <ul style="list-style-type: none"> ○ Identify, interview, and hire non-profit organizations to conduct surveying and mapping ○ Update list of DAC issues based on non-profit and stakeholder feedback ○ Update flood maps showing areas at risk, delineate current flood control projects, and potential projects (enter potential projects in Coachella Valley IRWM Project Database) ○ Coordinate with Planning Partners • Non-profit responsibilities <ul style="list-style-type: none"> ○ Develop survey instrument ○ Organize and train surveyors ○ Conduct surveying and summarize surveying results
Identify and Characterize Water-Related Issues and Needs of DACs	<ul style="list-style-type: none"> • Conduct survey in DACs to identify pockets of DACs and discuss DAC issues and needs • Hold meetings and workshops to get feedback from stakeholders • Request feedback through email communications • Update list of DAC issues
Support the Development of Projects that Address DAC Issues and Needs	<ul style="list-style-type: none"> • Utilize sources of information including surveys, DAC workshop feedback, and information forms completed at DAC workshops • Develop preliminary list of DAC project concepts (review previous potential projects identified in 2010 IRWM Plan and update relevant concepts) • Develop draft list of potential projects • Conduct project selection process • Develop select DAC projects using planning and engineering support
Provide DWR with Information to assist in Developing a DAC Model Program	<ul style="list-style-type: none"> • Prepare Final Report proposing outreach techniques that could be used by DWR in other areas • Prepare 2014 IRWM Plan DAC Element (<i>Chapter 4</i> of the 2014 Coachella Valley IRWM Plan Volume I) that focuses on DACs and summarizes outreach to DACs • Submit participation report that identifies historic challenges that have discouraged DAC involvement in the IRWM process and propose techniques to overcome those challenges • Incorporate information and recommendations from partnering non-profits into reports and memoranda listed above

3.2 DAC Outreach Activities

This sub-section describes the outreach activities and methods used to broaden the participation of DACs in the IRWM Planning process. As noted in Section 1, some of the methods documented below were conducted under the DAC component of the 2014 Coachella Valley IRWM Plan Volume I (refer to *Chapter 4, Disadvantaged Communities* and *Chapter 7, Stakeholder Involvement*), some under the DAC Outreach Program (Volume II), and some were included in both programs. Methods used include: development of stakeholder profiles, outreach via the established DAC Issues Group, DAC Workshops, and other general outreach mechanisms.

3.2.1 DAC Stakeholder Profiles

Outreach was initiated by asking both the Planning Partners, DAC Issues Group members, and known DAC stakeholders if they were aware of other DAC-focused individuals or organizations that might benefit from participating in the IRWM process. The Planning Partners is the primary advisory body to the CVRWGM and includes a variety of stakeholders ranging from local governments, state and federal agencies, and non-governmental agencies. The purpose of this initial effort was to compile stakeholder profiles of DACs that may be interested in participating so that these stakeholders could be contacted for future involvement in the IRWM Program.

The Planning Partners held five meetings (September 2012, December 2012, June 2013, September 2013, and November 2013) during the implementation of the DAC Outreach Program, and these five meetings were co-hosted with DAC Workshops to increase attendance. Tribal meetings were held throughout August and September 2012 and in October of 2013 and the purpose for each meeting included providing updates on the IRWM Program, discussing upcoming grant opportunities, and defining tribal characterizations and information for the 2014 Coachella Valley IRWM Plan Volume I. Meetings were held with three Tribal Nations that include DAC population, including 29 Palms, Cabazon, and Torres-Martinez.

In addition, an initial email was sent to the existing list of Coachella Valley Region DAC stakeholders to introduce them to the Coachella Valley DAC Outreach Program and to reach out to those with water-related issues or needs. A Coachella Valley IRWM Contact Update Form was provided to acquire updated or new contact information, and follow-up emails, calls and meetings were scheduled to address issues provided by stakeholders. Information about the DAC Outreach Program was also sent to any new leads provided by the existing stakeholders.

Based on information gained from the Planning Partners and existing DAC stakeholders, a list of 28 additional leads (potential DAC participants) was compiled and letters were sent to these organizations. The letters, included as **Figure 2** (see below), introduced the recipients to the DAC Outreach Program and provided a Non-Profit DAC Characterization Participation Form that requested information about their organization and sought assistance in identifying important DAC water-related issues. Further follow-up meetings and contacts were made with any new leads provided. The results of all the leads, contacts, and outreach were incorporated into the contact management database that is described further in Section 3.2.4 below.

Because very limited information was provided by the DAC participants and potential stakeholders in response to outreach forms, information requests, and meetings, it was determined that GIS/demographic data gathered through surveying would be used to characterize DAC focus areas. In total, 14 DAC focus areas were defined for the Coachella Valley IRWM

Region; those focus areas are described in Section 3.3.2 below and maps for each focus area is provided as **Appendix VII-A**. **Appendix VII-B** includes an overview of the mapping and survey process that was used to characterize the DAC focus areas.

Figure 2: Contact Form and Letter

Coachella Valley IRWM and DAC Contact Update

Contact _____ Other Designee or Alternate _____

Name: _____ Name: _____

Title: _____ Title: _____

Contact information:

Address: _____ Address: _____

Phone: _____ Phone: _____

Email: _____ Email: _____

Description of any smaller DAC area or community you are aware of:

Description of DAC issues you are interested in:

Other individuals, organizations, or entities interested in DAC issues

Name: _____ Title: _____

Contact information: _____ Entity: _____

Address: _____

Phone: _____

Email: _____

Please return via email to dmcozad@intpln.com or contact Diana Cozad at (909) 793-8498

July 17, 2012

Subject: Coachella Valley Disadvantaged Community Outreach Program

Dear Project Planning Partner:

Please help us reach out to those with water-related needs or issues in Coachella Valley Disadvantaged Communities (DAC). Let us know who you think is impacted by or interested in water issues in DACs by filling out the form on the next page.

The Coachella Valley Water District (CVWD), representing the Coachella Valley Regional Water Management Group (CVRWVG), 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). CVWD has contracted with RMC Water and Environment, Inc. and Integrated Planning and Management Inc. to perform outreach and work with DAC groups related to water in the Coachella Valley.

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 CVRWM Plan. The data and experience gained from the DAC Program will assist DWR in developing a model DAC Program for other similar areas.

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 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.

Outreach to the Disadvantaged Communities is critical to the success of this program. To summarize, we would like your assistance in reaching out to those who you know may have water-related needs or issues. This could be an individual whom you think may have information to follow-up on or an organization that is dealing with DAC issues. Please complete the attached form and e-mail it to dmcozad@intpln.com or contact Diana Cozad at (909) 793-8498 with any leads you can provide.

The CVRWVG appreciates the support are providing and we look forward to working with you in the future.

Sincerely,



Daniel B. Cozad
Principal

Integrated Planning and Management
350 Lakeside Ave
Redlands, CA 92373
(909) 793-8498 www.intpln.com

Attachment: Coachella Valley IRWM and DAC Contact Update form

3.2.2 DAC Issues Group

At the initiation of the IRWM planning efforts in 2009, DAC needs and issues were identified as special and different from other groups and the DAC Issues Group was formed and began meeting in May 2010 to address needs and issues. As part of the DAC Outreach Program in 2012 and 2013, the DAC Issues Group were invited to participate in the process of identifying current needs and issues, requested leads of other individuals and/or organizations that may have water-related needs or want to participate in the program. Issues Group members and other identified stakeholders were also invited to DAC workshops associated with the DAC Outreach effort and were included in all stakeholder outreach and email notifications and encouraged to participate. The current list of members of the DAC Issues Group is presented in **Table 2**.

In late 2012, the Coachella Valley IRWM Program conducted directed technical outreach to DACs via the Issues Groups and Planning Partners during the project solicitation process for Proposition 84-Round 2 Implementation Grant funding. This outreach involved an October 11, 2012 workshop to provide technical assistance to DACs, DAC representatives, and any other interested IRWM stakeholders when submitting their projects into the online project database (refer to *Chapter 9, Project Evaluation and Prioritization* in the 2014 Coachella Valley IRWM Plan Volume I for more information).

The DAC Issues Group was also invited to participate in a directed evaluation of groundwater quality within disadvantaged communities as part of the 2014 IRWM Plan Update. The *DAC Groundwater Quality Evaluation* is discussed in detail in *Chapter 10, Agency Coordination* in the 2014 Coachella Valley IRWM Plan Volume I and is also provided as **Appendix VII-C** to

this report. The evaluation included meeting presentations that took place in September 2012, December 2012, June 2013, and September 2013 and were co-hosted with the DAC Workshops.

Table 2: DAC Issues Group Participants

Organization
California Rural Legal Assistance Foundation
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
Inland Congregations United for Change
Loma Linda University
Pueblo Unido CDC
Poder Popular
Representative from Assemblymember Perez

3.2.3 DAC Workshops

Several workshops were planned and held for outreach and communication with the DAC participants and residents. These workshops were well-attended and while some new organizations attended the workshops, most of the DAC groups had previously participated in DAC efforts or in efforts associated with the DAC Outreach Program. Two community DAC Workshops were held (one in the East Valley and one in the West Valley) to encourage participation among members (residents) of economically disadvantaged communities; most of the attendees at these workshops had not previously participated in efforts associated with the Coachella Valley IRWM Program. Each of the workshops is summarized on the following page.



DAC Workshops were well attended, and presented bilingually

Workshop 1

The first DAC Workshop was held on September 13, 2012 and was co-hosted with the September 2012 Planning Partners meeting for increased attendance. Agenda objectives included an overview of IRWM Planning in general and Coachella Valley IRWM Planning efforts, announcement of the initiation of the DAC Outreach Program, providing an overview of planning and outreach efforts completed to date, discussing next steps, and sharing and capturing other relevant thoughts and ideas for future discussion of DAC outreach and DAC issues in the Coachella Valley IRWM Region. There were approximately 25 attendees at this workshop. The primary purpose of this workshop was to announce the DAC Outreach effort to stakeholders and let stakeholders know that part of the DAC Outreach Program would involve contracting with local non-profit organizations. The outreach forms discussed above and included in **Figure 2** were distributed during this workshop,

which was used as an additional venue to gather contacts and leads that would be interested in participating in the DAC Outreach Program.

Workshop 2

The second DAC Workshop was held on December 13, 2012 and was co-hosted with the December 2012 Planning Partners meeting for increased attendance. Agenda objectives included updating participants on the Coachella Valley DAC Outreach Program including a discussion of the updated characterization maps (refer to Section 3.3.2 below for more information), an overview of the non-profit contracting for the DAC Outreach Program, and an update on groundwater quality and integrated flood management studies that were being conducted through the IRWM Plan but had specific DAC components. There were approximately 25 attendees at this workshop.

Workshops 3 and 4

Community DAC Water Workshops were held in both the eastern and western Coachella Valley. The eastern Coachella Valley workshop was held on June 18, 2013 in Thermal and the western Coachella Valley workshop was held June 20, 2013 in Desert Hot Springs. The objective of each workshop was to discuss DAC issues and needs, discuss the project development process and project concepts (refer to Section 5), and receive additional information about the specific location and nature of DAC issues. Flyers were created in both English and Spanish and were sent out via email to approximately 210 stakeholders on the DAC email list and delivered by hand to various mobile home parks. Approximately 68 people attended the eastern Coachella Valley workshop and 18 attended the western Coachella Valley workshop.



Community members identifying areas of concern at a DAC Workshop in June 2013

community members identifying areas of concern at a DAC Workshop in June 2013

Workshop 5

The fifth and final DAC Workshop was held on November 6, 2013 and co-hosted with a public workshop held on the Public Draft of the 2014 Coachella Valley IRWM Plan Volume I. The purpose of this final workshop was to present the findings of directed DAC surveys and mapping (refer to Section 3.3.3 and **Appendix VII-B**), present information about the projects that were developed through the DAC Outreach Program (refer to Section 5.3), and receive input about the findings reached in this report for Volume II of the IRWM Plan.

3.2.4 Outreach Mechanisms

Data Management System

In order to efficiently track leads, DAC contact information, meetings, e-mails and other reportable information regarding DAC outreach efforts, a contact management system, was established for the DAC Outreach Program. Using the contact management system enabled the team to send email campaigns to all members of a specific group, for instance DACs, or to the whole group of stakeholders, CVRWGMG members, Planning Partners, and DACs. Contacts and

leads were updated on a regular basis. Email campaigns were used to send out information about upcoming DAC workshops, reminders of workshops and agendas, call for projects for IRWM-related grant opportunities, input on DAC maps, Community Water Workshops, and thank you letters. This contact management system is a resource for future DAC outreach by the CVRWMG.

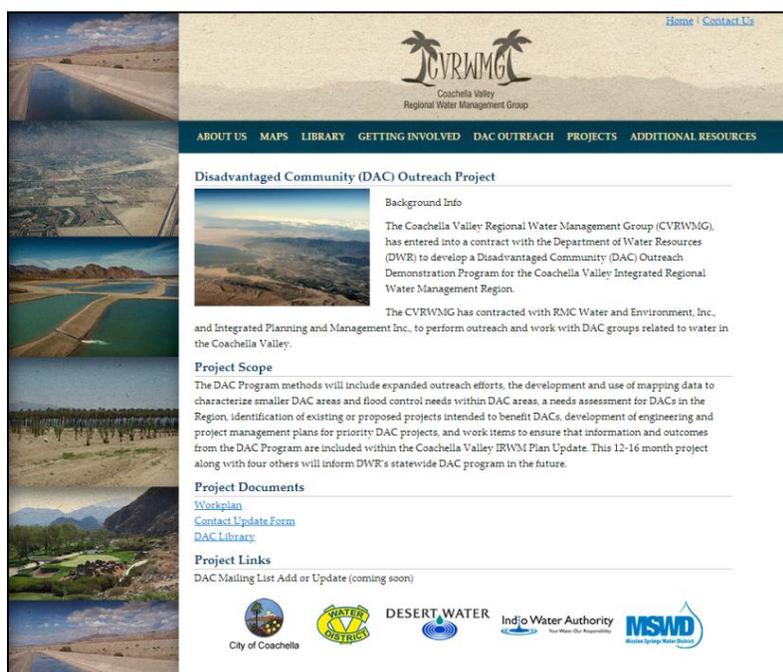
Project Selection Outreach Meetings

During the project solicitation process for each round of IRWM grant funding, the CVRWMG holds an open house for DAC representatives and other interested stakeholders to provide technical support for submitting projects to the online project database (refer to *Chapter 9, Project Evaluation and Prioritization* in Volume I for more information). The open houses are advertised widely across the entire stakeholder list for the IRWM Program, but are also specifically announced to DAC representatives to encourage submittal of projects that will directly benefit DACs and to also ensure that DAC organizations are aware that there is support available for the project submittal process.

CVIRWM Website

A page for the DAC Outreach Program within the existing Coachella Valley IRWM Program website (www.cvrwmg.org) was developed and updated regularly. The site provided both general and technical information, benefitting the public, project team, and DWR. Information that was available on the website was also provided as a handout at the workshops and meetings to ensure those without computers would have access to the same information. **Figure 3** shows a screenshot of the DAC Outreach Program portion of the CVRWMG website.

Figure 3: Screenshot of the DAC Outreach Program portion of the IRWM Website

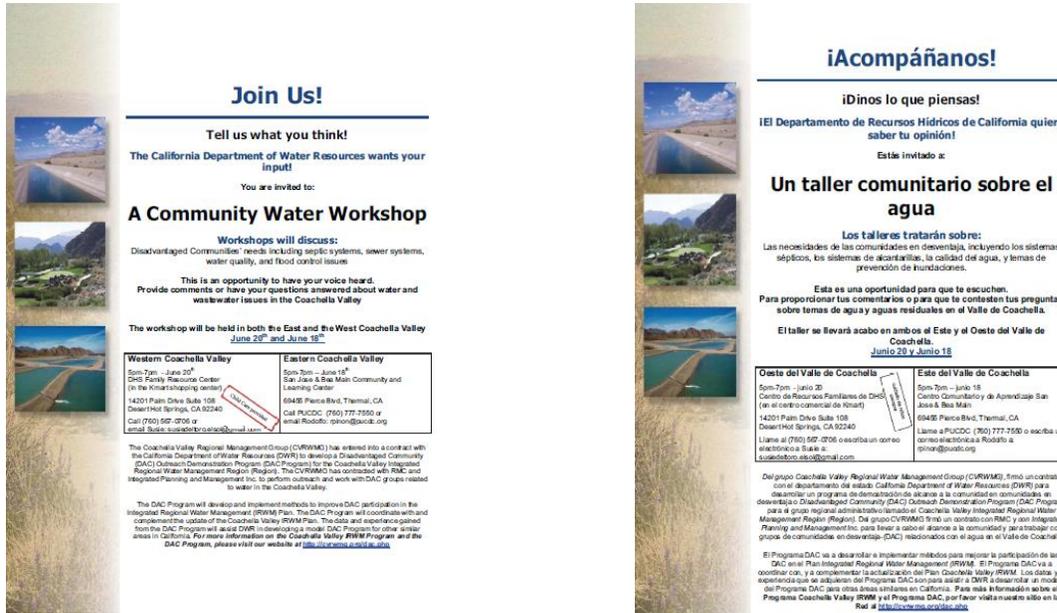


Notices and Flyers

Notices and flyers were created in English and Spanish for workshops and were distributed to the various stakeholder lists (see **Figure 4**). Flyers were posted at various organizations by

stakeholders and were used to communicate the goals and background of the DAC Outreach Program, upcoming meetings and workshops, how interested parties could get involved, where more information is available, and contact information.

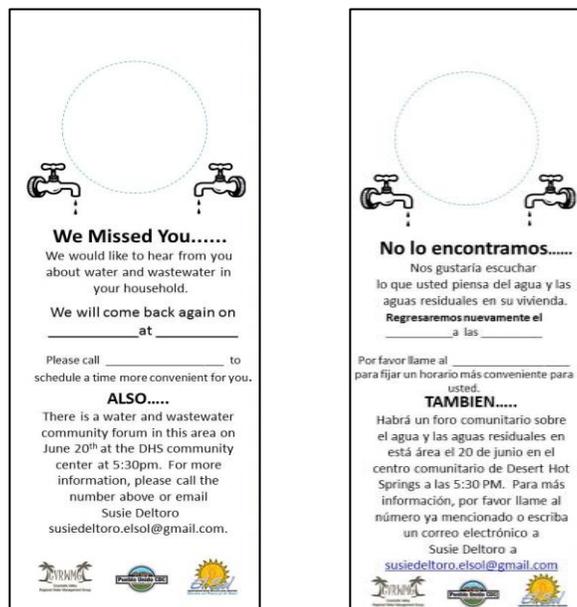
Figure 4: Bilingual Flyers Distributed for Workshops



Door Hangers

Door hangers were developed in English and Spanish and used to invite community members to participate in the Community Water Workshops. The door hangers, shown in **Figure 5** below, were placed at residences during the DAC outreach survey conducted by the non-profit partners, and were a method for reaching DAC stakeholders that would otherwise not be aware of workshops due to lack of computer access, or other barriers.

Figure 5: Bilingual Door Hangers Distributed During Survey Process



3.2.5 Coordination with Community Leaders

As part of the DAC Outreach Program, numerous meetings were held with agencies and other organizations within the Region, including the Coachella Valley IRWM Planning Partners (refer to *Chapter 7, Stakeholder Involvement* in Volume I for information about the Planning Partners) Riverside County Public Health, Riverside County Environmental Health, Riverside County Code Enforcement, and the Colorado River Basin Regional Water Quality Control Board. Early meetings were intended to gather the role and information and contacts that each agency maintained for DAC Outreach. Later meetings catalogued issues, needs, concerns and opportunities where IRWM planning may provide some support for the community. All Riverside County Departments were very helpful, despite having significantly shortened working days and overall staffing levels.

Similar information that was gathered through the IRWM outreach process emerged from the meetings with all Riverside County entities. Riverside County entities stated that DACs in the Coachella Valley suffered from a number of issues that were related but not individually solvable. Riverside County has a long history with agricultural worker housing and issues with mobile homes in the rural Eastern Coachella Valley, which are generally not located within the service areas of the CVRWGM agencies. The issues are more complex due to the fact that in some areas the residences, which are frequently mobile home parks, are erected on land under tribal control or are not permitted. While the tribal nations are cooperative with Riverside County, tribal sovereignty it makes solving issues on tribal lands more difficult to resolve due to jurisdictional conflicts.

In the light of many significant problems, Riverside County closed many illegal mobile home parks, forcing many residents of the mobile home parks to look for other affordable housing, which is very limited within the East Valley. Without adequate, legal, affordable housing, new illegal parks or Agricultural Worker Housing (housing developments with less than 12 units developed under planning and zoning exception authorized by a bill authored by Senator Richard Polanco) are routinely used to provide housing to DACs. The latter are commonly referred to as Polanco Bill Parks or just Polanco parks. The Polanco parks may be legally developed with a maximum of 12 mobile home park spaces, plus a main unit and second unit on the site, provided that the Zoning Code allows for a main unit and second unit on the site.

Polanco parks have reduced permitting requirements; however, parks that could potentially qualify for such reduced permitting are commonly not permitted at all. Providing affordable and permitted housing for low paid workers such as seasonal, agricultural, construction and service workers is difficult, because even mobile home parks that have reduced permitting requirements are required to have adequate fire, water, electrical, and sewer services. Given that many of the mobile home park owners are themselves economically disadvantaged, the parks are often not in compliance with all zoning and code requirements due to economic and technical barriers. The issue of adequate housing for low-income residents is pervasive in the Coachella Valley; in order to address this issue, Riverside County entities coordinate Eastern Coachella Valley housing and Environmental Justice issues through regular meetings.

A list of mobile home parks with known water or wastewater issues was provided to the DAC Outreach Program as part of the outreach meetings by Jon Rokke, staff for the Regional Water Quality Control Board. This list was geocoded and represented in map form for selection of areas for additional review which eventually became focus areas (refer to Section 3.3.2).

As the issues were discussed with all groups, most reported that drinking water treatment or alternatives were being implemented at a much faster rate than wastewater/septic solutions. Old or undersized septic systems and poor percolation of waste water are common in DACs, and the existing

3.2.6 Meetings with Tribes that Include DACs

Tribal meetings were held throughout August and September 2012. The purpose for each meeting included providing updates on the IRWM Program, discussing upcoming grant opportunities and defining characterization of the tribe to be included in the Plan update. Meetings were held with three tribal nations that include DAC population areas, including 29 Palms, Cabazon, and Torres-Martinez.

3.2.7 Non-Profit Community Organization Partnership

The scope of work for the DAC Outreach Program included contracting with DAC organizations (non-profit organizations) to support the implementation of DAC outreach efforts in the Coachella Valley IRWM Region for three tasks: conducting outreach activities, completing refined DAC mapping, and providing information about DAC participation in the IRWM Program. These partnerships proved essential to outreach as the non-profits enjoy a high level of trust and respect in the DACs which literally and figuratively opened many doors throughout the project. The non-profits assisted in expanding communications with stakeholders, developing the surveying instrument, training promotores (Spanish for “promoters”) and student surveyors, surveying a maximum number of DAC residents in hard to access residences, developing interest in the IRWM program, identifying DAC issues and potential projects, and developing projects that that will address some of the urgent water quality and supply problems plaguing DACs. The non-profit working relationships stand to benefit the Coachella Valley IRWM Program well into the future.

Contracting with Non-Profits

The process to contract with non-profit organizations that would implement the three aforementioned tasks began in the fall of 2012, and is described in detail below. The first step for contracting with local non-profit organizations involved an evaluation of the eligible organizations (non-profit organizations) in the Coachella Valley IRWM Region that work with DACs. After completing this evaluation, the CVRWGM sent information to those identified non-profit organizations to let them know about the DAC Outreach Program and the three tasks that needed to be completed. In addition, the CVRWGM announced the non-profit partnering opportunity to all IRWM stakeholders through the existing website (www.cvrwmg.org), through the stakeholder email list, and through flyers that were distributed at IRWM-related meetings and workshops.

Following outreach to eligible and interested organizations throughout the Coachella Valley, six organizations expressed interest in participating in the DAC Outreach Program. Those organizations included: Loma Linda University, Pueblo Unido Community Development Corporation (Pueblo Unido), California Rural Legal Assistance, Inc. (CRLA), Inland Congregations United for Change (ICUC), Desert Alliance for Community Empowerment (DACE), and Poder Popular. Prior to conducting interviews with the interested non-profit organizations, the CVRWGM identified specific considerations and criteria that should be used to determine whether or not the organizations would be able to participate in the DAC Outreach Program. The considerations the CVRWGM used to assess non-profit organizations include:

- Established history and relationship with DAC areas in the Coachella Valley
- Willingness or desire to participate in the IRWM Program
- Ability to provide technical services required to complete the required tasks
- Ability to complete required tasks on-time, on-budget, and in a professional manner
- Willingness to contract with the CVRWGM through a DWR contract and complete invoicing and deliverables in accordance with DWR requirements

Following the interview process four of these organizations (CRLA, ICUC, DACE, and Poder Popular) notified the CVRWGM that they would not be able to participate in the DAC Outreach Program to complete the required outreach tasks. Some of the challenges that prevented these organizations from participating included a lack of personnel or resources, concern with meeting DWR invoicing requirements, and organizational focus shifts. Those challenges are discussed in detail in the Participation Report, which is included as **Appendix VII-D** to this report.

The two remaining organizations, Loma Linda University and Pueblo Unido were able to provide support on all three required DAC Outreach Program Outreach tasks. Despite these organizations' ability to provide the necessary support, the CVRWGM was concerned that the two organizations did not provide full geographic coverage throughout the IRWM Region and that there was a need to locate an additional non-profit partner with existing experience in the western Coachella Valley. Following additional outreach, El Sol Neighborhood Educational Center (El Sol) was identified as an existing organization that had the resources, experience, and interest necessary to participate in the DAC Outreach Program. Following an additional interview process with El Sol, the CVRWGM officially contracted with Loma Linda University, Pueblo Unido, and El Sol.

Outreach efforts by the three non-profit organizations were conducted throughout the spring and summer of 2013, and final deliverables for each task were completed by September 2013. Work completed included public outreach meetings, door-to-door surveys, soliciting feedback on the identified DAC issues, needs, and barriers to participation, providing information on potential projects and project types to address DAC needs, and updated mapping and issues reports based on the outreach meetings and door-to-door surveys. The three non-profit organizations attended and participated in the final DAC Outreach Workshop to present information and findings to DAC stakeholders on November 6, 2013.

3.3 DAC Outreach Analysis and Evaluation

The following section documents the analysis and evaluation techniques used for both the DAC components of the 2014 Coachella Valley IRWM Plan Volume I and the DAC Outreach Program.

3.3.1 Economic Variability in the Region

The economic differences in the Region are extreme by almost any standard. The Region contains some of California's highest property values in resort communities such as areas of La Quinta where more than 50 percent of homes are worth more than \$700,000. The warm winters and excellent golf resorts draw many seasonal visitors and year round residents. The Region also contains areas with nearly the lowest home values in California, such as Mecca, Oasis and Thermal near the Salton Sea where more than 50 percent of home values are below \$50,000. Generally newer developed areas with significant amenities have greater affluence and generally are located closer to the San Joaquin Mountains on the west side of the Coachella Valley (West

Valley). The lower values are to the South and East end of the Coachella Valley, especially below Avenue 60 or east of the Interstate-10 freeway.

Spatial Variability and Temporal Changes

The southeast end of the Coachella Valley (East Valley) has significant agriculture, and in areas like Oasis a majority of the homes are mobile homes. Average rents in these areas are often below \$500 per month. These areas are difficult to provide services for, because of the rural low density nature of the development and the lower assessed valuation and resident affordability for services.

The north end of the valley especially on the eastern side (West Valley), including the communities of Desert Hot Springs, parts of Cathedral City and unincorporated areas of Garnet and Desert Edge have a high predominance of service workers and fixed income retirees. While there are large mobile home parks in this area, a majority of houses in the West Valley are single family or small apartment complexes. Overall the assessed valuation and property values are slightly higher and while some communities are some distance from town centers, the population is denser. These factors may make providing services to the residents of these areas easier than in the East Valley; however these areas still require significant assistance. The West Valley areas have low rental costs between \$600 and \$800 per month; however vacancy rates are high at nearly 30 percent.

Also in many portions of the Region, the greater detail within which an area is assessed, the more high spatial variability between small neighborhoods is apparent. In some cases one or two streets or a new development with new services significantly improves an area, but not the adjacent area. Over time, areas fall into disrepair as somewhat better off residents move to newer more improved (gentrified) neighborhoods. In many cases neighborhoods adjacent to a new development with better services also receive the improved water, sewer and other services provided to the new development. In some cases the actual residents can no longer afford the rents and monthly charges for the higher level of services, and move to more affordable areas. Over time this issue will force very low income families further into rural areas if they do not increase their capacity to pay for improved services.

Unique Attributes and Issues

From the analysis of the focus areas it is apparent that each area within the Region is somewhat different; however some common similarities and differences are clear. The focus areas are of different sizes but the largest number of DAC population in any focus areas is in Cathedral City and Coachella with nearly 92,000 combined residents. Other than Desert Hot Springs at nearly 26,000 residents, the remaining focus areas contain less than 9,000 residents per focus area. The Coachella focus area has relatively high household size density of 4.5 residents household which generally indicates a greater concentration of families. Also high in residents per household are the Oasis and North Shore focus areas, with 4.7 and 4.6 residents per household. These areas have a younger average age, below 30 years old, which indicates young families. This is in contrast to the Desert Hot Springs, Desert Edge and Sky Valley focus areas which have smaller household size 1.9 to 3.0 and higher average age from over 30 to mid-50's. The latter areas have higher numbers of residents who are retirees. The needs of these two groups (large younger families and small older families) are somewhat different for water and wastewater uses and other public services.

Density, in residents per acre, varies across the Coachella Valley. The highest density is in Cathedral City at 3.66 residents per acre. Also high are Desert Shores at 2.38 and Desert Edge at 2.63 residents per acre. Higher density can make provision of services more economical, if all other factors are equal. Many of the other areas have significantly lower densities from 1.71 in Desert Hot Springs to less than one person per acre in White Water, Sky Valley, Thousand Palms, Thermal, Oasis, North Shore and Salton City focus areas. Lower density can be an indicator of rural development which is more expensive to provide with water and sewer services. **Table 3** below provides an overview of these statistics.

Table 3: Focus Area Select Statistics

Focus Area	Population	House-holds	HH Size	Acres	Density Res/Acre	MHI	Owner %	Renter %	Median Age
White Water	859	312	2.8	6,318	0.14	\$39,375	73%	27%	40
Desert Hot Springs	25,938	8,650	3.0	15,131	1.71	\$36,326	50%	50%	31
Garnet	7,543	2,174	3.5	7,312	1.03	\$32,132	64%	32%	32
Desert Edge	3,823	1,969	1.9	1,451	2.63	\$25,984	81%	19%	55
Cathedral City	51,000	17,047	3.0	13,924	3.66	\$45,693	63%	37%	36
Sky Valley	2,406	1,064	2.3	15,533	0.15	\$31,771	80%	20%	53
Thousand Palms	7,715	2,849	2.7	15,127	0.51	\$42,656	78%	22%	43
Coachella	40,704	8,998	4.5	18,528	2.20	\$43,012	62%	38%	25
Thermal Focus Areas	2,864	684	4.2	6,048	0.47	\$33,998	40%	60%	26
Mecca Focus Area	8,577	2,020	4.2	4,454	1.93	\$26,207	47%	53%	24
Oasis Focus Area	6,890	1,474	4.7	12,563	0.55	\$25,469	24%	76%	23
North Shore	3,477	750	4.6	7,153	0.49	\$31,591	65%	35%	24
Desert Shores	1,104	344	3.2	463	2.38	\$18,958	65%	35%	30
Salton City	3,763	1,204	3.1	13,715	0.27	\$32,805	70%	30%	34

While this mapping and analysis of the focus areas provides a significantly more detailed picture of the focus areas, not all disadvantaged community areas are completely included in a focus area and some focus areas include relatively more affluent areas within them. This diversity is normal and inherent to any boundary. This view of the communities is adequate to demonstrate important characters and greatly improve the IRWM Plan for DAC characterization. It was presented in several DAC and Project Partner meetings to get feedback on the process as well as the results. All comments received during the reviews were incorporated into the results presented.

3.3.2 Census Re-evaluation and Initial Research

To gain a better understanding of the geography of DACs within the region, two techniques were used. The first involved mapping demographic data from the U.S. Census, while the second involved opinion surveys. This section documents the first technique, while Section 3.3.3 details the second technique.

Using Environmental Systems Research Institute's (ESRI's) Community Analyst tool, a demographic data type called Tapestry Segmentation was applied to each DAC Focus Area identified from income data. The Tapestry Segmentation Data goes beyond simple U.S. Census income data and classifies communities into 65 market segments based on various

socioeconomic and demographic factors.¹ Due to the wide range of demographic representation throughout the Coachella Valley, applying the Tapestry Segmentation Data to the existing DAC Areas helped identify those areas which would likely represent more severe DAC characteristics (see **Appendix VII-A** for complete Tapestry mapping).

Dominant Classes by Area

The Tapestry Segmentation Data defines a total of 60 “classes” of segments. Of these 60, six appear to be indicative of DAC Areas:

38. *Industrious Urban Fringe* – Family is central in the Industrious Urban Fringe neighborhoods and multigenerational households are relatively common. Living farther out from the urban center allow many to find the space for affordable homes to raise their families. These households take advantage of the proximity to metropolitan cities to pursue employment opportunities particularly in the manufacturing, construction, retail and service industries. In the Coachella Valley 6 of the 14 Focus areas include this class. This class does not appear to correlate directly to lower MHI.

41. *Crossroads* – Crossroad communities are frequently found in small towns which provide residents opportunity to own their own homes. More than half of Crossroad households live in mobile homes. This is a younger population of both married couples with and without children and single-parent families. Most of the employed residents work in the manufacturing, construction, retail and service industries. This class is associated with DAC status nationwide. In the Coachella Valley only 3 of the 14 Focus areas include this class. This class does not appear to correlate directly to lower MHI but is more represented in the north end of the Coachella Valley.

47. *Las Casas* – Nearly half of Las Casas residents were born outside of the United States and households are dominated by families. This is a young segment and has the highest average household size. With educational attainment being low, employment is typically in the service, agricultural, and manufacturing industries and part-time employment is common. Las Casas has the highest average household size which ranges from 3-to 4.7. Between 37 and 76 percent of residents rent their home. In the Coachella Valley 4 of the 14 Focus areas include this class. This class appears to correlate directly to lower MHI and is represented more in the East than the West in the Coachella.

49. *Senior Sun Seekers* – The Senior Sun Seekers are typically married couples without children and singles, typically 55 years or older. Many are retired or anticipating retirement and more than half receive Social Security Benefits. Escaping from cold winter climates, many residents in this segment have permanently relocated to warmer areas; others are “snowbirds” that move South for the winter. This segment has the third highest proportion of seasonal housing. In the Coachella Valley 8 of the 14 Focus areas include this class. This class appears to correlate directly to higher MHI and is represented more in the West than the Eastern Coachella Valley with the exception of Salton City.

58. *NeWest* – NeWest segment has the third largest family size of all the Community Tapestries and families dominate this segment. This is a younger population and half are foreign born and have arrived in the United States in the last 10 years. Language is a significant barrier and over 50 percent have not finished high school limiting their employment options. Nationally over 50 percent of the residents in this class are children. Unemployment is high in this class generally

¹ (Environmental Systems Research Institute 2012)

above 15 percent and some residents receive Supplemental Security Income or public assistance. Those employed in this class work in service and skilled labor occupations in construction, accommodation/food services, administrative services and agricultural sectors. In the Coachella Valley 3 of the 14 focus areas (Cathedral City, Mecca and Oasis) include this class. This class appears to correlate directly to lower MHI in the East end of the Coachella Valley. Nationally and locally many in this class live in mobile homes or apartments.

59. Southwestern Families – As the name implies, Southwestern Families communities are located typically in Southwestern states and are a mix of family types. Children are the center of these households and the average family size is 3.97, the fourth largest of the Community Tapestries. Nearly a quarter of residents are foreign born, many of whom immigrated before 1990. Linguistic isolation remains prevalent among recent arrivals and older generations. Most employed residents work in blue-collar, agricultural and service jobs and unemployment rate is high at 15 percent. In the Coachella Valley 6 of the 14 focus areas include this class which is distributed in both the east and west valley focus areas. This class appears to correlate directly to lower MHI in the East end of the Coachella Valley. Nationally and locally many in this class live in mobile homes or apartments.

Of the six classes that represent DACs in the Coachella Valley, the 59. Southwest Families and 58. NeWest Residents are most highly and consistently associated with DAC and severely DAC communities in the Coachella Valley IRWM Region. The 49. Senior Sun Seekers class is also represented in some very low income focus areas such as Desert Edge and Mecca, but also in some higher income areas such as Cathedral City and Thousand Palms.

The complete listing of all tapestry segments represented in the Coachella Valley is included in **Table 4**, on the following page.

Table 4: Focus Area Tapestry Segments

Focus Area	Tapestry Segments Represented		
White Water	1. Top Rung 24. Main Street 31. Rural Resort Dwellers,	33. Midlife Junction 38. Industrious Urban Fringe 41. Crossroads	49 Senior Sun Seekers 59. Southwestern Families 60. City Dimensions
Desert Hot Springs	1. Top Rung	41. Crossroads	
Garnet	1. Top Rung 38. Industrious Urban Fringe	49. Senior Sun Seekers	59. Southwestern Families
Desert Edge	1. Top Rung	49. Senior Sun Seekers	
Cathedral City	1. Top Rung 12. Up and Coming Families 14. Prosperous Empty Nesters 15. Silver and Gold 19. Milk and Cookies	21. Urban Villages 24. Main Street, USA 28. Aspiring Young Families 33. Midlife Junction 36. Old and Newcomers	38. Industrious Urban Fringe 43. The Elders 47. Las Casas 48. Great Expectations 49. Senior Sun Seekers 58. NeWest Residents
Sky Valley	1. Top Rung 15. Silver and Gold	38. Industrious Urban Fringe 43. The Elders	49. Senior Sun Seekers
Thousand Palms	1. Top Rung	49. Senior Sun Seekers	
Coachella	59. Southwestern Families		
Thermal	1. Top Rung	47. Las Casas	
Mecca Focus Area	1. Top Rung	49. Senior Sun Seekers	58. NeWest Residents
Oasis	1. Top Rung 15. Silver and Gold 21. Urban Villages	31. Rural Resort Dwellers 38. Industrious Urban Fringe 41. Crossroads	47. Las Casas 58. NeWest Residents 59. Southwestern Families
North Shore	1. Top Rung	47. Las Casas	
Desert Shores	1. Top Rung	59. Southwestern Families	
Salton City	1. Top Rung 49. Senior Sun Seekers	56. Rural Bypasses	59. Southwestern Families

3.3.3 DAC Location Surveying and Mapping

As described in the previous section, the second technique used to locate DACs within the region was done through opinion surveys. Informed by the Tapestry Segmentation results, a survey questionnaire was administered to Coachella Valley residents in May and June of 2013. Surveys were administered in both Spanish and English to improve the number of responses and better capture the concerns and issues identified by residents.

Opinion Survey Process Summary

The goal of the survey was to assess the topic areas of drinking water, wastewater management, and flooding in communities in the Coachella Valley that are considered severely economically disadvantaged by DWR. The survey questionnaire was administered by three non-profit organizations with Loma Linda University as the overall coordinator. El Sol Neighborhood Educational Center (El Sol) and Pueblo Unido Community Development Corporation (PUCDC) were the organizations responsible for gathering and training surveyors and administering surveys in the West Valley and the East Valley. Over 300 surveys were administered and the results were tabulated and summarized in the Disadvantaged Communities (DAC) Mapping and Characterization Project Report (see **Appendix VII-B**, for the complete report). Results summarized within this section of the IRWM Plan are from a select collection of individual questions to understand opinions and perceptions of residents.

Six survey areas were selected for this effort, based on known and likely locations of DACs, and the surveying team originally attempted to administer 341 surveys. In total there were either no responses or refusals from 21 attempted surveys, resulting in 321 total surveys. It should be noted that not all respondents answered every question, and results are presented as percentage of respondents who answered a particular question, and should not be taken as a percent of the total 321 surveys that received responses. Survey sites were geocoded to allow for mapping of the responses, the results of which are summarized below.

Overview of Mapped Survey Results

Based on survey results, maps were created to document locations of perceived water and wastewater issues as reported by survey respondents. These results were not independently confirmed and therefore represent resident perceptions. Because the results represent resident perceptions, they are presented using terms such as “opinions” and “perception.” Independent verification of survey results is a noted data gap acknowledged in Chapter 11 of the 2014 Coachella Valley IRWM Plan Volume I. **Figures 6 and 7** provide an overview of the type of dwelling units and the location of mobile home parks within the region that were included within the opinion survey.

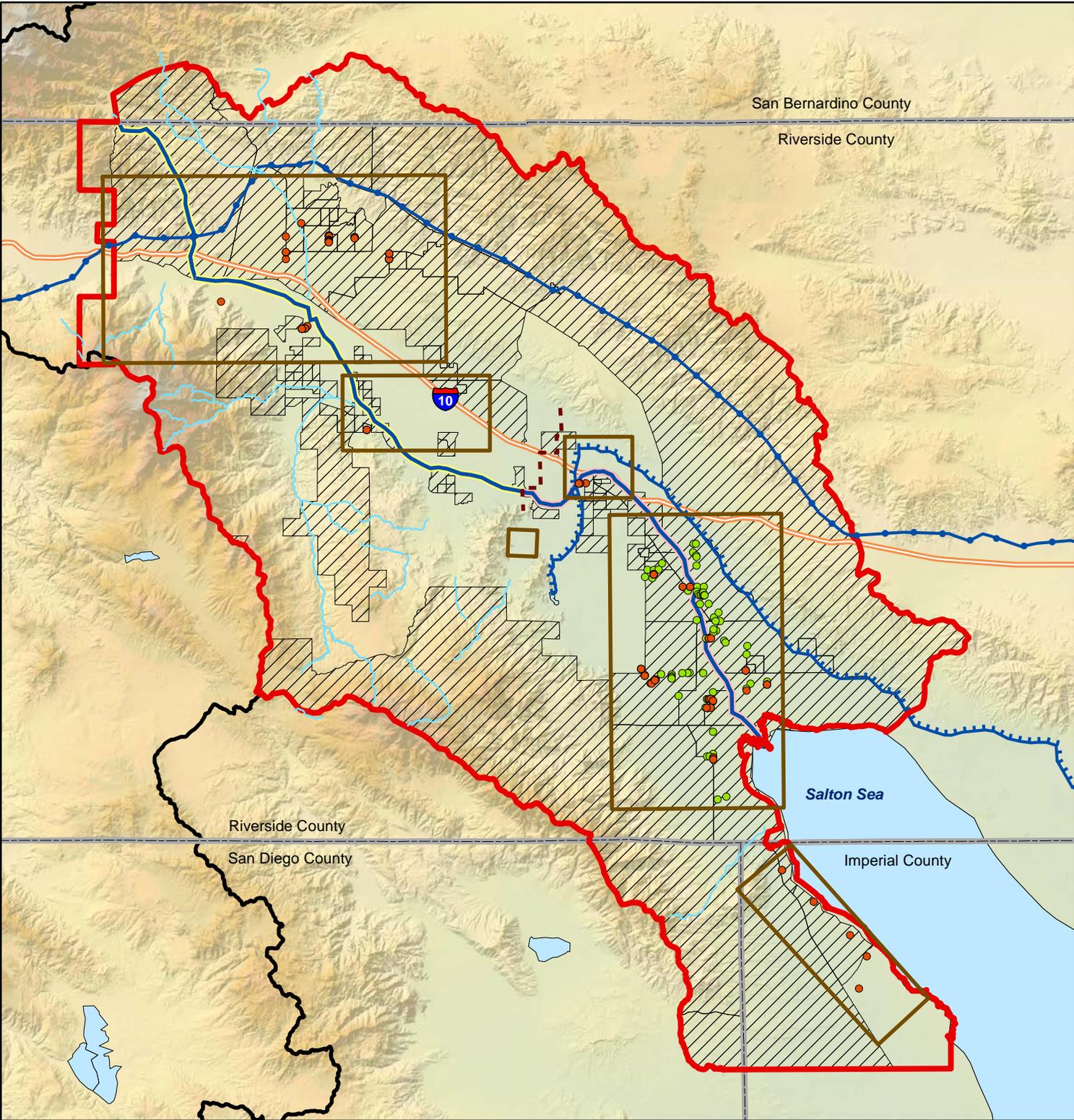
Within in each survey area, respondents generally provided similar answers when asked about their perceived water supply source, though the West Valley survey area located in and near MSWD and DWA’s service areas had a wider variety of responses (refer to **Figure 8**). Further, many respondents across the Region were unsure of the source of their water. The perceived tap water quality map (see **Figure 13**) showed a similar pattern – within most study areas, respondents generally provided the same or similar response. The lowest perceived water quality was in the East Valley, particularly in the south and near the Salton Sea, and the highest perceived water quality was in the West Valley. Most survey areas had respondents who reported drinking tap water, with a conspicuous lack of tap water drinkers in the southernmost survey area along the Salton Sea in the East Valley. These respondents also overwhelmingly reported a perception of poor tap water quality.

Unlike the water quality and water supply responses, responses to questions about wastewater system types showed a wide range of perceived systems within each survey area, with a number of respondents indicating they did not know what type of wastewater systems they were using (refer to **Figure 14**). Relatively few of the respondents indicated that they believed themselves to be on sewer lines, and those that did were generally located in either the northern-most survey area in the West Valley, or the southernmost survey area in the East Valley. Very few of the respondents who believed themselves to be on sewer systems reported a wastewater problem.

As described in further detail below, responses to questions about flooding produced generally expected results, with most reported flooding or knowledge of flooding occurring in identified flood zones (refer to **Figure 15**).

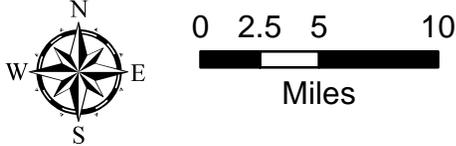
Location of Mobile Home Parks

Figure 6



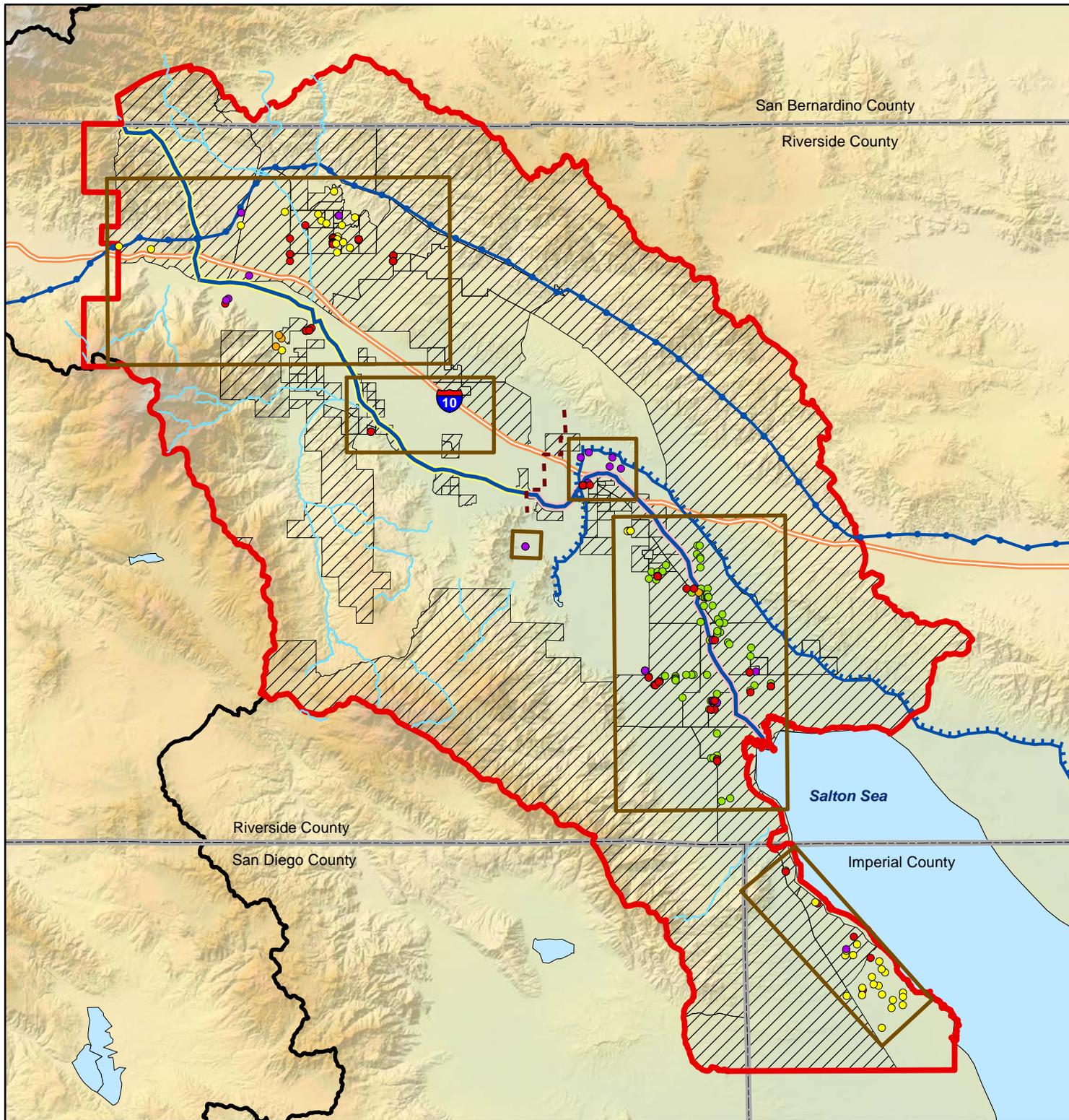
- Mobile Home Park (MHP) validated by survey
- MHP validated during June 2012
- Division between West and East Valley
- Colorado River Aqueduct
- Coachella and All American Canals
- Whitewater River Storm Water Channel
- Coachella Valley Storm Water Channel
- Highways
- Water Bodies
- Coachella Valley IRWM Region Colorado
- River Funding Area
- County Lines
- Survey Area
- Disadvantaged Community (DAC)

Source: 2010 U.S. Census Data - American Community Survey Median Household Income (MHI), by block group. DACs are defined as having MHI of 80% of Statewide MHI. For 2010, DACs were households earning \$48,706 or less per year.



Dwelling Type for Survey Respondents

Figure 7



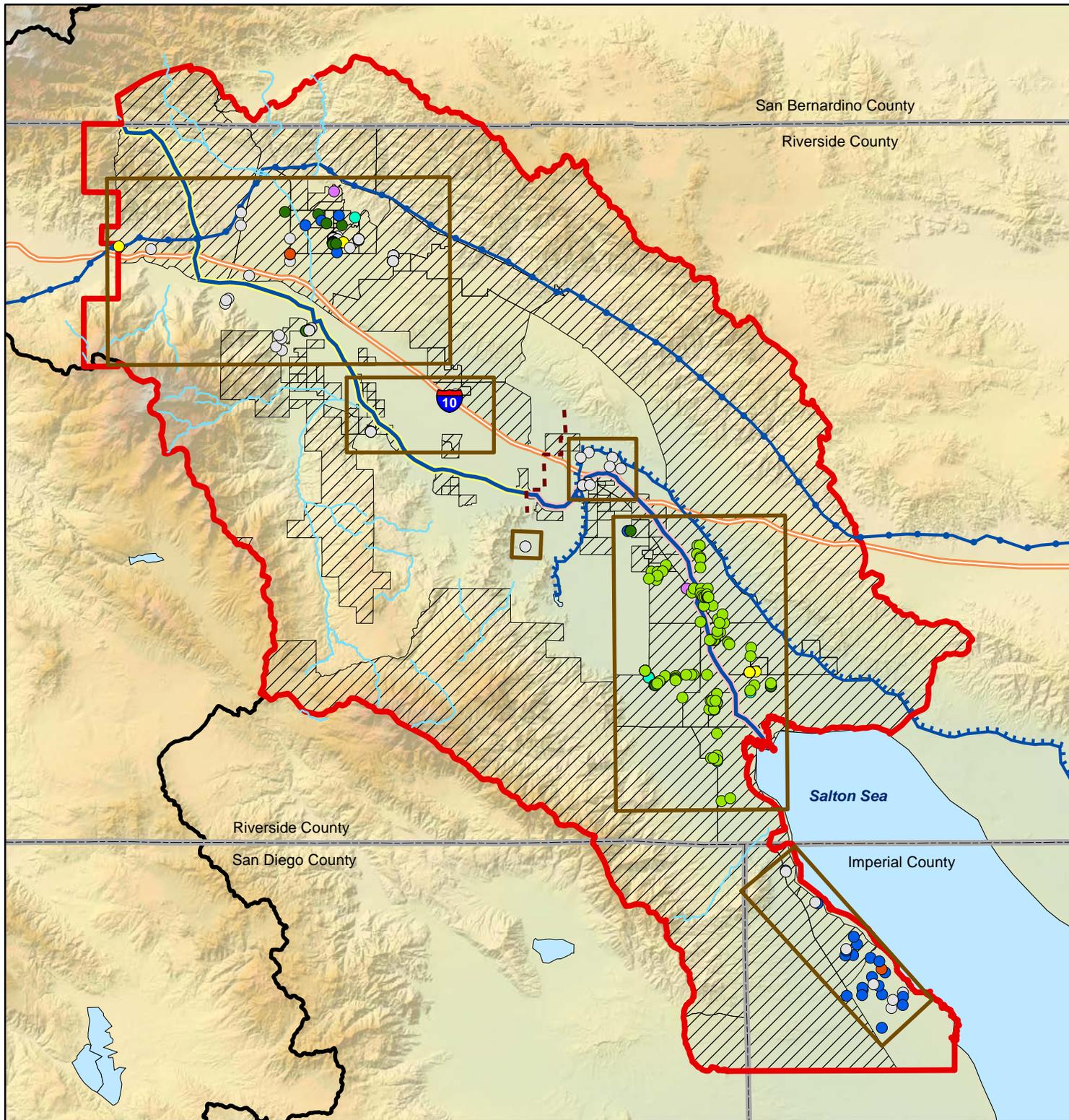
- Dwelling Type**
- Mobile Home Park
 - Apartment
 - Single Family Home
 - Unknown
 - MHP validated during June 2012 study
- Division between West and East Valley
- Colorado River Aqueduct
 - - - Coachella and All American Canals
 - Whitewater River Storm Water Channel
 - Coachella Valley Storm Water Channel
 - Highways
 - Water Bodies
- Coachella Valley IRWM Region
 - Colorado River Funding Area
 - County Lines
 - Survey Area
 - Disadvantaged Community (DAC)

Source: 2010 U.S. Census Data - American Community Survey Median Household Income (MHI), by block group. DACs are defined as having MHI of 80% of Statewide MHI. For 2010, DACs were households earning \$48,706 or less per year.



Perceived Water Supply Type

Figure 8

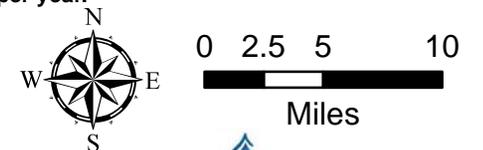


Water Supply Type*

- Water Treatment Plant
- Private Well
- Municipal-Owned Well
- Other
- American Canal/Colorado River
- Irrigation District
- Unknown
- MHP validated in June 2012 study - Unknown
- Division between West and East Valley
- Highways
- Colorado River Aqueduct
- Coachella and All American Canals
- Whitewater River Storm Water Channel
- Coachella Valley Storm Water Channel
- Coachella Valley IRWM Region
- Colorado River Funding Area
- Survey Area
- Disadvantaged Community (DAC)

*Based on respondents' perceptions of supply origin, Results have not been independently validated.

Source: 2010 U.S. Census Data - American Community Survey Median Household Income (MHI), by block group. DACs are defined as having MHI of 80% of Statewide MHI. For 2010, DACs were households earning \$48,706 or less per year.



Survey Indications

98 percent of the survey respondents qualify as severely DAC based on self-reported annual income, indicating that areas of focus used when selecting survey sites were correctly identified as potential DACs, and indicating that the Coachella Valley IRWM Region has a good understanding of where DACs are located. Though many of the respondents live in DACs, and reported water and wastewater issues, very few respondents indicated that they knew of any community groups or organizations that help with health, water, or other problems. This indicates that communities may not have knowledge of available resources to contact in the event of a problem or a concern regarding water and wastewater systems. This result also indicates a need to provide outreach and education, especially to those DACs that are located within the jurisdictions of incorporated cities (particularly in the West Valley) that may be well-served by contacting their jurisdictions to report code compliance and other resolvable issues.

A perception of poor quality tap water was reported by 33 percent of respondents, while 53 percent believed their tap water was of moderate quality (refer to **Figure 9**). Only 35 percent of respondents reported that they drink tap water (refer to **Figure 10**). However, 47 percent of respondents reported occasionally running out of drinking water, whether it was tap water or purchased water (e.g., bottled water), and 18 percent of respondents reported having contaminated water. Despite the perception of contaminated drinking water, a number of respondents reported that they drink tap water, oftentimes without further treatment (e.g., boiling, filtering). Survey respondents gave a variety of answers when asked who provided their water, indicating a lack of understanding of who was responsible for water supplies and safety, and therefore who to contact to report water issues. Due to the severely economically disadvantaged nature of the surveyed communities, it is also possible that residents drink tap water despite water quality concerns due to cost concerns associated with bottled water. This indicates that water supply provisions to the DACs must be cost-effective in order to be effective.

Survey respondents were asked what type of wastewater system they used and if they had experienced any wastewater system failures, indicated by smells, wet ground around the system, puddles during dry weather, grass near the system, or problems with sink or toilet flows (draining). Problems with wastewater systems were reported by 54 percent of respondents, with wastewater system failures more prevalent in the East Valley than the West Valley (refer to **Figure 11**). The survey also found that the reported wastewater system fail rate among survey respondents was significantly higher than the reported 1-4 percent for California, and even the national failure rate of 10-20 percent. Overall, 30 percent of the wastewater failures reported by residents occur only once per year, though West Valley respondents reported more frequent wastewater system failures than East Valley respondents (refer to **Table 9** in the DAC Mapping and Characterization Project Report, which is available in **Appendix VII-B**), indicating that West Valley communities may have more severe wastewater problems than East Valley communities.

Flooding was reported by respondents in a few of the study areas, and generally corresponded to mapped flood zones. Those areas reporting flooding that are outside of mapped flood zones were few, but generally located near mapped flood zones and the Coachella Valley Stormwater Channel (refer to **Figure 15**). This finding supports local understanding that floods are common along flood zones and along the Stormwater Channel and that mapped flood hazard zones may not show the full extent of potential flood hazards.

Drinking Water Findings

- More people in the eastern Coachella Valley believe their tap water quality is poor than compared to those in the western Coachella Valley
- Of all persons who responded to the survey, 33% believed their drinking water quality was poor, 53% believed that their drinking water quality was moderate, and 14% believed their drinking water quality was excellent (refer to **Figure 9**)
- The majority of respondents (69%) reported their source of drinking water as either disposable plastic bottles or self-filled large containers
- 65% of the respondents do not drink their tap water (refer to **Figure 10**)

Figure 9: Opinion Survey: Perceived Water Quality Reported as Percentages

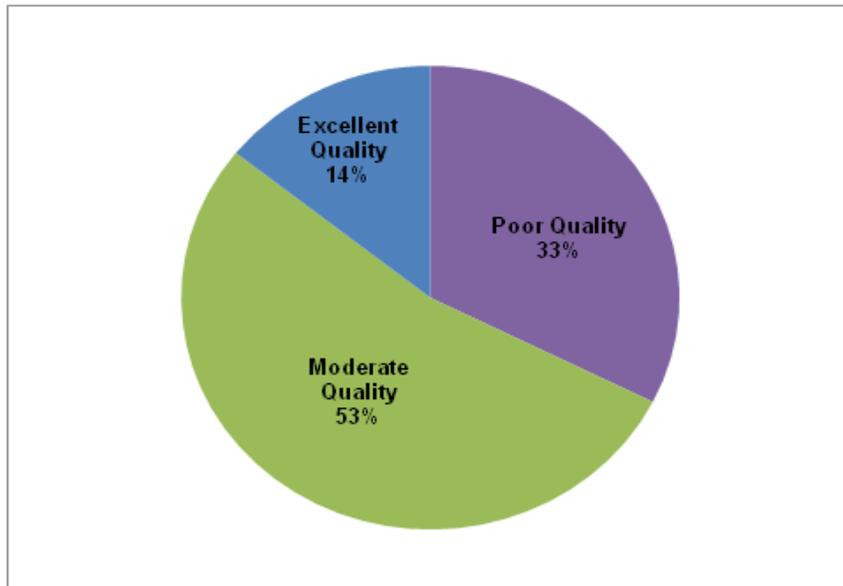
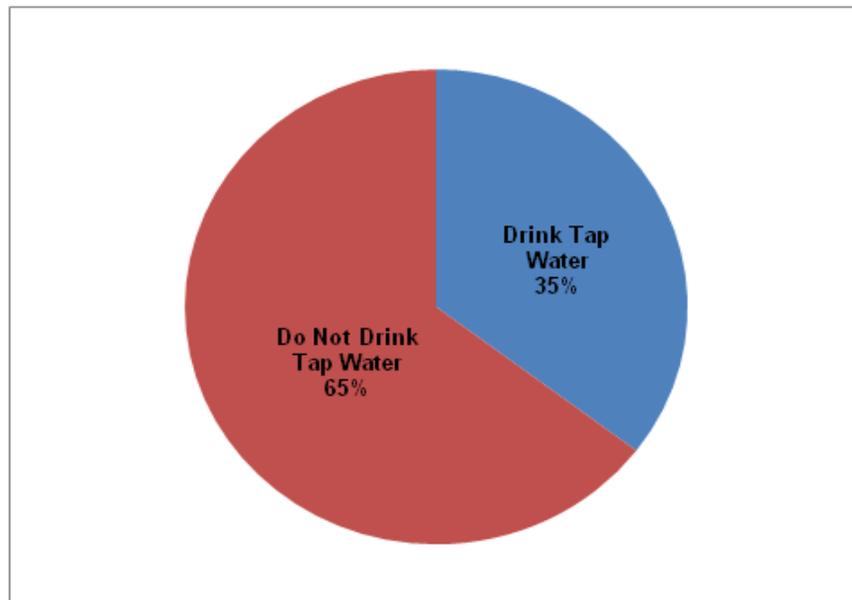


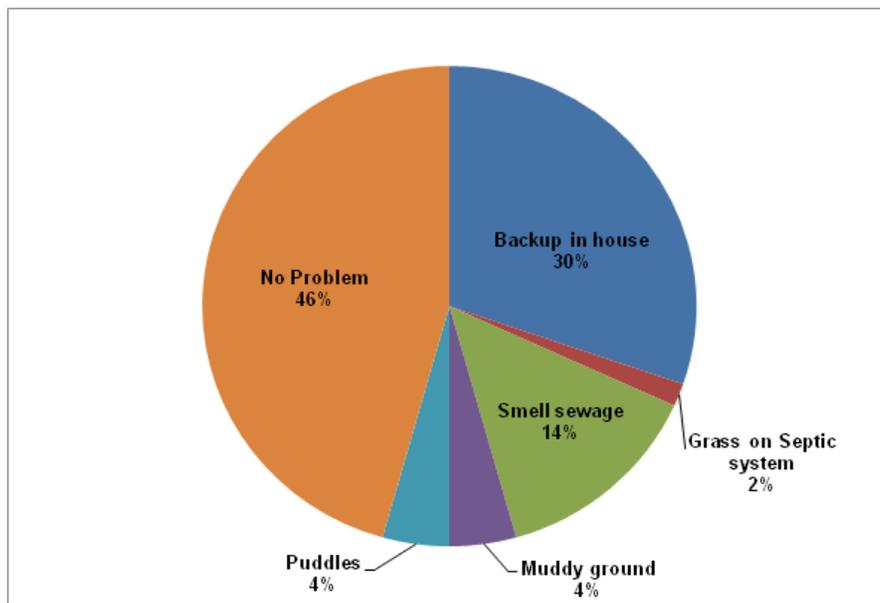
Figure 10: Opinion Survey: Percentages of Respondents Who Reported Drinking Their Tap Water



Wastewater Management Findings

- 38.4% of households in the eastern Coachella Valley and 50.3% of households in the western Coachella Valley reported their wastewater systems as occasionally failing (the national failure rate is 10-20%. California’s reported failure rate is 1-4%)
- The most common type of failure in the Coachella Valley is the user noticing that the toilet does not flush and the sink does not drain (36.9%) (refer to **Figure 11**)
- Of those reporting failed wastewater systems, most stated that the problem will happen once per year (24% and 37% for the eastern and western portions of the Coachella Valley, respectively)
- More eastern Coachella Valley mobile home parks reported a perceived serious onsite wastewater system problem as opposed to western Coachella Valley mobile home parks

Figure 11: Opinion Survey: Percentages of Respondents Who Reported Some Type of Wastewater Problem in the Past Year



Flooding Findings

The survey questionnaire assessed flood risk and flood preparedness through three inquiries: knowledge of floods in the area, experiences during floods, and family preparedness. 15.5% of all respondents indicated that they experienced a flood in the last year and an additional 6.5 % indicated that they experienced a flood in the last 5 years. The floods were reported to have happened in the locations of the Oasis Mobile Home Park on Ave 70 of Thermal and in the Saint Anthony Mobile Home Park of Mecca, the same areas affected by a known documented flood on September 11, 2012. Additional locations where respondent-reported flooding occurred are some addresses in Coachella, Palm Drive Mobile Estates in Desert Hot Springs, and Bermuda Palms Apartments in Indio.

Most families (86.9%) agreed to a statement of “preparation, planning and emergency supplies will help me handle the situation” (with regards to flooding). 10% of participants agreed with the statement that read “nothing I do to prepare will help me handle the situation”.

3.3.4 DAC Water Quality Evaluation

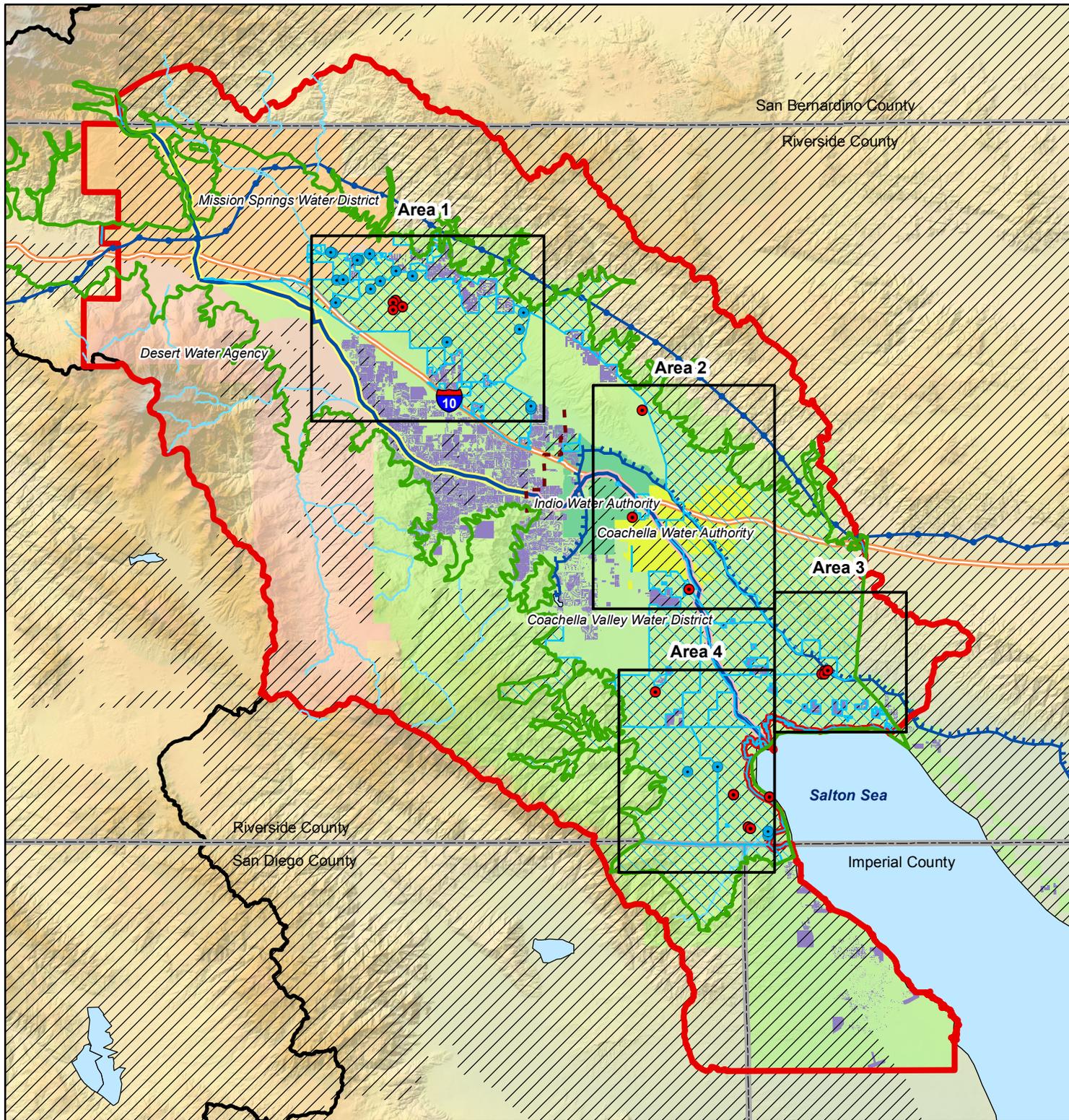
One element of the 2014 IRWM Plan Update was a *Disadvantaged Communities Water Quality Evaluation* for the Coachella Valley focused on water quality issues in DAC areas (included as **Appendix VII-C**). The study was conducted to assess groundwater quality issues in and around DAC areas outside of the water purveyor’s municipal service areas. Using existing data, this study identified chemical constituents with concentrations that are near or exceed drinking water standards in groundwater in DAC areas, and developed and screened possible solutions for addressing any impacts resulting from these elevated concentrations in groundwater in these identified areas. This study also identified gaps in water quality data coverage in the basin, such as information on the location of private wells and their water quality and presents a plan for addressing these data gaps.

Well, Water Quality, and Other Data Collected

Well, water quality, and infrastructure information was collected from the California Department of Water Resources (DWR), United States Geological Survey (USGS), statewide water quality databases and local water agencies. This data was used to identify areas where the concentration of any water quality constituent in the wells exceeded a regulatory limit. These areas were then compared to the DAC areas and the municipal water service areas of the CVRWGMG agencies. Those areas that contained wells exceeding water quality thresholds, were mapped as being economically disadvantaged, and were not located within a CVRWGMG agency service area (i.e. areas that do not receive municipal water service) were defined in the report as “Areas of Concern”. The areas of concern are shown in **Figure 12** below.

Areas of Concern

Figure 12



- GAMA Wells Water Quality Issues
 - NWQMC Wells Exceeding Water Quality Standards
 - CVWD Water Parcels
 - DACs Served by GW Supply
 - Coachella Valley Groundwater Basin
 - Division between West and East Valley
 - Highways
 - Colorado River Aqueduct
 - Coachella and All American
 - Whitewater River Storm Water Channel
 - Coachella Valley Storm Water Channel
 - ~ Water Bodies
 - Coachella Valley IRWM Region
 - Colorado River Funding Area
 - Disadvantaged Community (DAC)
-
- ### Water Agencies
- Coachella Water Authority
 - Desert Water Agency
 - Indio Water Authority
 - Mission Springs Water District
 - Coachella Valley Water District

Source: 2010 U.S. Census Data - American Community Survey Median Household Income (MHI), by block group. DACs are defined as having MHI of 80% of Statewide MHI. For 2010, DACs were households earning \$48,706 or less per year.



File Name: Fig 4-15_Areas of Concern 01262014.mxd
 File Location: N:\Projects\0574-002 Coachella IRWM Plan Update
 \03_GIS\MXD\Figure Updates_Public Draft
 Date Updated: January 29, 2014
 Department: RMC Water & Environment

Constituents and Treatments

From the assessment of publicly available water quality data, several constituents of concern were identified in groundwater wells in exceedances of water quality thresholds: arsenic, fluoride, nitrate, uranium, and potentially hexavalent chromium. While there is not yet a statewide standard for hexavalent chromium, due to the potential concern regarding this constituent and pending water quality regulations, this constituent was considered in the analysis. Sample points for arsenic were limited (8), but arsenic was found in DAC areas in excess of the regulatory limit of 10 µg/L (average concentration was 237 µg/L). This finding for arsenic is consistent with concerns expressed by DAC and tribal stakeholders in the East Valley, and supports IRWM funding of the Short Term Arsenic Treatment (STAT) project (refer to Section 4.1 above). Fluoride and nitrate had a considerably higher number of sample locations and on average were above the regulatory levels of 2 and 10 mg/L respectively. These levels were frequently found in DAC areas. Uranium was detected in some areas, especially in the West Valley, but the average concentration of 28.6 pCi/L in the 52 sample locations was below the regulatory limit of 30 pCi/L. Hexavalent chromium had an average concentration of 9.1 µg/L and the State of California has recently recommended a regulatory threshold of 10 µg/L, which indicates there may be portions of the Region that exceed future statewide regulatory limits for this constituent.

More than 20 treatment alternatives were evaluated for aforementioned constituents in the Areas of Concern. These treatment technologies were evaluated for effectiveness and economics in accordance with US Environmental Protection Agency (USEPA) best available technology assessment. The analysis indicated that only Ion Exchange and Membrane Separation/Reverse Osmosis (RO) were effective for all constituents. Each Area of Concern would have to be individually evaluated prior to implementation of any treatment method, but these two technologies could potentially treat all the significant constituents found in DAC areas of the Coachella Valley.

Recommendations

The evaluation validated the initial Short Term Arsenic Treatment (STAT) project both in priority and in treatment. The project found that many of the water quality issues facing the DAC were in rural outlying areas. Membrane separation/RO was effective for all contaminants and the point of use and point of entry systems that were part of the STAT were cost effective and represented the best treatment alternative. Work to identify methods to expand these programs with help and support from non-governmental and local general government were recommended. Update this section once report is complete.

Section 4 Identified DAC Issues

During the outreach activities discussed above, there was the opportunity to identify and discuss DAC needs in significant detail. The sub-sections below include information about the issues, needs, and concerns that were expressed by DAC stakeholders during outreach conducted. Three prominent issues were consistently raised by DAC stakeholders: water supply (drinking water), wastewater, and flooding. These issues, discussed in further detail below, may vary across the Coachella Valley in terms of priority and specifics, but are considered the three primary issues facing DACs in the Coachella Valley. Several of these issues were later prioritized and

associated projects were developed to address the priority needs through planning and engineering project support (see Section 5).

4.1 Water Supply

DAC water supplies must be affordable, accessible, and in compliance with state and federal requirements in order to meet the needs of all Coachella Valley residents, including DACs. DAC and tribal groups in the East Valley have reported that arsenic levels and potentially other constituents exceed maximum containment levels (MCLs) set in statewide drinking water standards in localized groundwater wells. Despite these concerns, DAC groups have also noted that there is a need for public education on the safety of groundwater since many DAC residents may be unaware that the groundwater wells they utilize do not always meet drinking water standards. Information from the opinion survey (refer to Section 3.3.3) indicates that DAC water supply issues may not stem from lack of knowledge, as some members included within the opinion survey reported drinking their tap water even though they believe their water to be contaminated. **Figure 13** below shows the perceived tap water quality of DACs included within the opinion survey; this figure shows that respondents that perceive their tap water as contaminated (indicated by the green triangle) often also report drinking tap water (indicated by the small red dot).

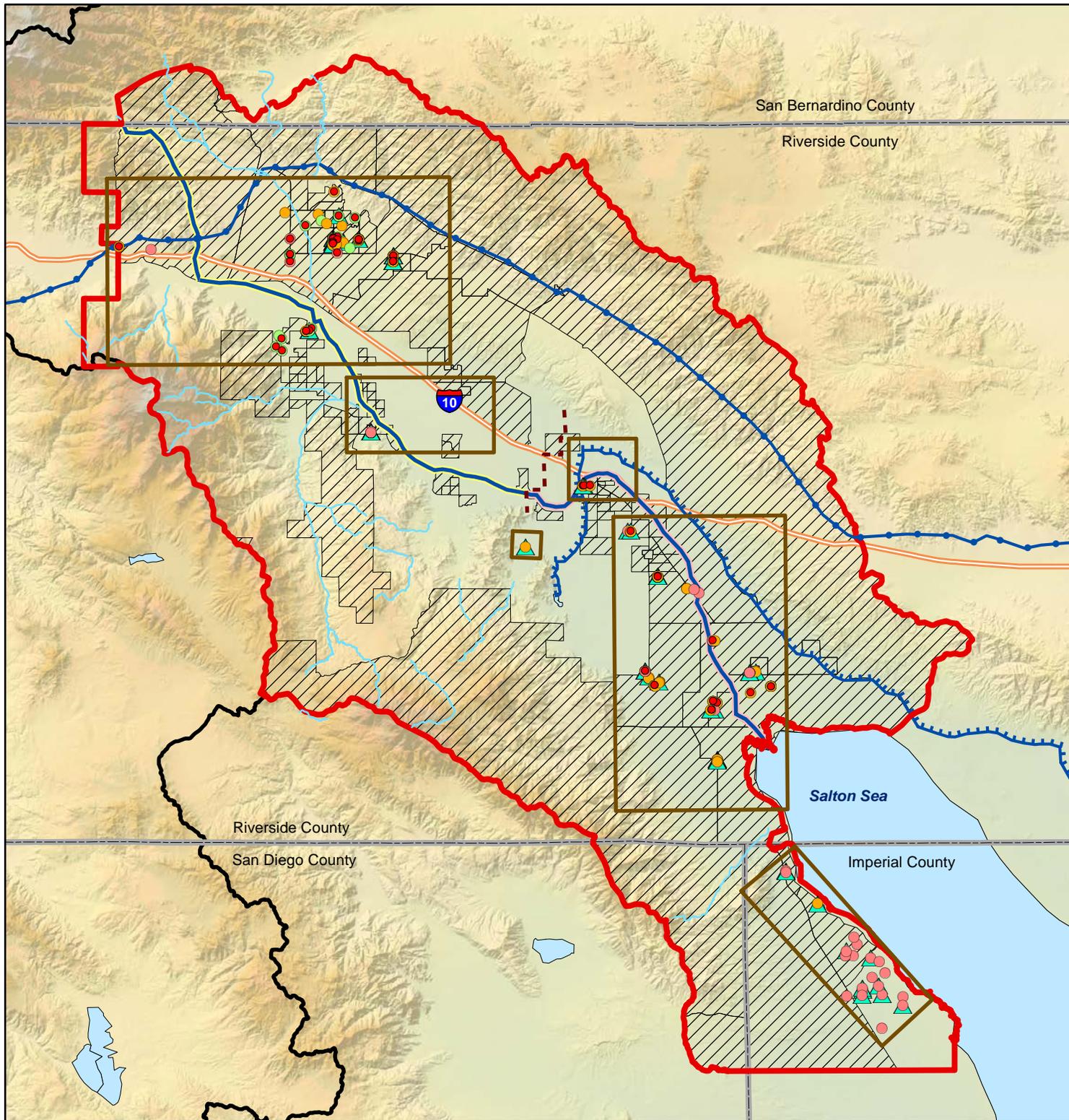
Many DACs within the Coachella Valley are not within urban areas, making water supply even more difficult as connecting to the municipal water system may be cost-prohibitive. Furthermore, in the East Valley DACs may be relying upon groundwater from wells that are located in the shallow aquifer, and are not permitted to provide drinking water but rather were intended to provide water for irrigation purposes. A potential solution to such an issue would be to drill a deeper well so as to provide water from the Region's deep water groundwater aquifer, which is of higher quality. However, drilling new groundwater wells can also be cost-prohibitive to DACs.

There is an identified need to address localized groundwater quality issues, particularly in groundwater wells that pump from the shallow aquifer in the eastern Coachella Valley. Identified constituents in groundwater wells include fluoride, arsenic, uranium, nitrate, and total dissolved solids (TDS). Although not currently considered a constituent of concern, it is possible that hexavalent chromium (chromium VI) will need to be treated from local groundwater wells due to pending water quality regulations.

Stakeholders have also noted that there may be conflicts between landowners and residents of DACs in instances when economic interests of landowners conflict with the interests of onsite DAC residents; this issue specifically pertains to the IRWM Program when such issues involve provision of adequate water supplies that meet drinking water standards.

Perceived Tap Water Quality

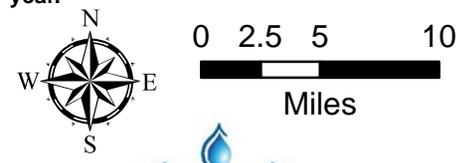
Figure 13



- Respondents who said they drink their tap water
 - ▲ Respondents who perceived that their drinking water was contaminated
- Tap water quality***
- Poor
 - Moderate
 - Excellent
- - - Division between West and East Valley
 - Colorado River Aqueduct
 - Coachella and All American
 - Whitewater River Storm Water Channel
 - Coachella Valley Storm Water Channel
 - Highways
 - ▭ Coachella Valley IRWM Region
 - ▭ Colorado River Funding Area
 - ▭ Survey Area
 - ▨ Disadvantaged Community (DAC)

* Respondents' perception of tap water quality.

Source: 2010 U.S. Census Data - American Community Survey Median Household Income (MHI), by block group. DACs are defined as having MHI of 80% of Statewide MHI. For 2010, DACs were households earning \$48,706 or less per year.



4.2 Wastewater

Proper wastewater treatment and disposal is considered an issue throughout the Coachella Valley, and the Regional Board has identified water quality issues relating to failing and/or densely located septic systems within the Colorado River Basin. One potential solution for addressing water quality and other issues associated with faulty septic systems is to remove those systems and connect properties to the municipal sewer system. While the need for septic to sewer conversion is great, jurisdictional issues or high costs may delay or prohibit project construction.

During the DAC workshop in the West Valley, stakeholders noted concerns that septic systems that percolate to the Desert Hot Springs Sub-Basin pose a contamination threat to the hot water aquifer, which is also the basis for the area's economy. While portions of the West Valley are located within the wastewater service area of MSWD, DWA, the City of Palm Springs, the City of Cathedral City, or CVWD, which have groundwater quality protection programs, sewer connection costs and sewer construction costs are still a concern for DAC residents in the West Valley.

During the DAC workshop in the East Valley, stakeholders noted that DACs within the East Valley may rely upon septic systems or other wastewater disposal methods such as open lagoons, which can impart health and safety concerns to residents who may come into contact with the untreated wastewater. Some East Valley communities are located within the service area of CVWD, CWA (or the Coachella Sanitary District), IWA, or Valley Sanitary District; however, these communities still may be a considerable distance from existing sewer lines. This distance in combination with low population density in the rural East Valley can make sewer connection costs prohibitively expensive in the East Valley.

Figure 14 below shows the perceived wastewater failures reported by residents during the DAC survey; this figure shows that West Valley respondents reported more frequent wastewater system failures (indicated by green squares) than East Valley respondents, indicating that West Valley communities may have more severe wastewater problems than East Valley communities.

The DAC Outreach Program is supporting the development of the Project 3 - Regional Program for Septic Rehabilitation - that is described below in Section 5. Project 3 is a regional program that clarifies the process by which septic rehabilitation can be undertaken for local mobile home parks. To understand the importance of the project, one needs to know that many illegal mobile home parks have been closed down by Riverside County due to lack of adequate infrastructure and permitting, forcing many residents of the mobile home parks to look for other affordable housing, which is very limited within the East Valley. Without adequate legally affordable housing, new illegal mobile home parks or Agricultural Worker Housing of less than 12 spaces developed under planning and zoning exception authorized by a bill authored by Senator Richard Polanco are routinely used to provide housing to DACs. The latter are commonly referred to as Polanco Bill Parks or just Polanco parks.

Polanco parks have reduced permitting requirements but commonly are not permitted at all. Providing affordable and permitted housing for low paid employees such as seasonal, agricultural, construction and service workers is difficult, because even Polanco parks that have reduced permitting requirements are required to have adequate fire, water, electrical, and sewer services. Given that many of the Polanco park owners are themselves economically disadvantaged, the parks are often not in compliance with all zoning and code requirements due to economic and technical barriers. The issue of adequate housing for low-income residents is

pervasive in the Coachella Valley; in order to address this issue, County entities coordinate Eastern Coachella Valley housing and Environmental Justice issues through regular meetings.

Stakeholders have also noted that there may be conflicts between landowners and residents of DACs in instances when economic interests of landowners conflict with the interests of onsite DAC residents; this issue specifically pertains to the IRWM Program when such issues involve provision of adequate wastewater services, especially when existing onsite wastewater services pose a threat to public health.

4.3 Flooding

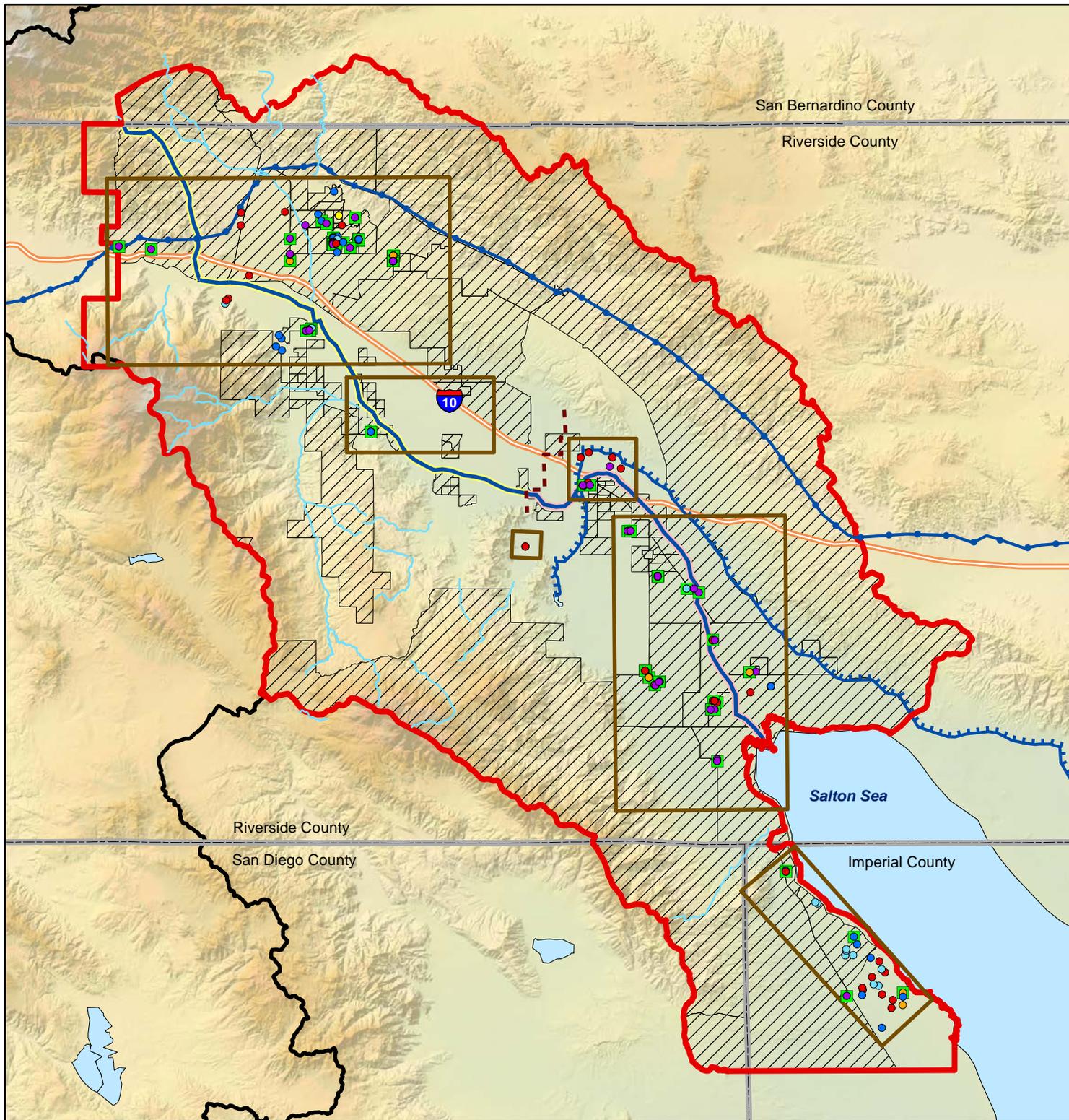
Flooding and storm management improvements are needed to address flooding hazards in DAC areas, particularly in unincorporated communities located in the East Valley. The Coachella Valley Stormwater Channel, which was built to withstand a Standard Project Flood (greater than a 100-Year Flood), only provides protection to part of the Region. Although CVWD and other agencies are working on expanding flood protection in the Region, the Thousand Palms area and the East Valley (from Oasis to Salton City) are not protected by regional flood control facilities. These facilities are expensive and are generally funded from local property taxes; the rural (low density) and economically disadvantaged nature of the East Valley make extending expensive flood control facilities to this area difficult.

In addition to large-scale floods, several DAC areas have reported regular localized flooding during storm events (see **Figure 15**). Such flooding generally occurs due to onsite issues such as improper site grading, which allow storm flows to pool on the property rather than being conveyed offsite. In the East Valley onsite flooding is exacerbated by the nature of local soils, which are not conducive to rapid percolation and therefore result in flood flows remaining onsite until they eventually percolate or evaporate.

The 2010 IRWM Plan identified areas within the Region, particularly in the eastern Coachella Valley, that are not protected by the regional flood control system and are therefore subject to alluvial-fan flash flooding from surrounding mountain ranges. Stakeholders have also indicated that small, onsite flood control projects such as detention basins can be difficult to permit due to potential issues with disease vectors such as mosquitoes. Due to the large costs associated with regional flood control projects, and the potential permitting issues associated with small-scale flood control projects, there is a regional need to identify flood-prone areas and coordinate with regional regulatory agencies to determine economically and technically feasible projects that minimize or prevent property damage from occurring during flash flood events.

Perceived Wastewater System Types

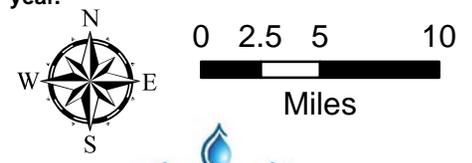
Figure 14



- Respondents who perceived that they have a wastewater problem
- Wastewater System Type***
- Sewer Line
- Septic System
- Cesspool
- Drainage Ditch/Lagoon
- Onsite, but type unknown
- Unknown
- - - Division between West and East Valley
- = Highways
- Colorado River Aqueduct
- Coachella and All American
- Whitewater River Storm Water Channel
- Coachella Valley Storm Water Channel
- Water Bodies
- Coachella Valley IRWM Region
- Colorado River Funding Area
- Survey Area
- Disadvantaged Community (DAC)

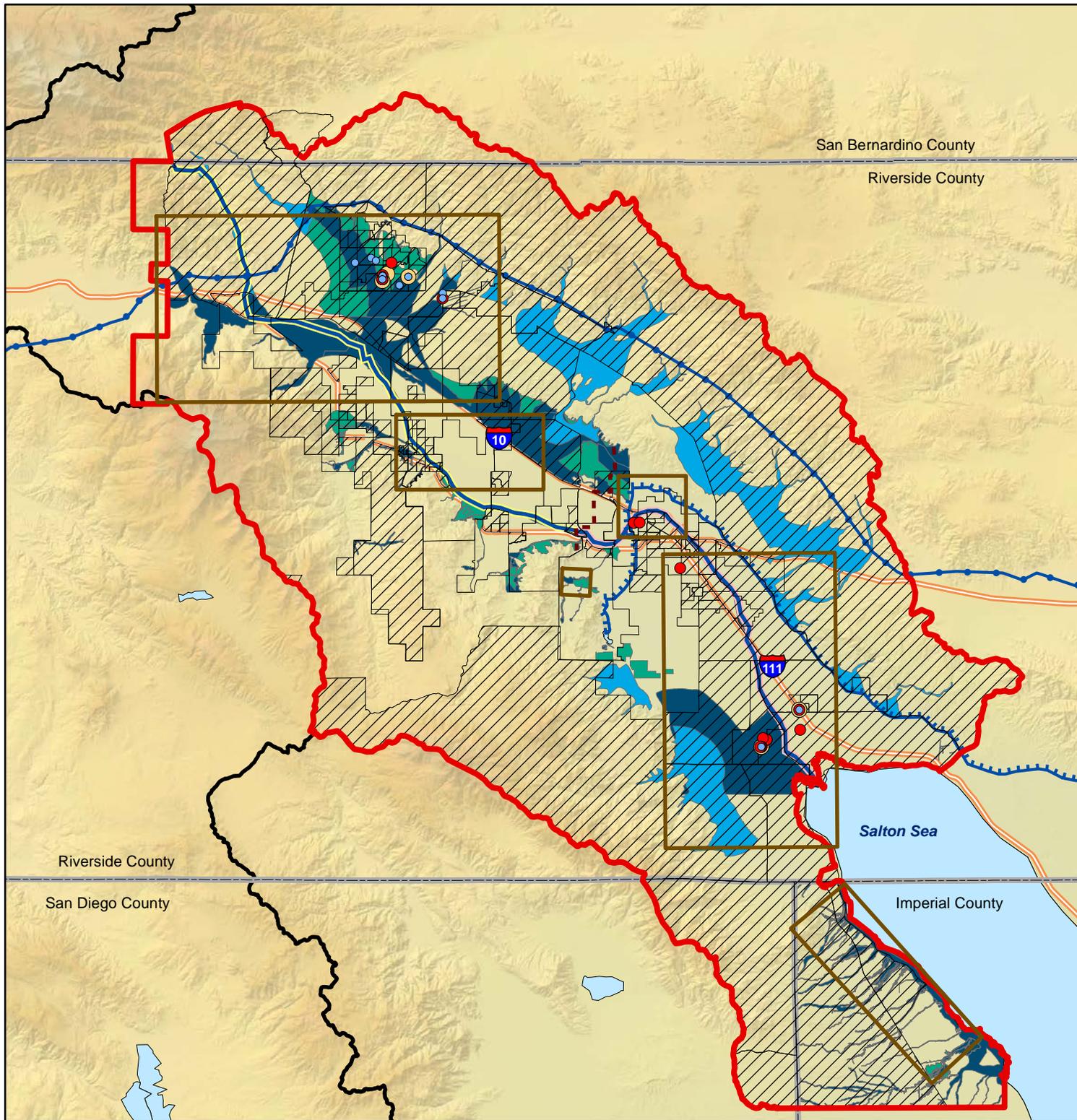
* Respondents' perception of the type of wastewater system they have.

Source: 2010 U.S. Census Data - American Community Survey Median Household Income (MHI), by block group. DACs are defined as having MHI of 80% of Statewide MHI. For 2010, DACs were households earning \$48,706 or less per year.



Perceived Flooding

Figure 15



- Respondent knew the area was prone to flooding prior to moving there
- Respondent has experienced a flood in the past year
- Respondent has experienced a flood in the past 5 years
- - - Division between West and East Valley
- Colorado River Aqueduct
- Coachella and All American
- Whitewater River Storm Water Channel
- Coachella Valley Storm Water Channel
- Highways
- Water Bodies
- ▭ Coachella Valley IRWM Region
- ▭ Colorado River Funding Area
- DWR Flood Awareness
- FEMA 100-year Flood Zone
- FEMA 500-year Flood Zone
- ▭ Survey Area
- ▨ Disadvantaged Community (DAC)

Source: FEMA Flood Zone Designations, 2012
DWR California's Flood Future Report, 2013



4.4 Tribes that Include DACs

Some of the needs and concerns identified in the meetings with tribal DACs included water quality concerns of the Colorado River water quality and the perceived need for additional water treatment before this water is used to recharge the groundwater basin. In addition, tribal DACs, particularly the Torres-Martinez tribe notes that connection to municipal services seems to be the best option, because upgraded onsite water and wastewater treatment systems would require substantial technical proficiency and operations and maintenance that the tribe does not have. Several projects were proposed by the Torres-Martinez tribe for funding based on these meetings and discussions. As a result of this effort, a project was included in the Proposition 84 – Round 2 Implementation Grant application to complete design and engineering to extend CVWD's potable water system to a portion of the Torres-Martinez tribal lands.

For additional information on water issues on Tribal lands in the Coachella Valley, refer to *Chapter 3, Issues and Needs* and *Chapter 5, Tribal Water Resources* in the 2014 Coachella Valley IRWM Plan Volume I.

4.5 Other Needs

Based on the feedback provided at workshops and outreach meetings a number of important needs were raised that are not within the scope of IRWM planning or the DAC Outreach Program. Those other needs are briefly presented here for completeness and documentation.

4.5.1 Roads

Several DAC areas reported issues associated with unpaved roads and road maintenance. Some roads through DAC areas have high speed limits and few signals, and most roads are unpaved. This combination of road features can result in difficulty crossing the roads or having a safe place for buses to pick up children as cars drive at high speeds and kick up considerable dust, which reduces visibility. Some mobile home park residents also reported the presence of narrow roads that make such mobile home parks inaccessible to fire or other emergency services. This inaccessibility coupled with inadequate water supply and pressure make fighting fires nearly impossible in some areas.

The dust and dangers associated with non-maintained roads expressed by DACs are primarily health and safety issues. However, one related area that the issue of roads may have with the IRWM Program is that many residents reported using water to dampen roads near their homes to reduce dust. In this case, road paving would potentially conserve water.

4.5.2 Transportation

Transportation issues were reported by DACs during the workshop process. Specifically, in the more rural DAC areas transportation options are limited to personal vehicles, neighbors, or the vehicles of family and friends. Very few areas have well-developed bus or other transportation systems available, and personal vehicles may be cost prohibitive. One potential nexus that transportation issues have to the IRWM Program is that because DACs have limited transportation, they also have limited stakeholder access to IRWM Program meetings and educational materials.

4.5.3 Affordable Housing

There are many unpermitted mobile home parks in the East Valley that do not receive the required water system monitoring and provide housing to residents that cannot afford necessary treatment and testing procedures on their own. Thought and care must be used in development planning for these locations. The parks often need not just water or wastewater services, but also code compliant fire flows for structure protection, electrical service and related infrastructure which increases the cost of small parks.

4.5.4 Education and Related Service

All parents want their children to be educated and have opportunities to obtain education in a safe and healthy environment. Often the distance that must be traveled to primary and secondary schooling is a significant problem for families with children in more rural DAC communities. School districts and community groups work to identify services and support local schools to increase educational attainment and success. Often there are water and wastewater issues that complicate education. In several areas the lack of safe adequate drinking water and with adequate fire flows prevented the opening and operation of a school that had been built. Treating the water and providing tanks worked to reduce the distance and increase school attendance.

4.6 Limitations

Despite the inclusion of DAC projects in the regional IRWM Implementation Grant applications and provision of grant funding for DAC projects, affordability of water supply and wastewater treatment continue to be key issues for DACs. In addition, groundwater quality in several DACs such as those with wells located in the perched aquifer (in the East Valley), hot water basin wells (in the Desert Hot Springs area), and agricultural wells (throughout the Coachella Valley), are not suitable for drinking. Many DACs are not within urban areas and therefore are not served by municipal water and wastewater systems, making water supply management in these DACs even more difficult.

While onsite water treatment systems (such as those installed by PUCDC for the STAT) have been successfully employed in the East Valley, water quality monitoring, training, and operations and maintenance funds are needed in these rural/remote areas to maintain onsite systems and ensure that water quality meets drinking water standards. The need for septic to sewer conversion is great throughout the Coachella Valley, but once installed, DACs worry that jurisdictional issues or high construction and connection costs may delay or prohibit project implementation.

IRWM Implementation Grants themselves have several limitations associated with the applications as well as the grant reimbursement process, which together may provide a barrier to DACs and organizations that represent DACs; these limitations are described in detail in the *Challenges to Participation in Integrated Regional Water Management* report that is included as **Appendix VII-D**. The grant applications are challenging to prepare, requiring a substantial amount of technical information and analysis to complete. Due to the complexity required to prepare the grant applications, the costs can be high and potentially prohibitively expensive for DACs and DAC organizations. Furthermore, the information necessary to complete a successful grant application is extensive, involving technical details and often preliminary planning and design work. DACs and DAC organizations may not have the technical capability to produce such documents on their own, and may also not be able to pay for outside technical support to produce such documents. The Coachella Valley IRWM Program has also found that even after

DACs and DAC organizations receive IRWM grant funding, the reimbursement process required by DWR can be prohibitive to project implementation. For IRWM grants, DWR requires that grantees first expend funds, and then submit invoices to DWR for reimbursement. The reimbursement process can be lengthy, and some grantees have experienced multiple month delays in receiving invoice repayments. If cash flow is an issue for grantees, which it may be for DACs and DAC organizations, the reimbursement process can stall project implementation as the grantees must wait to receive repayments from DWR before continuing work. Finally, for those DACs that are mobile home parks whose owners do not live on-site or are not the small, family-owned parks included in the DAC Outreach Program's survey, there may be conflicting interests and priorities between property owners and residents, adding additional challenges and limitations to the successful implementation of DAC projects and solutions.

Section 5 DAC Projects Developed through Outreach Efforts

As described in Section 2 above, during initial development of the 2010 IRWM Plan, DAC stakeholders, the Planning Partners, and the CVRWGM identified the need for additional design and engineering support to develop DAC projects so that they could be eligible for IRWM grants and other types of grant funding. Therefore, an important component of the DAC Outreach Program was to fill an identified need by providing design and engineering support for DAC projects that could be implemented to address critical DAC issues and needs.

Through the DAC Outreach Program, four project concepts were developed through extensive outreach with DACs and other IRWM stakeholders. The process undertaken to identify, develop, and implement the projects and project concepts is described in the following sections.

5.1 Project Concept Development and Outreach

Based on the issues and needs identified by DAC stakeholders during the DAC Outreach Program, three initial project concepts were developed. These concepts were developed to address the three primary issues reported by DAC stakeholders (refer to Section 4):

- 1** Drinking water quality concerns for those DACs who use water from private onsite wells, and especially those DACs in the East Valley that use water from shallow groundwater wells that may not meet drinking water quality standards
- 2** Wastewater management issues associated with improperly designed or maintained onsite wastewater systems, especially those that potentially threaten human health and the environment
- 3** Onsite flooding issues, especially in the East Valley areas that are not protected by regional flood control infrastructure

Information about the three project concepts was translated into Spanish and distributed to IRWM stakeholders in both English and Spanish during the two DAC Workshops held in June 2013 and during the June 2013 Planning Partners meeting (refer to **Appendix VII-E** for copies of the bilingual project concept handouts distributed to stakeholders). Information about the three project concepts was also distributed to all IRWM stakeholders via email. Feedback received from stakeholders was used to determine areas within the Coachella Valley where the project concepts could potentially be applied (areas that have drinking water, wastewater, and flooding issues) and was also used to determine potential project partners that could assist in project implementation.

The ultimate goal of the project development process undertaken for the DAC Outreach Program was to determine potential projects that could be identified and successfully implemented for future rounds of IRWM or other grant funding opportunities. Therefore, the general goal of the project concept development and outreach process was to determine potential sites that could be targeted for project implementation and also to determine potential project sponsors that could be identified to assist in project implementation.

5.2 Project Prioritization and Selection

Feedback from stakeholders that was obtained during DAC workshops, from the Planning Partners, from individual meetings with DAC stakeholders (including the three non-profit partners), DAC surveys, and CVRWGMG meetings were reviewed and assessed by the technical team, the CVRWGMG, and the three non-profit partners. The technical team worked with DAC stakeholders (the three non-profit partners) and the CVRWGMG to develop a list of selection criteria that would be applied to various project concepts to determine which projects would be selected for further design and engineering work. These criteria are a combination of both the project prioritization and evaluation process identified in the 2010 Coachella Valley IRWM Plan and the preliminary project selection criteria include in the DAC Outreach Program Work Plan submitted to DWR in April of 2012. Those criteria include:

- Does the project concept address an identified DAC issue?
 - Determined based upon whether or not the project fits into one of the project concepts previously identified or if the project addresses a DAC issue identified by stakeholders.
- Does the project concept have support at the community level?
 - Determined based upon input received from stakeholders either during the survey process or DAC outreach workshops.
- Does the project concept have a potential implementing organization that could move the project forward through implementation in the future?
- Does the project concept address a critical water quality or water supply issue in an identified disadvantaged community?
- Is the project concept consistent with the 2010 IRWM Plan Objectives?
- Could the project concept outcomes potentially be leveraged for additional funding?
- Is the resulting project cost-effective?

From the initial project concepts and potential project sites obtained from outreach efforts, four projects were selected that would address identified DAC issues and would also be feasible for implementation given various constraints. Those projects are described in detail in the following section.

5.3 DAC Outreach Program – Project Work

5.3.1 Project 1: Educational Materials

This project involved the development of bilingual (English and Spanish) educational materials for economically disadvantaged communities located within areas that are experiencing substantial water quality or wastewater issues. The materials include general information about water and wastewater systems within the Coachella Valley and also provide information to

residents about who to contact when experiencing a variety of water and wastewater system issues.

Although this project was not explicitly identified in the initial project concept phase, outreach conducted through the surveys and the DAC Workshops identified a need to provide educational materials for residents. These outreach efforts revealed a substantial knowledge gap regarding water and wastewater systems in the Coachella Valley, and also found that local non-profit organizations such as El Sol Community Resource Center and Pueblo Unido would benefit from having materials available to provide to residents to increase educational opportunities for various water-related concerns. In addition, outreach conducted during the West Valley Workshop found that many DAC residents in the West Valley were experiencing water and wastewater issues that could be resolved through code enforcement. These stakeholders were generally residents of permitted mobile home parks, which are subject to code compliance by local municipalities. This outreach finding contrasted with issues discovered in the East Valley in mobile home parks that are generally unpermitted and therefore would first require infrastructure upgrades and improvements to become permitted residences.

The ultimate purpose of this project is to provide resources to residents to help them resolve issues that can be addressed by local agencies, and provide local non-profit organizations with the information necessary to empower local DACs. The portion of this project that required development of educational materials was completed through the DAC Outreach Program, and those materials are available as **Appendix VII-F**. The next steps for project implementation will require outreach and engagement with local non-profit groups to disseminate materials to local stakeholders and provide residents with the materials they need to understand water and wastewater systems in the Coachella Valley and secure code compliance for applicable water and wastewater issues. It is anticipated that implementation via the non-profit partners will begin in 2014 and will continue to be implemented through these groups into the future.

5.3.2 Project 2: Determining Connection Opportunities

This project involves detailed mapping to help locate municipal service connection opportunities. The idea for this project was developed as a result of DAC outreach efforts that have occurred since the inception of the IRWM Program. Connecting residents that do not currently receive municipal services (water and wastewater) to the municipal system is a common request that has been expressed by DAC and other IRWM stakeholders throughout the duration of the IRWM Program. Septic-to-sewer conversion projects are commonly included in the IRWM Project Database (refer to Chapter 9 of the 2014 Coachella Valley IRWM Plan Volume I for more information), and almost \$5 million of IRWM grant funding has been applied for by the Coachella Valley IRWM Program for projects that would connect communities to the municipal sewer system.

Given the large and region-wide demand for municipal system connections, there is a need to identify connection opportunities that are potentially implementable and could be included in subsequent rounds of IRWM grant funding. While the demand for municipal connections is high, it has been found that many of the connection projects submitted for IRWM grant funding are not technically or economically feasible. Due to the dispersed and rural nature of portions of the Region (particularly the East Valley), sewer extension and connection projects may not be cost-effective if they require construction of large lengths of pipeline for relatively few users. From a technical point of view, sewer connections are not feasible if property owners are unwilling to participate or residents are unable to provide requisite sewer connection fees.

Because many factors are involved in selecting potential sewer connection projects in the IRWM Region, Project 2 provides technical information to help prioritize future connection projects from both technical and economic perspectives. In order to accomplish this goal, the project involved multiple steps, including:

- Identifying the location of existing and future (near-term) sewer collection systems throughout the Coachella Valley
- Overlaying the updated DAC map on the sewer collection system map to determine which DACs do not receive municipal sewer services
- Overlaying survey data that indicates where DACs have reported overflowing or inadequate onsite wastewater (generally septic) systems to determine where there is an identified need to connect users to the sewer system

The portion of this project that involved mapping of potential connection opportunities was completed through the DAC Outreach Program, and those materials are available as **Appendix VII-G**. The next step of this project will be to analyze the areas that were identified as having high connection potentials and conduct further analysis on project feasibility. The purpose of the feasibility assessment will be to screen projects for their potential implementation success and to screen projects for their relative benefits. The purpose of this assessment will be to provide a tool to the CVRWGM and the Planning Partners to help prioritize seemingly similar septic-to-system conversion projects for subsequent rounds of IRWM funding. Factors that may be considered for feasibility include:

- Willingness of property owner to work with applicable local municipalities and residents to participate in a sewer connection project
- Ability and willingness of residents to pay sewer system fees
- Analysis of sewer system capacity to determine if sewer service could reasonably be provided given current and future sewer system capacity
- Cost estimation for each project and a comparison of that cost to the number of sewer connections
- Analysis of the wastewater collection system to determine if the project would increase beneficial reuse of water (determine if flows from the project would be sent to a wastewater treatment plant that treats water to tertiary levels for reuse as recycled water)
- Local analysis of water quality to determine if the existing onsite wastewater system could be contributing water quality pollutants to local groundwater or the environment
- Other project factors such as public outreach and education, benefits to Native American Tribes, ecosystem or habitat improvements, and other factors that would impart additional benefits

5.3.3 Project 3: Regional Program for Septic Rehabilitation

After outreach conducted for the DAC Outreach Program, it was determined that septic system replacement and rehabilitation needed to be addressed throughout the Coachella Valley and that stakeholders throughout the Coachella Valley were experiencing issues with their onsite wastewater systems. Outreach conducted for the DAC Outreach Program also found that one of the non-profit partners that participated in the program, Pueblo Unido CDC, who has been working in the East Valley for several years, has also been focusing on addressing wastewater issues. Due to Pueblo Unido's experience with local mobile home park owners and residents and

their technical experience with septic systems, it was determined that they would be the most appropriate partner to work with on program design and engineering for this project.

With the resources available to the DAC Outreach Program, the team determined that it would be preferable to develop a regional program that clarifies the process by which septic rehabilitation can be undertaken for local mobile home parks. As a demonstration component of this program, the project team will complete preliminary engineering and design work, including onsite soils percolation testing, for several mobile home parks. It was envisioned that this preliminary work could provide two outcomes:

- 1 A framework for future efforts to rehabilitate septic systems in the Coachella Valley as it would be able to demonstrate how to appropriately design septic systems for a range of different site conditions such as elevation, soil conditions, number of residents, etc. and
- 2 Actual design and engineering plans for a number of mobile home parks, which would make these sites potentially eligible to receive funding for implementation (construction and permitting) from a variety of grant programs.

The technical team worked with Pueblo Unido to locate the mobile home parks where onsite percolation testing, design, and engineering would be conducted. The technical team also worked with the Riverside Department of Environmental Health to ensure that permitting and other components of the project were consistent with applicable regulatory requirements. During this process it was determined that Polanco Parks (those with up to 12 units) in the East Valley would be appropriate to target, because they have reduced permitting requirements and because there are hundreds of Polanco Parks within the East Valley, making future replication more feasible. Although there were a number of reported failing and overflowing septic systems in the West Valley, non-profit partners in this area did not have established relationships with mobile home park owners or residents that were deemed necessary for successful future project implementation. Although preliminary design and engineering work for Project 3 was only conducted for mobile home parks in the East Valley, there is still an identified need for septic system rehabilitation in the West Valley. Ideally, the outreach materials produced through Project 1 (see above) will provide non-profit partners in the West Valley with the materials needed to establish successful relationships with mobile home park owners and residents, which can be leveraged in the future to develop septic system improvement projects in that area. Furthermore, Project 3 includes a Work Plan that describes all of the steps that were implemented to conduct the preliminary planning, design, and engineering work for Project 3. This Work Plan is intended to serve as a guide for other project sponsors that are interested in implementing similar work or applying for grants to do similar work. The Work Plan and the main report for Project 3 are available as **Appendix VII-H**.

5.3.4 Project 4: Regional Program for Onsite Water Treatment

Elevated concentrations of fluoride, arsenic, chromium, uranium, nitrate, and total dissolved solids (TDS) are present locally in some groundwater, and in some areas of the basin, are presenting concerns about the quality of drinking water supplies. The primary purpose of this project is to follow-up on the Short-Term Arsenic Treatment Project (refer to Section 2 for more information) and other work completed by local non-profit organizations such as Pueblo Unido CDC, DACE, and the Rotary Club to develop a regional program that clarifies how to install onsite water treatment systems for those DACs that do not have access to water that meets drinking water standards. The project also involved coordinating with the Riverside Department

of Environmental Health and the Regional Board to ensure that permitting and other components of the project were consistent with applicable regulatory requirements.

Collaboration with Pueblo Unido CDC, DACE, and the Rotary Club has identified two key aspects necessary for an effective water treatment program in the East Valley: technical needs (water treatment) and community organization. The technical component of such a program will evaluate and identify the appropriate point of entry and/or point of use water treatment facilities for mobile home parks in the East Valley setting. The community organization component will include distribution of O&M manuals and emergency procedures, and development of rental agreements with park tenants for a monthly user fee to cover O&M costs (such as filter replacement). The technical team has developed a regional program that includes both of these program components, for use in accelerating the existing STAT and Rotary Club-Pueblo Unido CDC-DACE efforts to install treatment systems in both permitted and unpermitted mobile home parks that have documented drinking water quality exceedances. The program focuses on installation of appropriate, commercially-available reverse-osmosis under-counter treatment units for tenants at the mobile home parks.

The technical components of this project are included as a formal Disadvantaged Community Water Quality Evaluation, which is included as **Appendix VII-C**. The organization component that includes a formal Work Plan, draft operating manuals, and other materials that would be necessary to implement the technical components are included as **Appendix VII-C** to this report.

Section 6 Recommendations for DWR DAC Outreach Program

The information provided in the preceding sections of this report provides an overview of the experience and results of the efforts undertaken in 2012 and 2013 as part of the Coachella Valley DAC Outreach Program. The information gathered as part of the DAC Outreach Program is considered invaluable to the Coachella Valley IRWM Region in helping to better understand the nature and issues of DACs as well as ways to improve DAC involvement in the IRWM Program.

The following sections of this report are intended to summarize the findings from the DAC Outreach Program and recommend elements of a model program for DWR to potentially implement in other areas of California to improve DAC involvement in IRWM planning. Some of the recommendations included below were implemented as part of the DAC Outreach Program and are therefore considered validated recommendations in that they were found to be successful in the Coachella Valley; other recommendations are theoretical in that they have not yet been implemented or applied in the Coachella Valley. Similarly, some of the recommendations below are recommended for implementation by other regional water management groups (managers of regional IRWM Programs similar to the CVRWMG) and others are recommended for implementation by other parties such as DWR.

6.1 Utilize Assistance from Community Non-Profit Organizations

Recommendation: The regional water management groups should partner with established and successful non-profit organizations to assist with community outreach and identify, develop, and implement DAC water-related projects.

As discussed in detail in Section 3.2.7 and Section 3.3, part of the Coachella Valley DAC Outreach Program included contracting with local non-profit organizations to complete outreach and mapping (surveying work). Due to the success of the work completed by the non-profit

organizations in the Coachella Valley, it is recommended that other IRWM regions work with local organizations on similar efforts.

Part of the CVRWMG's goal in utilizing the non-profit organizations for outreach efforts was to determine if working through established non-profit organizations with personal connections to DAC areas would increase DAC participation and involvement in the IRWM Program. Outreach efforts demonstrated that the non-profit organizations did impart this benefit, because prior to the DAC Outreach Program, few DAC community members (members of the public in DACs) attended IRWM Program meetings. As proof, the DAC Outreach Program workshops, held in June, 2013 and co-hosted/sponsored by the non-profit organizations, were attended by over 100 people, most of who were local residents of DACs. This outcome demonstrates that the existing trust and relationships the local non-profit organizations have with the DACs they serve contributed strongly to resident interest and participation in the DAC workshops. Furthermore, services provided by the non-profit organizations such as bilingual translation for meeting materials and meeting facilitation encouraged involvement in the DAC workshops. The IRWM Program developed working relationships with non-profits that had established relationships in most of the known regional DAC areas. The collaboration with the non-profit organizations – Loma Linda University, El Sol, and Pueblo Unido– later enabled the IRWM Region to identify and develop priority projects that were important to DACs and would address high-priority DAC issues. The non-profits also worked closely with the technical team to execute the projects, and continued to impart local knowledge and expertise throughout the development of project materials. Project 1 (see Section 5 or **Appendix VII-F** for more information) provided educational materials on water quality and wastewater management that were translated into Spanish by El Sol. Project 3 (see Section 5 or **Appendix VII-H**) conducted septic system replacement work with the facility design completed by Pueblo Unido CDC. It is hoped that planning and design work provided through the DAC Outreach Program has provided the foundation and project development materials necessary to develop projects that will qualify for additional Proposition 84 Implementation Grant funding and other grant funding opportunities.

The use of Loma Linda University, El Sol, and Pueblo Unido provided multiple benefits to the DAC Outreach Program through the in-person survey that was administered (refer to Section 4 for more information). The survey that was conducted by the three organizations throughout the Coachella Valley was conducted bilingually through teams that were comprised of students from Loma Linda University and either promoters (promotores in Spanish) from El Sol or staff/volunteers gathered by Pueblo Unido. The use of translation services and conducting outreach in both Spanish and English is thought to have provided additional benefits in reaching out to DAC stakeholders as this has allowed the CVRWMG to demonstrate that they understand some of the barriers to DAC participation, and are willing to implement solutions necessary to overcome barriers. The bilingual outreach efforts have also helped start building positive relationships between the CVRWMG and DAC residents by providing a means to have a meaningful conversation about the water needs and issues of DACs in the Region, and allowing DAC residents with the opportunity to express their concerns first-hand rather than through non-profit organizations.

Partnerships with the three non-profit organizations also enabled the CVRWMG to draw on the existing knowledge of how to work successfully with DACs in the Region. Given that the three organizations have extensive past working relationships with DACs, they were able to identify strategies that have worked for them in the past, and provide input on proposed outreach efforts. For example, the three non-profit organizations noted that outreach materials should advertise

the availability of child care at meetings, and meetings should be held in the evenings in familiar locations to increase attendance by local residents. In addition, the non-profit organizations recommended that bilingual door knob hangers be developed to advertise the workshops and that the hangers should be placed on the doors of those residents who were not home when surveyors came by to conduct surveys and alert residences to the upcoming workshops. This recommended outreach mechanism, which was successfully implemented with translation assistance from the non-profit organizations, allowed for broad advertisement of the DAC workshops across the Coachella Valley (refer to Figure 4 for an example of the door knob hangers).

In collaboration with the partner non-profit organizations, the DAC Outreach Program has been able to implement some of the outreach techniques identified in the 2014 Coachella Valley IRWM Plan Volume I to improve DAC participation in the IRWM Program. These efforts have been quite successful in the Coachella Valley IRWM Region, as evidenced by the strong turnout at bilingual DAC outreach meetings, development of an expanded, detailed, and refined discussion of DACs and DAC issues and needs in the 2014 Coachella Valley IRWM Plan Volume I, and project development and design for four DAC projects that may be submitted for consideration during the next round of IRWM funding. As a result of these efforts, the Coachella Valley IRWM Program was able to build or strengthen trust and relationships between the CVRWMG and DAC residents.

Much to their credit, the non-profit organizations involved in the DAC Outreach Program were able to work very well together and support each other. Their contributions complemented one another, which further contributed to the success of the Coachella Valley DAC outreach approach. However, this may not always be the case for all geographic areas or for all non-profit organizations. Therefore, the existing relationships between potential organizations and the existing geographic coverage of the potential organizations should be considered if using this model for DAC outreach and participation in other IRWM regions or in other efforts in the Coachella Valley. This approach can provide a means of bringing non-profit organizations together and helping to exchange knowledge about successfully working with DACs (addressing the spatial coverage challenge), but may exacerbate existing conflicts between non-profit organizations in some regions. Those potential partnerships and potential conflicts need to be understood prior to initiating a successful non-profit partnership, because if a region has extreme conflict between non-profit organizations, this approach may not be appropriate.

6.2 Establish a “DAC Track” to Facilitate DAC IRWM Participation

DWR should seek Legislative or Executive approval to better support DAC NGO’s ability to apply for grant funding and financially manage projects by developing a “DAC Track” that would include specifically tailored project selection (e.g. technical feasibility and benefit-cost analysis requirements) and grant application requirements, payment of DAC pre-project costs, and expedited project expense reimbursements. In most areas, the program should defer to region’s local knowledge to select the most important locally-appropriate DAC projects.

It is not recommended that the DAC Track be a separate grant application or process from the standard IRWM Implementation Grant solicitations, but rather that through the Proposal Solicitation Packages (PSPs) that dictate Proposition 84 Implementation Grant requirements, DWR commit to reduced scoring and grant requirements for DAC projects. The DAC Track is not meant to marginalize or separate DAC issues, needs, and projects from the IRWM Program; but rather, it is meant to explain that DWR must make firm commitments to reducing technical feasibility for DAC projects. As explained in detail in *Chapter 9* of the 2014 Coachella Valley

IRWM Plan Volume I, currently, technical feasibility analyses must be completed for all projects and all local projects must be evaluated for DWR-required feasibility requirements to increase the likelihood that grant applications will score well within DWR's grant scoring process and therefore receive Proposition 84 funding. Without firm commitments from DWR to change scoring for DAC projects, the Coachella Valley IRWM Program cannot relax or reduce requirements for any project (even high-need DAC projects), as this could potentially jeopardize the entire grant application.

The idea for a specific funding approach or DAC Track comes from one of the major findings in the report on DAC Participation in Integrated Regional Water Management (Participation in Integrated Regional Water Management Report or Participation Report), which is included as **Appendix VII-D**. The Participation Report notes that the technical complexity and resulting financial costs to prepare IRWM grant applications as well as delays in grant repayments represent a substantial barrier to DAC involvement in the IRWM Program. More importantly, NGO's in DAC areas are hesitant to continue to work in programs that sap their very limited operating capital. To be successful, it is in the States interest to foster and develop the successful organizations to allow them to reach more DACs with water quality issues. Proposed components of the recommended DAC Track that could be implemented to increase DAC involvement in IRWM planning are described in further details in the following sections.

6.2.1 Modified Project Selection Requirements

Proposition 84 Implementation grant applications are highly complicated, requiring detailed cost benefit analyses and technical evaluations of projects. The complexity of IRWM Grants makes preparing applications costly and technically challenging. Both the cost and technical complexity of grant applications deter non-profit organizations and representatives of DACs from participating in the grant program, because they may not have the funds or resources necessary to complete successful applications.

IRWM grant applications also generally require projects to have significant planning and design work completed so that there is adequate information to complete a successful economic analysis for the grant application. Therefore, project applicants typically must expend their own operating funds and staff resources to prepare projects simply to be eligible for IRWM funding. These pre-project expenditures are a deterrent for small projects, DACs, and economically disadvantaged tribes, because they require allocation of scarce operating funds and technical resources before any commitment to the project is made. Project preparation is therefore a financial risk to the project sponsor, potentially to the point where the project is not submitted for IRWM grant opportunities.

In order to overcome the aforementioned technical and economic barriers associated with project selection, it is recommended that the "DAC Track" allow DWR to work through the local RWMG to conduct a project evaluation process (grant application process) for DAC projects that does not require expensive technical evaluations or detailed cost-benefit analysis. For example, DAC projects could be funded based on submittal of a work plan, budget, and schedule to DWR that meets adequate requirements of the Proposal Solicitation Package without inclusion of cost-benefit analyses. While this may entail a higher level of work for DWR to manage the risks involved, the practice will result in projects that are more innovative and effective even though they may be smaller in scale and scope. These projects are also much more likely to be maintained without further outside funding in the future. It is also likely that the DAC Track will result in increased DAC interest in the IRWM program and therefore participation and project

submittals. In order to reduce some risk, DWR may consider requiring that the DAC Track projects be submitted as a partnership between the RWMG and the DAC project sponsor; this partnership would potentially reduce DWR's perceived risk by demonstrating that the IRWM Region is supportive of the DAC project, believes that it is substantial enough to move forward toward implementation, and would be willing to take actions to support the DAC project if necessary.

DWR may also commit to providing set-aside funding for DACs that can be used in pre-planning, planning, engineering, and other processes to make DAC projects more shovel-ready and competitive within the existing Proposition 84 scoring criteria.

6.2.2 Deference to Local Project Selection Process

One of the issues expressed by DAC stakeholders regarding application for IRWM funding (through Proposition 84) is that there is a high level of risk in the project application process. This is particularly true in an IRWM Funding Area such as the Colorado River Funding Area (within which the Coachella Valley IRWM Region is located), which contains three highly competitive IRWM regions. The efforts undertaken in this DAC program illustrate the viability of relying on the local collective recommendations of RWMG members who are local water experts. Where it functions well, such as in the Coachella Valley IRWM Region, the local project selection process is adept at determining the most beneficial implementable projects for IRWM DAC funding.

As noted within *Chapter 9* of the 2014 Coachella Valley IRWM Plan Volume I, for the final round of Proposition 84 Implementation Grant funding, the CVRWMG recommends that the Planning Partners continue to be involved in the project scoring and ranking process. It is also recommended that if so desired by the Planning Partners, Planning Partners can be involved in the project interview process used to ultimately select projects for IRWM funding. This recommended stakeholder involvement is thought to improve the functionality of the Coachella Valley IRWM project selection process, and further support the above-explained recommendation that DWR defer to the local project selection processes of local IRWM regions.

6.2.3 Establish Expedited Project Expense Reimbursements

The current Proposition 84 IRWM Implementation Grant process requires grantees to expend funds, submit invoices for expended funds to DWR, then wait for DWR to reimburse them for expended funds. However, non-profit organizations sponsoring DAC projects typically cannot wait over 30-days for the reimbursement for IRWM-related project expenses as they have low levels of operating cash compared to public agencies and water districts. Lacking this capital and organizational development their progress is significantly reduced under the current process of reimbursement. The Coachella Valley IRWM Region has experienced substantial funding delays in receiving grant reimbursements from DWR, and in some instances the time between invoice submittal and repayments has been six months. While funding delays impact all grantees, organizations that represent DACs are often small non-profit organizations that may be more severely impacted by funding delays due to limited access to capital funds and additional burdens due to the cost of funds if they cannot access project financing. Most non-profits work with small operating capital funds compared with government or for-profit businesses. Without adequate capital beyond their operating cash flow, non-profit organizations that receive IRWM grant funding have been forced to wait to receive reimbursements from DWR before they can continue implementing projects. Therefore, funding delays stall project implementation and may present a significant barrier to DACs in applying for IRWM grant funding. This use of their

limited working capital causes them to limit the work, limit staffing and development activities, which in the Coachella Valley are the most likely predictor of good future projects.

A letter to DWR provided in April of 2013 by a consortium of groups representing DACs and Environmental Justice groups explained this issue as it specifically relates to the Coachella Valley, "...in the Coachella Valley, the local sponsor organization is challenged to find a cash flow to purchase reverse osmosis filtration units and be reimbursed later. The real human cost is heartbreaking as hundreds of families facing high levels of arsenic in their groundwater are desperately waiting for this resource to have drinking water." This is a very specific and real example of how funding delays and DWR's reimbursement requirements impact DACs.

6.3 Provide Planning Grant Funding to Regions to Support DAC Needs

The biggest challenge facing DWR and the IRWM program is how to continue engaging DACs in the IRWM Program and how to build upon the success of the DAC Outreach Program toward future successful projects. General participation in the Coachella Valley IRWM Program has historically diminished between Program milestones (e.g., IRWM Plan preparation, grant applications). Diminished participation often makes it necessary to re-educate stakeholders prior to the initiation of each new milestone, which is a more extensive task than continuing outreach and education on an ongoing basis. While ongoing outreach is time consuming and expensive, continued engagement with DACs can provide value by reducing the extent of outreach necessary to engage stakeholders. If DAC outreach is continued in the Coachella Valley, additional outreach will build on the relationships initiated through the DAC Outreach Program, and position DACs for increased participation in future IRWM Program milestones. However, there are no funding mechanisms currently in place to support continued efforts to engage DACs.

In addition to outreach efforts, the CVRWGMG has historically provided DACs with substantial support to overcome complicated requirements associated with the state's IRWM Program. For example, the CVRWGMG provided technical assistance to all stakeholders (including DACs) who requested technical support for entering projects into the online project database. These workshops were initiated by the CVRWGMG to increase project submittal by all IRWM stakeholders, especially those who may not have otherwise submitted projects without technical support. Similarly, the CVRWGMG provided extensive technical support to DACs whose projects were selected for inclusion in the regional Proposition-84 grant applications for work associated with completing economic analyses. Although the CVRWGMG recognizes the value of holding technical support workshops and providing technical assistance with completing grant applications in the future, there needs to be recognition of the time and expense required to conduct these items and the fact that the CVRWGMG cannot expend time and funding to ensure DAC involvement in the IRWM Program at the expense of their ratepayers.

In order to ensure that DAC outreach and technical support continues, DWR should provide financial support to ensure that IRWM regions have the resources necessary to implement IRWM DAC outreach and support DAC projects as required by DWR. It is recommended that this funding be distributed by DWR as small-scale planning grants that are made available to IRWM regions that have demonstrated the DAC need with a proven track record in involving DACs and implementing DAC projects.

In addition, it is recommended that DWR consider providing additional planning grant funding that can be used to support collaborative planning among and between agencies and DACs to

support affordable, sustainable, regional solutions to identified DAC needs and to increase connectivity among local, regional, and statewide stakeholders.

6.4 Expand the Roles of Regional Representatives

Due to the complexity of the IRWM Program and the steep learning curve for stakeholders, ongoing and continuous outreach is necessary to provide information about the IRWM Program, its purpose, limitations, and future activities. DWR should support outreach and education to increase knowledge of IRWM planning and the IRWM Program across the State of California. Further, more support should be provided to IRWM Regions to provide information and understanding regarding the IRWM Program to local DAC stakeholders. This outreach and education will raise awareness of the IRWM Program and help to break down some knowledge gaps that may be preventing DAC participation in the IRWM Program. It is recommended that education and outreach not only be conducted by IRWM regions, but supported and augmented by DWR itself through its use of regional representatives. It is not advocated that DWR attempt to do this independently, but to provide specific representatives to assist identified DACs in coordination with the local RWMG. It is recommended that the DWR representatives be “culturally competent” or in other words personally familiar with the issues and needs of DACs of the local IRWM regions within which they work.

This will extend the value achieved by the program for the people of the State. One of the tasks of the regional representative/liason would be to facilitate increased communication with IRWM regions and support outreach to DACs to provide full disclosure and transparency regarding any changes that are anticipated to the IRWM Program or IRWM Grant Requirements. This information should be carried down from DWR through the regional representative to the IRWM regions. Other communication methods (meetings, e-mail lists, webpage announcements) were successful and are available to communicate those changes to stakeholders. Increasing transparency will reduce some of the knowledge gaps seen with local stakeholders who often do not understand why IRWM regions are conducting various planning activities, and will therefore help to reduce the perception that the IRWM Program is overly complex and difficult to understand.

The regional representative would also be responsible for responding to comment letters sent by regional stakeholders when there are new IRWM Program Guidelines or Proposal Solicitation Packages (PSP). When new guidelines or PSPs are released, DWR holds public comment periods before finalizing each document. While IRWM regions and stakeholders appreciate the opportunity to provide comments, there is a perception that the comments are not considered by DWR. This perception occurs because DWR has not historically responded to comment letters and generally not amended IRWM Program Guidelines or Proposal Solicitation Packages in a manner that addresses DAC concerns. Without a DWR response to these comment letters, DAC stakeholders say they feel as though their concerns are not being considered and that highly necessary changes to the IRWM Program will not occur. In addition, a DWR response to comment letters would help stakeholders and IRWM regions better understand limitations of the IRWM Program, legislature directives, or other items that may dictate IRWM Program requirements and prevent programmatic flexibility in responding to stakeholder concerns.

The part-time in-the-field role of the regional representatives could take advantage of community forums and other established outreach mechanisms to build relationships with DACs and provide education and outreach on water resource issues and opportunities. DAC community members may not be able to attend multiple meetings per month, quarter, or year, so participation in

community meetings will provide an opportunity for IRWM efforts to reach a wider audience compared to hosting individually-sponsored IRWM meetings. Regional IRWM programs organized by and attended by regional representatives can also build trust with DACs by bringing together diverse groups to develop projects and working relationships. As these interactions continue in a supportive environment, relationships and trust will grow between DACs and other groups or agencies, providing opportunities for effective or creative integrated solutions to address DAC-specific and regional issues.

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