BOOK 2: MANAGEMENT AND NON-INFRASTRUCTURE PILOT STUDY

DISADVANTAGED COMMUNITY WATER STUDY FOR THE TULARE LAKE BASIN

GRANT AGREEMENT NUMBER: 4600009132
SAFE DRINKING WATER, WATER QUALITY AND SUPPLY, FLOOD CONTROL, RIVER AND COASTAL PROTECTION BOND ACT OF 2006 (PROPOSITION 84)
November 2010 through November 2014

FINAL DRAFT

AUGUST 2014

Prepared for:
County of Tulare

Final Submittal to:
Department of Water Resources
Division of Integrated Regional Water Management
South Central Region Office
3374 East Shields Avenue
Fresno, CA 93726

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EST. 1968 PROVOST & PRITCHARD CONSULTING GROUP
An Employee Owned Company

COMMUNITY WATER CENTER
EL CENTRO COMUNITARIO POR EL AGUA

Self-Help Enterprises

KELLER WEGLEY CONSULTING ENGINEERS

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ABBREVIATIONS

ACS.....American Community Survey
AF..... Acre-Feet
APWA.....American Public Works Association
AWWA..... American Water Works Association
BOD .....Biochemical Oxygen Demand
CAA.....Cleanup and Abatement
CalTAP..... California Technical Assistance Providers
CDBG..... Community Development Block Grant
CDPH.....California Department of Public Health[1]
CEQA.....California Environmental Quality Act
CFCC .....California Financing Coordinating Committee
CFS.....Cubic Feet per Second
CPUC.....California Public Utilities Commission
CRWA .....California Rural Water Association
CSA..... County Service Area
CSD..... Community Services District
CVP.....Central Valley Project
CWD..... County Water District
CWS.....Community Water System
CWSRF.....State Revolving Fund (Clean Water)
DAC..... Disadvantaged Community
DBCP .....Dibromochloropropane
DBP(s).....Disinfection By-Product(s)
DWP.....Drinking Water Program

[1] The California Department of Public Health (CDPH), when referred to in this Study, pertains to the Drinking Water Program (DWP) which regulates public drinking water systems in California. Historically, the DWP has been administered through CDPH; however, as of July 1, 2014 the administration of the DWP has transferred from CDPH to the State Water Resources Control Board (SWRCB or State Water Board). Any reference to CDPH in this Study moving forward refers to the DWP now administered through the State Water Board.

DWR.....Department of Water Resources
DWSAP ..... Drinking Water Source Assessment & Protection
EDA..... United States Economic Development Administration
EPA.....United States Environmental Protection Agency
FEMA ..... Federal Emergency Management Agency
FRF ..... Fresno Regional Foundation
GIS ..... Geographic Information Systems
HUD .....Department of Housing and Urban Development
IRWM .....Integrated Regional Water Management
IRWMA..... Integrated Regional Water Management Authority
JPA.....Joint Powers Authority
KBWA.....Kings Basin Water Authority
LAFCo .....Local Agency Formation Commission
LPA .....Local Primacy Agency
MCL.....Maximum Contaminant Level
MHI.....Median Household Income
MHP .....Mobile Home Park
MOU.....Memorandum of Understanding
MSR ..... Municipal Service Review
MWC .....Mutual Water Company
NCWS .....Non-Community Water System
NTNC ..... Non-Transient Non-Community Water System
O&M .....Operation and Maintenance
PCB..... Polychlorinated Biphenyls
PPB ..... Parts per Billion
PPM ..... Parts per Million
PPSAG or PSAG..... Pilot Project Stakeholder Advisory Group
PUC..... Public Utilities Commission
PUD.....Public Utility District
PWS .....Public Water System
RCAC .....Rural Community Assistance Corporation
RMA .....Resource Management Agency

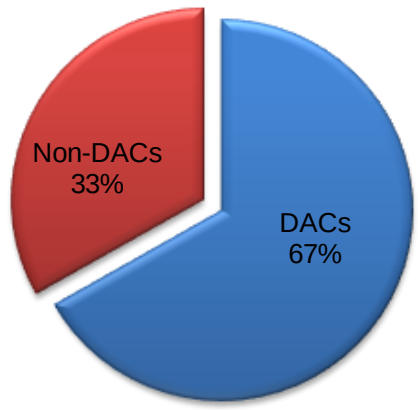
RUS..... Rural Utilities Service
RWQCB ..... Regional Water Quality Control Board
SB ..... Senate Bill
SDAC ..... Severely Disadvantaged Community
SDWA ..... Safe Drinking Water Act
SEP ..... Supplemental Environmental Project
SMD ..... Sewer Maintenance District
SOAC ..... Stakeholder Oversight Advisory Committee
SRF or SDWSRF ..... State Revolving Fund (Safe Drinking Water)
SSWS..... State Small Water System
SWP ..... State Water Project
SWRCB ..... State Water Resources Control Board[2]
SWS ..... Small Water System
TCP 1,2,3-Trichloropropane
THM(s) ..... Trihalomethane(s)
TLB..... Tulare Lake Basin
TMF..... Technical Managerial & Financial
TNC..... Transient Non-Community Water System
TSS ..... Total Suspended Solids
USDA ..... United States Department of Agriculture
USGS ..... United States Geological Survey
WC ..... California Water Code
WD ..... Water District
WDR..... Waste Discharge Requirements
WWD..... Water Works District
ZOB..... Zone of Benefit

[2] Reference to the State Water Resources Control Board (SWRCB or State Water Board) in this Study may include any of the programs administered by the State Water Board.

EXECUTIVE SUMMARY

Introduction

The Tulare Lake Basin Study Area encompasses most of the four-county area, including Fresno, Kern, Kings, and Tulare Counties. The Tulare Lake Basin Study Area boundary is shown in **Figure 1-1**. Approximately 354 of the 530 communities identified within the Tulare Lake Basin are disadvantaged or severely disadvantaged. These communities often suffer from a variety of problems related to the provision of water and sewer to their residents. Source water issues include insufficient supply and poor water quality. Wastewater challenges include reliance on septic systems that may be failing or potentially contaminating the groundwater, failing or insufficient sewer collection systems, or wastewater treatment and disposal facilities that are not capable of meeting their waste discharge requirements. Some communities also lack the technical, managerial and financial (TMF) abilities to properly operate and maintain their utility systems.



Communities in the Tulare Lake Basin

Four (4) pilot studies have been developed as part of the Tulare Lake Basin Disadvantaged Community Water Study, to present various alternatives to address these issues. Some communities lack the technical, managerial and financial (TMF) resources to operate and maintain their existing system or a new or upgraded system, and, as such, may not be eligible to receive funding for construction. In these situations, installing a treatment system or developing a new source may not be feasible without addressing TMF issues. This Management and Non-Infrastructure pilot study aims to identify various alternatives, including various cost-sharing mechanisms that can be considered to help alleviate some of these challenges. Management and non-infrastructure alternatives are improvements that could potentially be implemented to improve system efficiency and affordability without making physical upgrades, and regardless of whether water supply, water quality, or wastewater system issues exist. These alternatives involve strategies to help address challenges associated with system management, technical capability, financial solvency, and ongoing operation and maintenance expenses.

The other three pilot studies include New Source Development, Technical Solutions, and Individual Households.

Background

There are 354 disadvantaged communities (DACs) identified within the Tulare Lake Basin Study Area, of which approximately 201 are severely disadvantaged communities

(SDACs). Collectively, disadvantaged and severely disadvantaged communities are referred to as DACs. Many water and wastewater systems serving these DACs face challenges meeting drinking water and wastewater regulations.

Approximately 216 of the 354 DACs in the Study Area have their own water systems. Of those, about 89 water systems reported at least two exceedances of a primary drinking water maximum contaminant level (MCL) between 2008 and 2010. Based on the data collected, the main constituents of concern in the Study Area are arsenic, nitrate, and uranium. These constituents are therefore the focus of the water quality issues discussed in this Study. While not all of the systems with exceedances were in violation of a drinking water regulation, an exceedance indicates there may be a potential issue. Many communities (approximately 96) also rely on a single source of water supply, typically a single well. This puts the system at risk if that well were to fail. Communities with the various water quality and supply issues are presented in **Figure 2-1** through **Figure 2-4**.

Goal

The main goals of the Study were: (1) to provide useful information and tools that can function as a roadmap or guidelines for multiple audiences, and (2) to provide recommendations for legislation, funding opportunities, and other support that Federal, State, and local agencies can provide to address the water and wastewater issues in the Study Area.

The information presented in this study includes descriptions of actual community efforts toward solving water supply, water quality, wastewater treatment and disposal, and/or system efficiency challenges. The information may also include recommendations for other communities to consider regarding:

a) Steps toward solving remaining existing water supply and wastewater collection or treatment challenges,

b) Identifying obstacles interfering with solving remaining existing water supply and wastewater collection or treatment challenges, and

c) Steps toward minimizing or mitigating future water supply and wastewater collection or treatment issues.

Priority Issues

Several priority issues were developed during the Stakeholder Oversight Advisory Committee (SOAC) process. The specific priority issues that the Management and Non-Infrastructure pilot study aims to address include the following:

- Lack of funding to offset increasingly expensive operations and maintenance costs in large part due to lack of economies of scale.
    - Small systems serving primarily low-income households, especially in isolated locations cannot keep rates affordable and still generate enough revenue to run the system safely over the long term;

  - Lack of funding resources to operate and maintain water or wastewater systems at affordable levels and lack of funding for planning and replacement of infrastructure as it ages.
- Lack of technical, managerial and financial (TMF) capacity by water and wastewater providers.
  - Lack of adequately trained technical, legal, financial, and managerial professionals, as well as inadequate training and ongoing education and assistance for existing water and wastewater providers at the staff and board level;
  - Lack of awareness of available training, assistance, and educational opportunities to support local employment in these sectors.

Potential Alternatives

This pilot study focuses on management and non-infrastructure alternatives to reduce costs and improve efficiency. There are management and non-infrastructure approaches that can benefit both water and sewer systems, falling along a broad spectrum of formality. The alternatives that are presented in this pilot study include:

- Internal Changes
- Informal Cooperation
- Contractual Assistance
- Joint Powers Authority
- Ownership Transfer
- Formation of a Legal Entity
- County Operation of Multiple Zones of Benefit or County Service Areas
- Regional Association
- Combination of Alternatives

Internal Changes

Internal changes are modifications that can be made within an existing entity to reduce costs, improve service delivery, and/or improve efficiency. Some of the internal changes that may be considered include: assessing the existing rate structure to determine if adjustments to the user rates are appropriate; assessing the existing budget, financials, and reserves to determine if adjustments are necessary; and evaluating the existing management structure to see if changes to the structure may benefit the sustainability of the entity.

Informal Cooperation

Informal cooperation can involve two or more entities working together in a mutual aid arrangement, without contractual obligations. By sharing equipment, bulk supply purchases, backup operation and maintenance personnel, sampling and testing services, or similar items or services, the cooperating communities can reduce some of their individual expenses without the need for a formal agreement.

Contractual Assistance

Contractual assistance can be provided in various forms. An entity or group of entities can contract with a private third party entity to provide bookkeeping services, operation and maintenance services, management, engineering, or other services. This type of contract is under each individual system's control, and does not necessarily involve cooperation between two systems. Similarly, an entity can contract with a non-profit organization to provide any of a variety of services. This can involve an existing non-profit entity or one formed for the specific purpose of providing contract services to public or private water or sewer utilities.

Alternatively, contractual assistance can be between utility providers. In this case, an entity could enter into one or more contracts with other entities for the provision of services and/or the purchasing of goods and equipment.

Joint Powers Authority

Inter-agency contracts can involve the creation of a new entity by cooperation between several existing entities, which allows each of the member agencies to continue to exist as independent entities. Inter-agency contracts would most likely be in the form of a joint powers agreement that can form a Joint Powers Authority (JPA). This is a more formal contractual approach than that described in the Contractual Assistance section above.

The new entity formed through the joint powers agreement provides one or more services for all participating entities; however the remaining services of each entity remain the responsibility of the individual agency. For example, the JPA may create a shared system management structure, while each participating entity continues to operate its own system.

Ownership Transfer

Ownership transfer involves consolidation of two or more systems into one existing or newly created system. This solution includes variants such as: acquisition and physical interconnection between the systems; or acquisition and satellite management (no physical interconnection). This pilot study discusses both forms of consolidation; however it focuses on the governance structure. Options for physical interconnection are developed further in the New Source Development pilot study.

Formation of a Legal Entity

Formation of a public legal entity may be an option for: (1) existing private entities that currently do not have access to funding or other opportunities as a private system, or (2) communities that do not have an existing water or sewer system and want to form a legal entity to provide water and/or wastewater service to the community. These would be communities that rely on private wells and/or septic systems. Individual households with private wells and septic systems are discussed further in the Individual Households pilot study.

Formation of a legal entity would help a system to become eligible for future funding opportunities for which they otherwise may not have been eligible.

County Operation of Multiple Zones of Benefit or County Service Areas

Another alternative may be to utilize County staff or contractors to provide management or operation services within multiple Zones of Benefit (ZOBs) or County Service Areas (CSAs). Many counties already manage ZOBs and/or CSAs within their jurisdictions. If a County has an efficient model in place to operate these service areas, or is willing to implement such a model, it could benefit many unincorporated communities by leveraging the county's considerable economy of scale and expertise in providing service to multiple communities.

Regional Association

A regional association focusing on sharing information can support and augment other solutions. There are various existing associations that can be utilized, or a new association could be formed to provide a specific service or serve a specific region. Regional associations are typically voluntary, independent associations whose main objective may be to act as a clearinghouse of information, materials, or resources to those entities that choose to become a member of the association. Existing entities continue to exist and function independently. Community members and entity leaders, staff and other interested parties can be potential members of the association. Included in this association, or as a separate program, could be training and education courses, including both leadership development and operator training programs. An association could also provide operation and maintenance services on a temporary or permanent basis.

Combination of Alternatives

Any one or a combination of two or more of the alternatives discussed in this pilot study can be implemented. Each community is unique, and therefore the most appropriate or most beneficial solution or solution set will differ from system to system. This study does not aim to recommend a single specific solution; rather it presents a range of potential solutions that could be implemented alone or in combination, depending on the specific circumstances of a particular community. The alternatives presented in this pilot study could also be implemented in combination with alternatives presented in the other pilot studies, and should be considered in the planning phase of any infrastructure project.

Implementation Process

The process of implementing a management or non-infrastructure solution is initiated when one or more entities decide to move forward in an effort to resolve their water or sewer system issues. From there, the system(s) can identify their needs and select the best options for their specific situation.

The alternatives identified in this pilot study range in formality and levels of sharing, and the implementation process varies significantly for the various options. The communities can choose which alternative(s) to implement depending on their needs and level of comfort with partnering with a nearby system.

The less formal alternatives, including informal cooperation and contractual assistance, can be implemented between the participating entities, with limited approval by regulatory agencies required. Alternatives involving ownership transfer or legal entity formation will require coordination with and approval from LAFCo, and appropriate regulatory agencies. Decision trees that were developed to help guide communities through the implementation process are presented in **Appendix F**.

Case Studies

Many disadvantaged communities with water supply or water quality issues have applied for and received funding for improvements to mitigate their water supply and/or water quality problems. Many disadvantaged communities with wastewater issues have also applied for and received funding for wastewater collection, treatment and disposal facility improvements. Various disadvantaged communities have implemented management and non-infrastructure type solutions through funded projects, and many others have also implemented these types of solutions on their own. Local communities are already demonstrating some of the solutions presented, including: Pixley Public Utility District, Tipton Community Services District, and Woodville Public Utility District which share resources on an informal basis; Porter Vista Public Utility District which contracts with the City of Porterville to provide sewer lift station maintenance as well as wastewater treatment; Cutler PUD and Orosi PUD which formed a JPA for wastewater treatment and disposal, and Fairways Tract Mutual Water Company which consolidated their water supply and distribution system with the City of Porterville through annexation into the City. Several other local examples are presented in this pilot study as well.

Stakeholder Outreach Processes

For each pilot study, a Pilot Project Stakeholder Advisory Group (PSAG) was formed to provide review of the pilot study, and provide guidance on potential communities to conduct outreach efforts through a community review process. The community review process involved conducting community review meetings to ground-truth findings, to learn about what the residents in the community review focus area need and want, and to assess their perspective on the alternatives presented within the draft pilot study.

One community review focus area was selected from a list of multiple potential projects to evaluate the alternatives presented in this pilot study. The selected community focus

area was the greater Porterville area, including East Porterville, Poplar and Williams (Cotton Center) and many other small communities surrounding Porterville. The community outreach effort for the Porterville focus area was aimed at evaluating various partnership approaches that may help improve technical, managerial, or financial viability by increasing the economy of scale.

More than twenty (20) water systems were invited to participate in community review meetings for the Porterville focus area. Representatives from about eight (8) communities and the City of Porterville attended the first meeting, and representatives from five (5) communities as well as a representative from the City of Porterville, Kings Basin Integrated Regional Water Management Authority (IRWMA) and the United Farmworkers Foundation attended the second meeting. Community participants included operators, board members, and residents.

Key takeaways from participants in the Porterville focus area were generally as follows:

- In general, participants were open to alternatives that would provide safe, reliable, and affordable drinking water, and quality service.
- There was concern that the management and non-infrastructure alternatives presented would not directly improve water quality.
- Education and training is a big need.
- Relationships and trust between communities can plan an important role in advancing non-infrastructure solutions.

Funding Opportunities

State regulators and funders can begin encouraging non-infrastructure solutions by providing educational material as well as funding opportunities for such alternatives. Existing funding opportunities and proposed drinking water legislation are presented in this study. Traditional drinking water funding programs include the Safe Drinking Water State Revolving Fund (SDWSRF), Proposition 84, Department of Water Resources (DWR) Integrated Regional Water Management Program (IRWM), Community Development Block Grant Program (CDBG), and United States Department of Agriculture (USDA) Rural Development. Some wastewater funding opportunities include the Clean Water State Revolving Fund (CWSRF), the Small Community Wastewater Grant program (SCWG), Community Development Block Grant Program, and United States Department of Agriculture Rural Development.

It is noted that most of the management and non-infrastructure alternatives presented in this pilot study would not be fundable under the traditional funding programs that have been available, unless these alternatives are part of a larger capital infrastructure project that meets the funding criteria.

Sustainability of Solutions

Long term planning is critical to the success and sustainability of any system. Communities need to ensure that the solution to be implemented is sustainable. Some

key steps that may be taken to improve the sustainability of the implemented program include: 1) assess system management adequacy, 2) pursue leadership development opportunities, 3) promote community involvement and buy-in, and 4) consider long-term operations and maintenance impacts and affordability.

Obstacles and Barriers

Communities have identified and worked through obstacles to implementation of management and non-infrastructure alternatives. Based on the community review process in the Porterville focus area, the general consensus was that if a solution would provide the community with safe and affordable drinking water and good service, they would be willing to consider any of the alternatives presented. However, some of the potential obstacles that have been identified in the Porterville focus area or elsewhere include:

- Disadvantaged community water and/or wastewater systems lack the technical expertise to properly operate and maintain their systems, and they often lack the resources to engage with other entities.
- Consolidation may result in a loss of identity for a local community.
- A system that consolidates other systems into its service area may absorb those acquired systems' debts.
- The initial costs associated with holding meetings and discussing alternatives and potential partnerships, soliciting community involvement, and other associated tasks may be a barrier.
- Local political barriers can be significant.
- Management goals of multiple systems may conflict.

In trying to overcome these obstacles and barriers, it is important that the entities involved are encouraged to focus on the common need they are trying to resolve. The long term health and wellbeing of the residents within the region should be the primary goal, and should outweigh the other obstacles and barriers that may inhibit communities from working together.

Conclusions and Recommendations

Summary of Findings

Many of the alternatives presented in the Management and Non-Infrastructure pilot study, including internal changes, informal cooperation, contractual assistance, formation of a joint powers authority, ownership transfer, or formation of a legal entity (other than a JPA) can be implemented to improve the technical, managerial, and financial capacity of a water or wastewater system provider. These alternatives may provide increased resources, communication and collaboration, opportunity for training and education, and sharing of services that can improve various capabilities of the water or wastewater serving entity.

While these alternatives can provide many benefits, most of the management and non-infrastructure alternatives presented are not likely to provide a significant reduction in operations and maintenance costs. An exception is formation of a legal entity, which would allow a community system to apply for funding for system improvements, where it would not otherwise have been able to. Sharing resources on an informal or contractual basis will provide some financial benefit to the system, but will be negligible when considering the per connection cost savings. Ownership transfer will allow for improved economy of scale, as well as insurance requirements, permits, and staffing for only one system instead of two or more. This will provide a benefit. However, it is when physical interconnection is involved that greater savings can be achieved.

Recommendations

For communities that are interested in pursuing one of the management and non-infrastructure alternatives presented in this pilot study, additional action is recommended. To implement one of these alternatives, communities should work on the following:

- Define issues that potential alternatives will aim to resolve
- Seek funding to conduct a feasibility study to evaluate alternatives
- Review existing sanitary surveys, inspection reports, or other information providing background on the existing facilities
- Prepare a Self Assessment of all communities involved (see **Appendix H**)
- Prepare a Technical, Managerial, and Financial Assessment of all communities involved (see **Appendix I**)
- Retain legal counsel to evaluate the available forms of governance and how a different form of governance may change the responsibilities of an agency (if governance structure will be changed)
- Retain an accounting professional to evaluate the financial health of each entity and the feasibility of consolidating finances (if applicable)
- Consider the impact to consumers (cost per connection)
- Consider the impact to water system (revenues versus expenses)
- Confirm that the solution will satisfy regulatory requirements
- Identify possible partnering communities or entities and initiate discussions
- Engage the community, provide information and seek input and community buy-in

Recommendations for various funding agencies as well as the Legislature were also developed as part of this pilot study, and for the overall Tulare Lake Basin DAC Study. Some recommendations or considerations include:

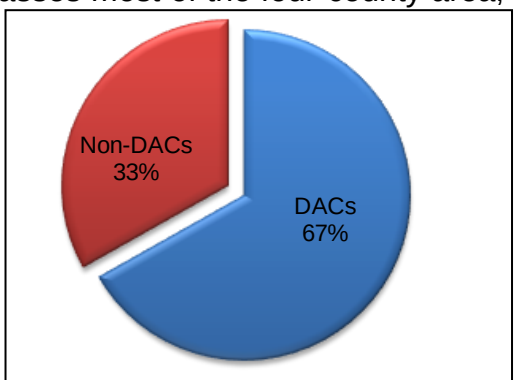
- County planning departments should consider the feasibility of connecting new development to existing public infrastructure, rather than permitting new small systems.
- Provide an education campaign throughout the Tulare Lake Basin region to educate board members, management staff, operators, and residents on the water issues that are faced by communities in the area.
- Promote Groundwater Management Planning – declining water levels leading to increased water quality contaminant levels and insufficient water supply.
- Continue the Pre-Planning and Legal Entity Formation Assistance Program.
- Continue the Consolidation Incentive Program.
- Consider other funding opportunities to assist with operation and maintenance expenses for communities with excessively high water rates.
- Provide technical and/or financial support for DACs to prepare funding applications.
- Conduct grant application workshops or training.

1 INTRODUCTION

1.1 Project Information

The County of Tulare received a California Department of Water Resources (DWR) grant executed in May 2011, which was appropriated through Senate Bill SBx2 1 (Perata, 2008) (Refer to **Appendix A** and **B**). This appropriation was the result of disadvantaged community leaders in the region raising the visibility of local water and wastewater challenges, and advocating for funding to develop more sustainable and affordable approaches to solving disadvantaged community water and wastewater issues in the Tulare Lake Basin. The goal of the Tulare Lake Basin Disadvantaged Community Water Study (TLB Study) was to develop an overall plan to address water needs including recommendations for planning, infrastructure, and other water management actions, as well as specific recommendations for regional drinking water treatment facilities, regional wastewater treatment facilities, conjunctive use sites and groundwater recharge, groundwater for surface water exchanges, related infrastructure, project sustainability, and cost-sharing mechanisms. The plan was intended to identify projects and programs that will create long-term reliability and regulatory compliance, while optimizing the on-going operation and maintenance (O&M) and management costs for small water and wastewater systems. As the culmination of the TLB Study, recommendations are provided for legislation, funding opportunities, and other support that Federal, State, and local agencies can provide to help facilitate this plan.

The County of Tulare contracted with Provost & Pritchard Consulting Group to prepare the plan. Provost & Pritchard led a team of consultants, including Keller Wegley Consulting Engineers, Self-Help Enterprises, Community Water Center, and McCormick, Kabot, Jenner & Lew (project team or consultant team). The TLB Study focuses on unincorporated communities within the Tulare Lake Basin (Study Area) that are classified as disadvantaged communities. A disadvantaged community is defined as a community whose median household income is 80 percent or less of the statewide median household income. The Study Area encompasses most of the four-county area, including Fresno, Kern, Kings, and Tulare Counties, and is generally rural in nature with much of the population widely dispersed throughout the region. The Tulare Lake Basin Study Area boundary is shown in **Figure 1-1**. Approximately 354 of 530 identified communities within the Tulare Lake Basin are disadvantaged or severely disadvantaged. The estimated population within these 354 communities is approximately 280,000[3]. **Figure 1-2** through **Figure 1-5** show the disadvantaged communities within the Study Area.

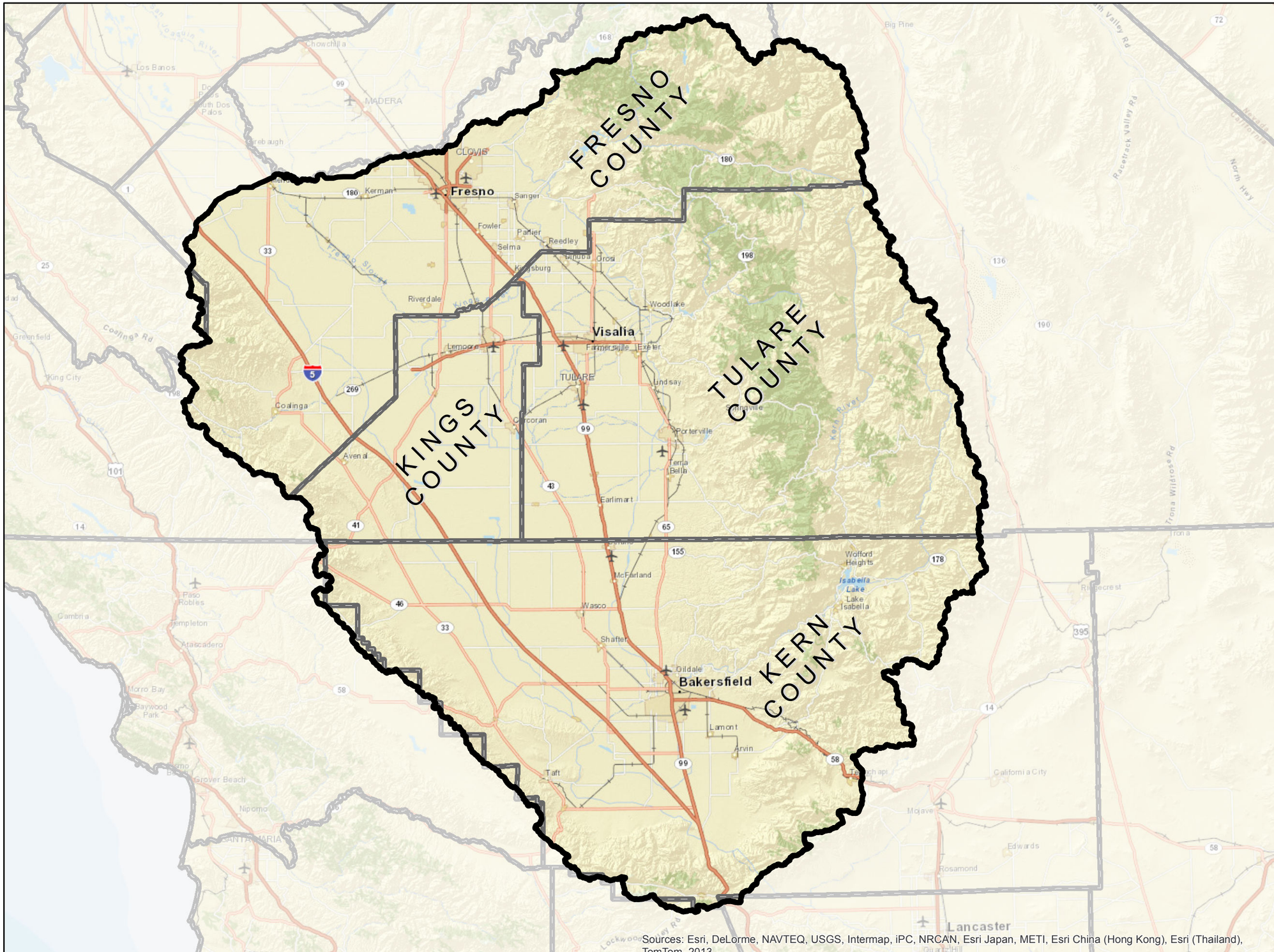


Communities in the Tulare Lake Basin

[3] Database information that was collected and analyzed for the TLB Study originated from multiple sources. Refer to Section 13 - References.

Tulare Lake Basin Disadvantaged Community Water Study

Figure 1-1
Tulare Lake Basin Study Area



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

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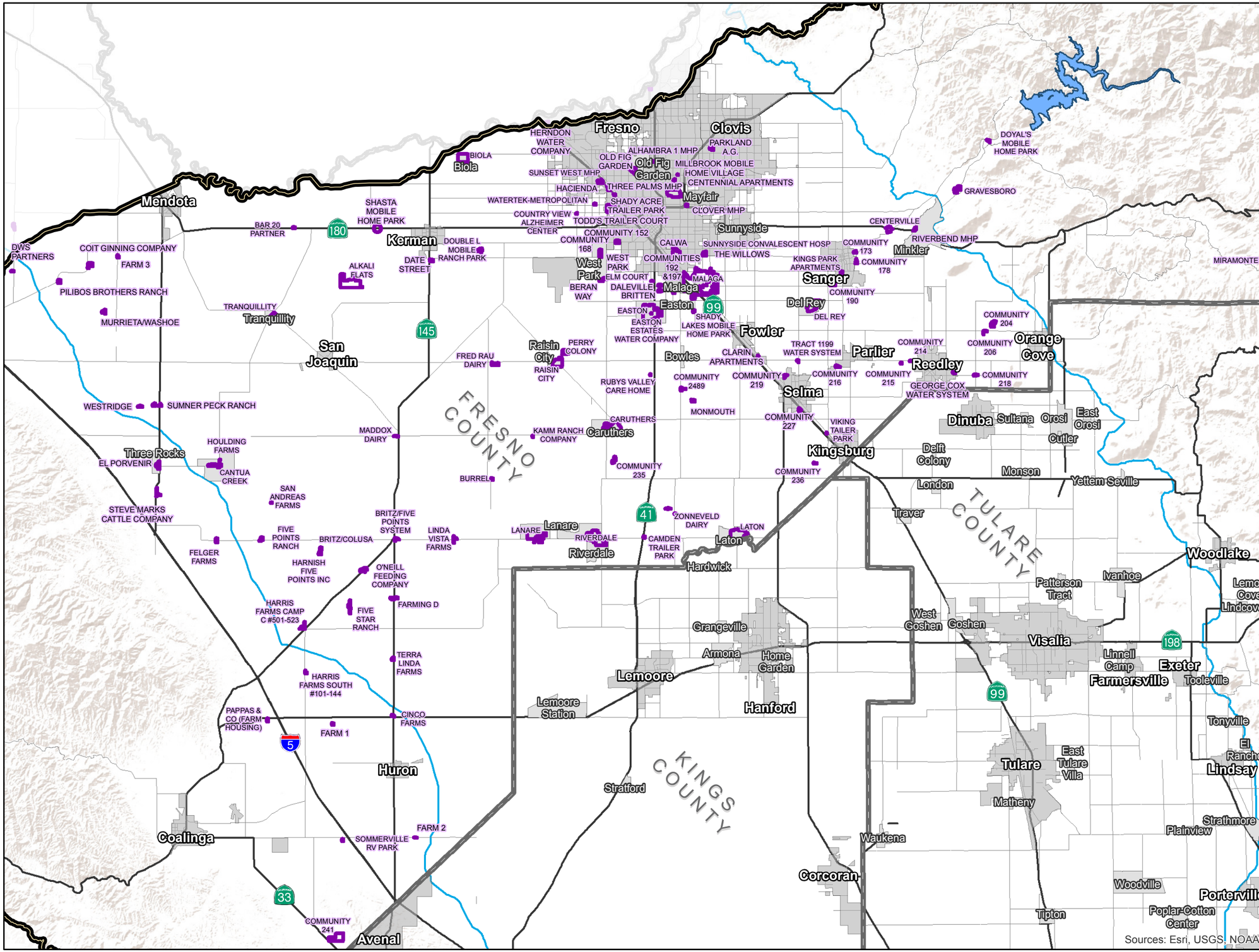
(559) 449-2700

Tulare Lake Basin Disadvantaged Community Water Study

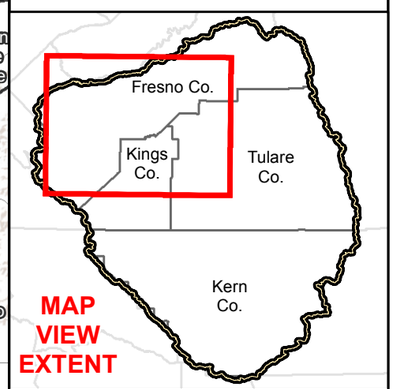
FRESNO COUNTY
Communities
DAC and SDAC Communities

FIGURE 1-2



Legend

- Tulare Lake Basin
- County
- DAC or SDAC Community
- City
- Community (Non-Incorporated)
- Major Road
- Highway / Interstate
- Major Canal



0 2 4 6 Miles

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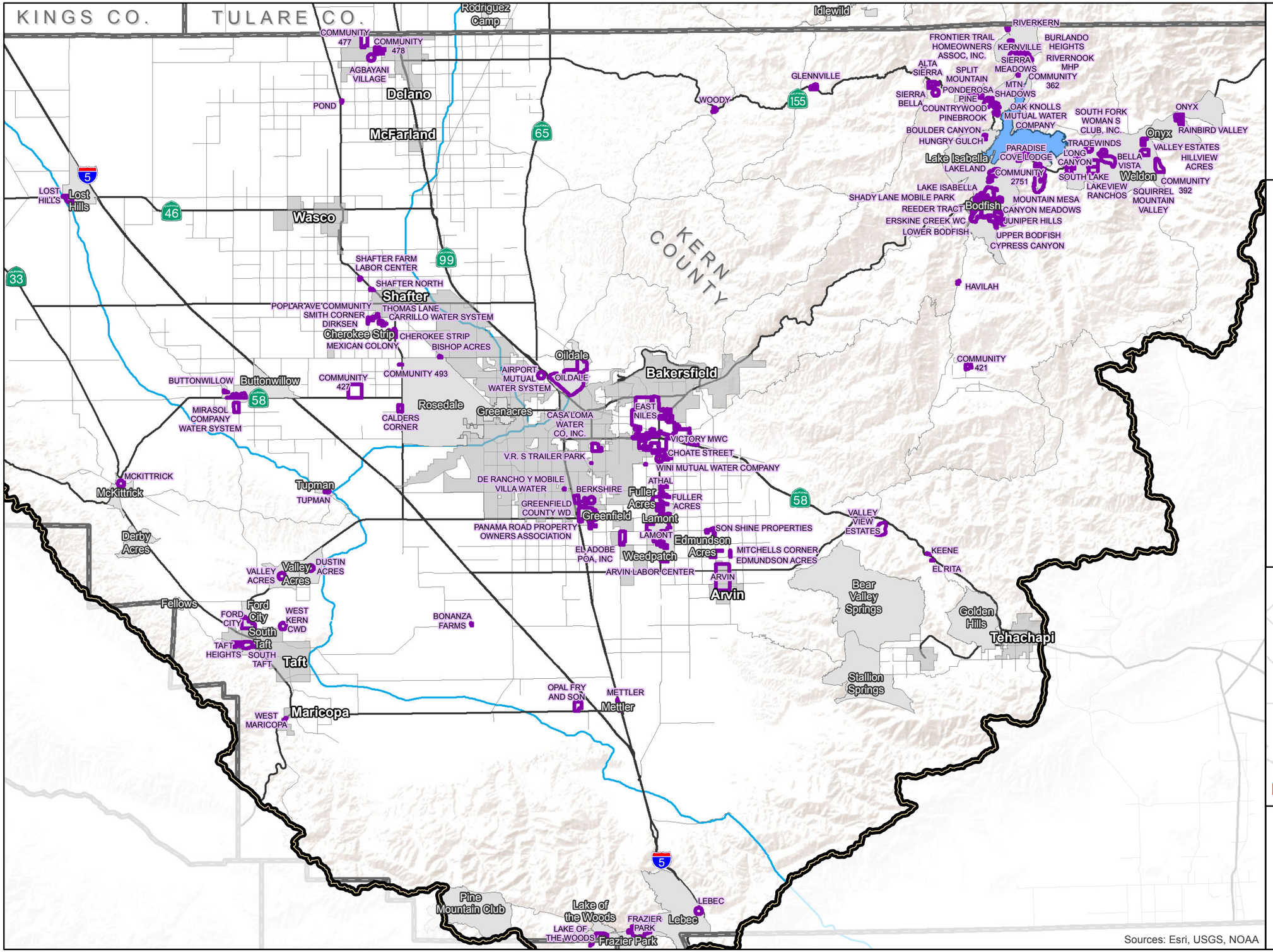
Tulare Lake Basin Disadvantaged Community Water Study

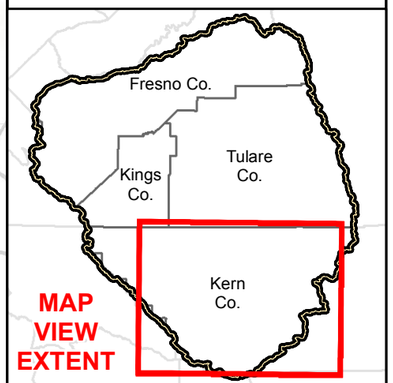
KERN COUNTY
Communities
DAC and SDAC Communities

FIGURE 1-3



Legend

- Tulare Lake Basin
- County
- DAC or SDAC Community
- City
- Community (Non-Incorporated)
- Major Road
- Highway / Interstate
- Major Canal



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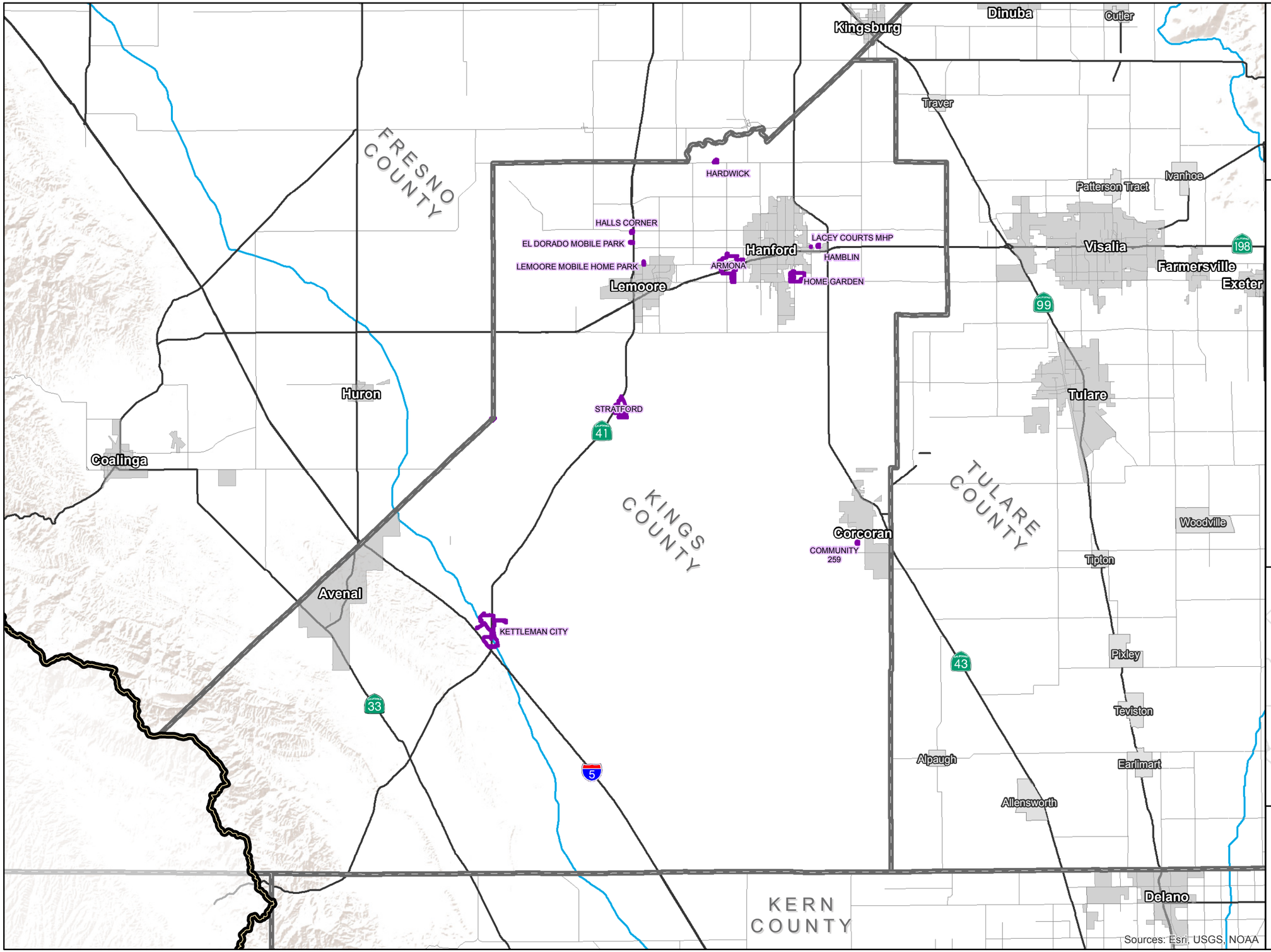
Tulare Lake Basin Disadvantaged Community Water Study

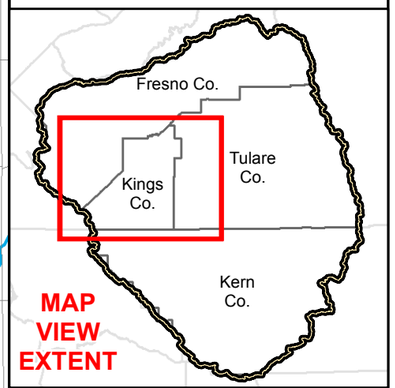
KINGS COUNTY
Communities
DAC and SDAC Communities

FIGURE 1-4



Legend

- Tulare Lake Basin
- County
- DAC or SDAC Community
- City
- Community (Non-Incorporated)
- Major Road
- Highway / Interstate
- Major Canal



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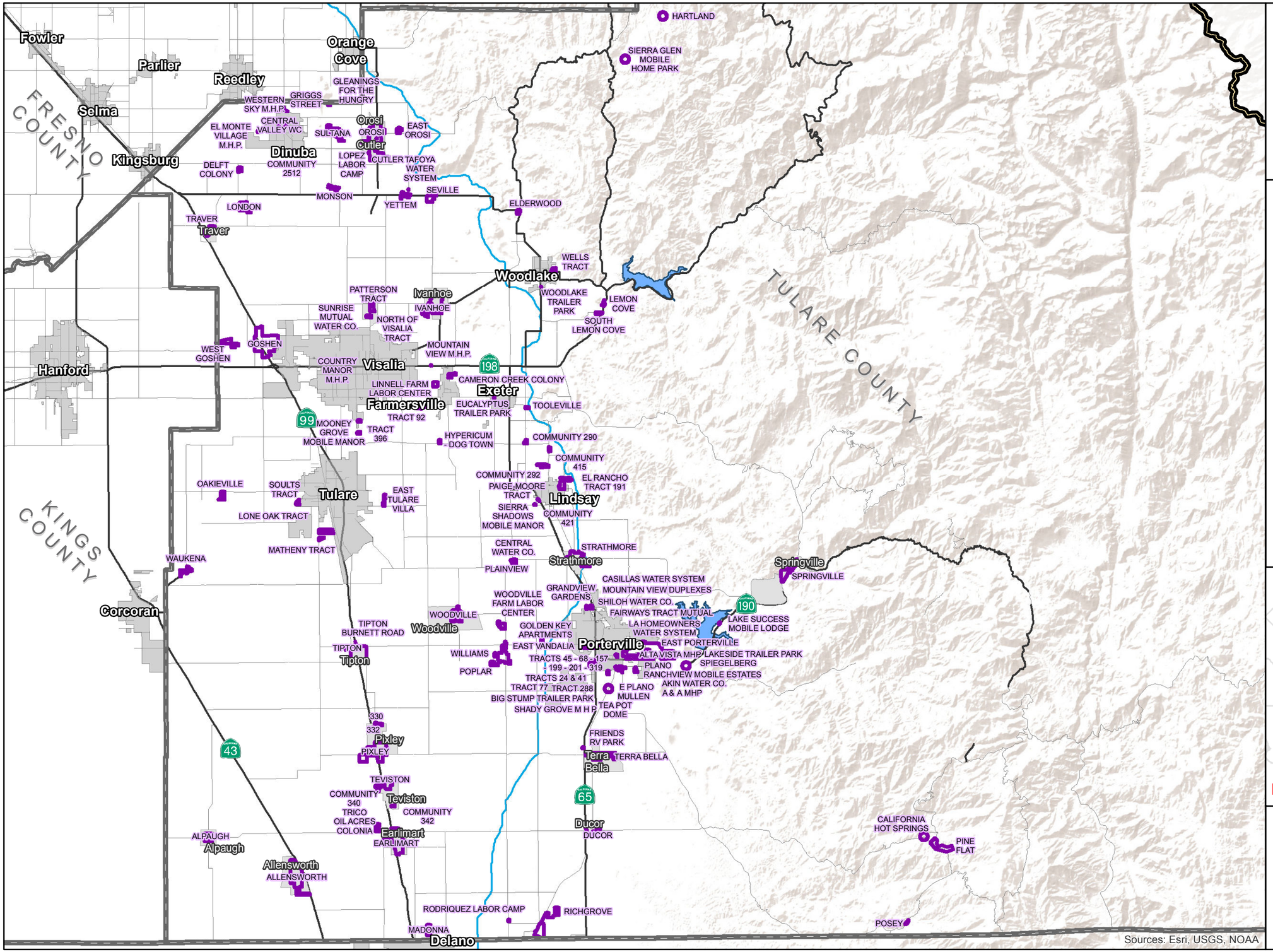
Tulare Lake Basin Disadvantaged Community Water Study

TULARE COUNTY
Communities
DAC and SDAC Communities

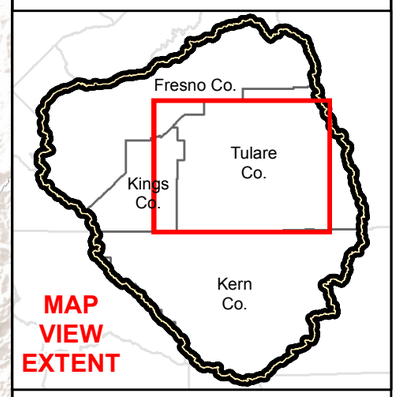
FIGURE 1-5



Sources: Esri, USGS, NOAA

Legend

- Tulare Lake Basin
- County
- DAC or SDAC Community
- City
- Community (Non-Incorporated)
- Major Road
- Highway / Interstate
- Major Canal



0 2 4 6 Miles

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These communities may face a variety of source water issues, including (1) poor water quality, (2) insufficient water supply, and (3) unreliable water system infrastructure. A source water quality issue, as defined in this study, is considered to be an exceedance of a drinking water maximum contaminant level (MCL) of a primary constituent more than one time within the three year period from 2008 through 2010. This does not necessarily constitute a formal violation, but is an indication that the system may be in jeopardy of having violations in the future and should be evaluated further. Evaluation of MCL exceedances was used to get a better understanding of where identified issues were present based on geography, community size, and other factors. Exceedance of maximum contaminant levels for arsenic, nitrates, and uranium are common in the Tulare Lake Basin Study Area.

Insufficient water supply, as described in this study, is considered to be a characteristic of a water system with only one (1) active water supply well (e.g., no backup source). Communities with surface water as their single source of supply can also be vulnerable depending on the reliability of the surface water source and of backup systems integrated into the surface water treatment plant.

Additionally, the general depth to groundwater in the Tulare Lake Basin continues to decline, a condition known as overdraft. In 2009, the United States Geological Survey (USGS) performed a comprehensive evaluation of groundwater supplies in the Central Valley (USGS, 2009). The Central Valley was divided into four regions: Sacramento, Delta and Eastside Streams, San Joaquin Basin, and Tulare Basin. The USGS found that the Tulare Basin had the highest rate of groundwater overdraft of any region, and that fifty seven percent of groundwater pumping in the Central Valley occurs in the Tulare Basin. Groundwater storage in the Tulare Basin declined at a steady rate between 1962 and 2004. The total loss in storage due to un-replenished water stores was estimated to be 68 million acre-feet, which equates to an overdraft of about 1.6 million acre-feet/year.

The impacts of utilizing deeper groundwater, as necessitated by overdraft conditions, may include higher pumping costs and different constituents to be evaluated for treatment prior to distribution as a potable water source. For communities that currently rely on shallower groundwater, water supplies may dry up and require investment in

constructing new sources or deepening of wells. These costs may be significant and could leave communities without water if not proactively addressed.

Unreliable water system infrastructure is also a challenge for disadvantaged communities in the Study Area. Many systems have old and failing equipment and pipelines, lack of funds to proactively maintain their system, and lack of redundancy of system components. Systems with such limited reliability are more susceptible to system failures that may lead to emergency situations, where immediate repairs or replacement are necessary in order to deliver safe drinking water to customers.

In addition to the water supply issues faced by DACs in the Study Area, communities may also face issues with their wastewater systems. Wastewater challenges include reliance on septic systems that may be failing or are potentially contaminating the groundwater, failing or insufficient sewer collection systems, or wastewater treatment systems that are not capable of meeting the limitations set forth in the facility's Waste Discharge Requirements (WDRs).

Many disadvantaged communities with water supply or water quality issues have applied for and received funding for improvements to mitigate these problems. Report to the Legislature, Senate Bill X2 1 (2011), attached in **Appendix C**, provides a list of some recently funded projects in the region. Systems that have received funding for water system capital improvements are usually on their way to resolving their water supply issues. While there are cases where the funded improvements resolve some, but not all of the system's water supply issues, a system with a funded project should be on the path toward the goal of delivering safe, sufficient, and sustainable potable water.

1.2 Overview of TLB Study

In order to meet the objectives of the Tulare Lake Basin Disadvantaged Community Water Study, five tasks were performed in accordance with the grant agreement. The tasks performed included:

1. Baseline Data Gathering, Mapping, and Database Creation of Disadvantaged Communities in the Tulare Lake Basin
2. Stakeholder Consultation and Community Outreach
3. Selection of Pilot Projects and Studies to Develop Representative Solutions to Priority Issues
4. Implementation of Pilot Project Stakeholder Process to Develop Studies and Representative Solutions to Priority Issues
5. Preparation of Final Report for submittal to DWR

1.2.1 Database

The County of Tulare and project team developed a database of disadvantaged communities in the Tulare Lake Basin. The project team coordinated with other local, state, and federal agencies as well as appropriate organizations to collect existing data

and create the database. The project team utilized Geographic Information Systems (GIS) to map the location of disadvantaged communities in the Tulare Lake Basin and other available and relevant data in order to identify regional challenges and opportunities.

More information about the data gathering and database creation process, as well as ongoing database maintenance, is included in the Tulare Lake Basin Disadvantaged Community Water Study Final Report (Final Report).

1.2.2 Stakeholder Consultation and Community Outreach

An initial task for the TLB Study was to organize a Stakeholder Oversight Advisory Committee (SOAC or Committee). The County of Tulare established a basin-wide Committee comprised of community representatives, as well as regulatory and funding agency representatives and other organizations that work on and are familiar with disadvantaged community water and wastewater needs. The SOAC worked with the project team to identify priority issues, potential pilot projects, and review project recommendations. The details of the SOAC and their purpose, responsibilities, and actions performed are described in the Final Report.

The project team also conducted outreach to community representatives, including residents and local water board members that were the subject of individual pilot studies. These community representatives assisted the project team in confirming the viability of the alternatives presented, and helped inform the development of a roadmap, referred to as “decision trees”, for each of the pilot studies. The decision trees are sets of flow charts that are intended to help guide a community toward an appropriate solutions, depending on its unique set of challenges and circumstances.

In order to ensure that each pilot study was developed with input from stakeholders, a separate Pilot Project Stakeholder Advisory Group (PSAG) was convened for each of the four pilot studies. Each group was comprised of members of impacted communities, regulatory and funding agencies, local water or wastewater providers, and other agencies and organizations as appropriate, in order to provide input and recommendations to the project team.

1.2.3 Selection of Pilot Studies

In consultation with the SOAC, the project team utilized the database to identify common problems associated with providing safe, reliable water and wastewater services to disadvantaged communities. Using this list of common problems, the project team worked with the SOAC to identify priority issues facing disadvantaged communities in the Tulare Lake Basin. Five (5) priority issues were identified through the SOAC, including:

1. Lack of funding to offset increasingly expensive operations and maintenance costs in large part due to lack of economy of scale;

2. Lack of technical, managerial, and financial (TMF) capacity by water and wastewater providers;
3. Poor water quality;
4. Inadequate or unaffordable funding or funding constraints to make improvements; and
5. Lack of informed, empowered, or engaged residents.

The SOAC approved a final roster of four (4) representative pilot studies to address the identified priority issues, as the culmination of several SOAC meetings that took place from October 2011 through July 2012. The four pilot studies developed through the SOAC to be further evaluated included:

1. Management and Non-Infrastructure Solutions to Reduce Costs and Improve Efficiency;
2. Technical Solutions to Improve Efficiency and Reduce Operation & Maintenance;
3. New Source Development; and
4. Individual Household Solutions.

1.2.4 Implementation of Pilot Studies

The project team further developed and evaluated the potential solutions recommended under each of the four (4) pilot studies identified. Recommendations and roadmaps for each pilot study were developed in consultation with the Pilot Project Stakeholder Advisory Groups as well as pilot specific Community Review groups.

The Final Report and each of the pilot studies reflect comments and information received as a result of outreach to various federal, state, and local agencies as well as community stakeholders, including representatives of disadvantaged communities. The four pilot studies are not mutually exclusive. Communities pursuing improvement in a specific pilot study topic will likely utilize information prepared in one or more of the other pilot studies. Each of the four pilot studies is included as an attachment to the Final Report. The pilot study that is the focus of this report is the Management and Non-Infrastructure pilot.

1.2.5 Final Report

The Tulare Lake Basin Disadvantaged Community Water Study Final Report provides a complete discussion of all the tasks performed as a part of the TLB Study. The four pilot studies are appended to the Final Report and summarized within the Final Report. Based on the findings of the TLB Study and each of the pilot studies, the Final Report also provides several conclusions and recommendations to the State Legislature.

1.3 Scope of Pilot

Some communities lack the technical, managerial and financial (TMF) resources to operate and maintain their existing system or a new or upgraded system, and, as such, may not be eligible to receive funding for construction. In these situations, installing a treatment system or developing a new source may not be feasible without addressing TMF issues. This pilot study aims to identify various management and non-infrastructure alternatives, including various cost-sharing mechanisms that can be considered to help alleviate some of these challenges. It should also be noted that the management and non-infrastructure alternatives presented herein can be implemented to improve system efficiency and affordability, regardless of whether a water supply or quality issue exists, and regardless of whether an upgrade to the system is needed.

The management and non-infrastructure alternatives that are presented in this pilot study include:

- Internal Changes
- Informal Cooperation
- Contractual Assistance
- Joint Powers Authority
- Ownership Transfer
- Formation of a Legal Entity
- County Operation of Multiple Zones of Benefit or County Service Areas
- Regional Association
- Combination of Alternatives

This study describes potential alternative management and non-infrastructure solutions, the implementation process for each alternative, as well as several example projects that have been implemented, demonstrating the result of implementing one or more of these alternatives. Some potential projects within the Tulare Lake Basin Study Area are also identified, for which further vetting and evaluation will be required. Additionally, this study discusses funding opportunities, the sustainability of the alternatives identified, operation and maintenance impacts, as well as obstacles and barriers that need to be overcome to implement a non-infrastructure solution.

This pilot study includes the following:

- A description of the existing regulatory setting and summary of database findings;
- A description of the goals of the pilot and perspectives that were considered;
- A description of the priority issues this pilot aims to address;
- A description of the potential alternatives considered through this pilot;

- A description of the process to implement the potential alternatives considered;
- A discussion of example projects or case studies showing the results of these types of solutions;
- A discussion of the outreach process and communities that were evaluated;
- Funding opportunities that are available to implement solutions;
- A discussion of steps that may be taken to ensure long-term sustainability;
- Identification of any obstacles or barriers to implementation of the alternatives considered and recommendations for how to mitigate those obstacles or barriers; and
- A summary of conclusions and recommendations for future action.

2 BACKGROUND

2.1 Regulatory Setting

2.1.1 Drinking Water Regulations

The Safe Drinking Water Act was originally passed by Congress in 1974 and amended in 1986 and 1996, to protect public health by regulating the nation's public drinking water supply. The Safe Drinking Water Act affects every public water system (PWS) in the United States. It is noted that any supplier delivering water for human consumption to less than 15 service connections or less than 25 regularly served persons is not considered to be a PWS, as defined by the Safe Drinking Water Act. The key provisions of the Safe Drinking Water Act are the National Primary Drinking Water Regulations, which are national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. Early on, the Safe Drinking Water Act primarily focused on treatment as a means of protecting drinking water, but in 1996 the Act was amended to include source water protection, operator training, funding for water system improvements, and public information as important components of protection.

Compliance with the Safe Drinking Water Act at the federal and state levels requires public water systems, regardless of size, to have (1) adequate and reliable sources of water that either are or can be made safe for human consumption; and (2) the financial resources and technical ability to provide services effectively, reliably, and safely for workers, customers, and the environment. Small public water systems must meet the same requirements as larger utilities, but with fewer financial resources available to them due to their smaller customer base. The ability of users to cover system costs is further reduced in disadvantaged communities where household incomes are less, resulting in increased challenges to meet their financial responsibility. Federal and state programs do provide these small public water systems with extra assistance, such as training and technical assistance, but operational subsidies are almost nonexistent and many small and disadvantaged community water systems continue to struggle to remain in compliance.

A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 year long residents is considered by the California Department of Public Health (CDPH) as a Community Water System (CWS), and is regulated either by CDPH or the Local Primacy Agency (LPA). The EPA has designated CDPH as the Primacy Agency responsible for the administration and enforcement of the Safe Drinking Water Act (SDWA) requirements in California. CDPH has adopted statutes and regulations to implement the requirements of the SDWA. CDPH has regulatory responsibility over water systems including tasks such as issuance of operating permits, conducting inspections, monitoring for compliance with regulations and taking enforcement action to compel compliance when violations are identified.

CDPH has delegated the drinking water program regulatory authority for small public water systems serving less than 200 service connections to 31 counties in California. The delegated counties (Local Primacy Agencies or LPAs) are responsible for regulating approximately 5,500 small public water systems statewide. CDPH retains the regulatory authority over water systems serving 200 or more service connections and any small water systems not delegated to an LPA.

Kings County is the Local Primacy Agency under the California Department of Public Health in monitoring compliance for and in enforcing EPA's Safe Drinking Water Act in that county. Communities in Kings County with less than 200 connections are therefore monitored by the Kings County Department of Public Health, Environmental Health Services.

Tulare County has been the LPA responsible for regulating small public water systems in that county. However, as of July 1, 2014 Tulare County relinquished Local Primacy to CDPH, and will no longer serve as the LPA for that county.

In Fresno and Kern Counties, CDPH maintains responsibility for regulating small public water systems.

2.1.2 Wastewater Regulations

The State Water Resources Control Board (SWRCB) was created by the Legislature in 1967, with the goal of ensuring the highest reasonable quality of waters of the State. The SWRCB allocates water rights, adjudicates water rights disputes, develops statewide water protection plans, establishes water quality standards, and guides the Regional Water Quality Control Boards (RWQCB or Regional Boards) located in the major watersheds of the State. There are nine (9) RWQCBs under the SWRCB. The RWQCBs develop and enforce water quality objectives and implementation plans to protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology, and hydrology. The Regional Boards develop "Basin Plans" for their hydrologic areas, issue waste discharge permits for wastewater treatment facilities, take enforcement action against violators, and monitor water quality.

Together with the Regional Boards, the SWRCB is authorized to implement the Federal Water Pollution Control Act (Clean Water Act) in California. The objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. The Clean Water Act gives the EPA the authority to set effluent limits to ensure protection of the receiving water. Pollutants regulated under the Clean Water Act include priority pollutants, conventional pollutants such as biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, oil and grease, and pH, and non-conventional pollutants including any pollutants not identified as either conventional or priority.

2.1.3 Changes to the Regulatory Setting

As of July 1, 2014, the drinking water division of CDPH is operated under the SWRCB.

The California Environmental Protection Agency and the California Health and Human Services Agency held a public meeting on January 15, 2014 to obtain input on the proposed transfer of the Drinking Water Program from the California Department of Public Health to the State Water Resources Control Board.

The Drinking Water Reorganization Transition Plan was developed in March 2014, to describe the proposed transfer that is effective as of July 1, 2014.

http://www.swrcb.ca.gov/drinkingwater/docs/transition_plan_fullversion.pdf

According to the Transition Plan, The Administration's goal in transferring the Drinking Water Program is to align the state's water quality programs in an organizational structure that:

1. Consolidates all water quality regulation throughout the hydrologic cycle to protect public health and promote comprehensive water quality protection for drinking water, irrigation, industrial, and other beneficial uses;
2. Maximizes the efficiency and effectiveness of drinking water, groundwater, and water quality programs by organizing them in a single agency whose primary mission is to protect water quality for beneficial uses including the protection and preservation of public and environmental health;
3. Continues focused attention on providing technical and financial assistance to small, disadvantaged communities to address their drinking water needs;
4. Consolidates financial assistance programs into a single state agency that is focused on protecting and restoring California water quality, protecting public health, and supporting communities in meeting their water infrastructure needs;
5. Establishes a one-stop agency for financing water quality and supply infrastructure projects;
6. Enhances water recycling, a state goal, through integrated water quality management; and
7. Promotes a comprehensive approach to communities' strategies for drinking water, wastewater, water recycling, pollution prevention, desalination, and storm water.

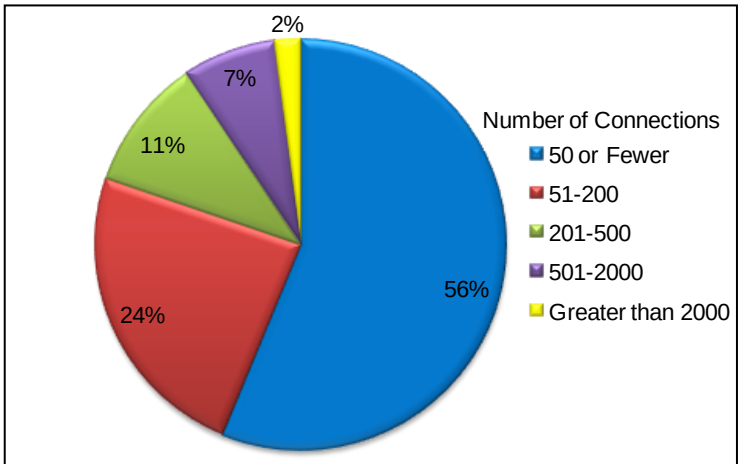
The Drinking Water Program is responsible for enforcing the federal and state Safe Drinking Water Acts. The main responsibilities are to: (1) issue permits to drinking water systems, (2) inspect water systems, (3) monitor drinking water quality, (4) set and enforce drinking water standards and requirements, and (5) award infrastructure loans and grants.

Under the proposed transfer, Drinking Water Program regulatory staff would be organized under a new ***Division of Drinking Water*** within the State Water Board. Headquarters staff for the Division would be relocated to the CalEPA building with other State Water Board staff. The remainder of the staff would continue to be locally-based in district offices and would continue their close working relationships with water system personnel and other interested community groups.

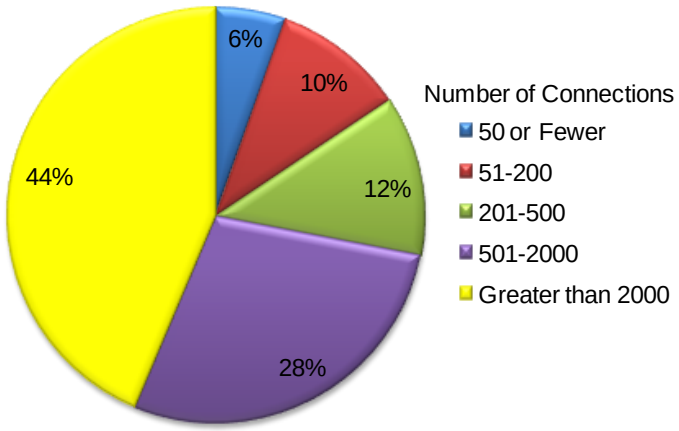
Federal law requires a single agency at the state level to carry out the federal Public Water System Supervision Program implementing the Safe Drinking Water Act. The Department of Public Health had been granted primacy for implementing the federal program. The Administration will work with U.S. EPA to ensure that the transfer of primacy from the Department of Public Health to the State Water Board occurs simultaneously with the transfer of the Drinking Water Division.

2.2 Summary of Database Findings

There are approximately 354 disadvantaged communities (DACs) within the Tulare Lake Basin Study Area. Of these 354 DACs, approximately 201 are severely disadvantaged communities (SDACs). The water and sewer systems in these unincorporated communities throughout the Tulare Lake Basin vary in size, from those with individual water wells and onsite septic systems, to community systems serving more than 2,000 connections. The majority (80%) of the communities range in size from less than 15 connections to 200 connections, although a large percentage (84%) of the overall population lives in communities with greater than 200 connections. The number of connections as discussed in this pilot study is generally based on water system connections.



Disadvantaged Communities in the Tulare Lake Basin Number of Communities by Size



Disadvantaged Communities in the Tulare Lake Basin Population by Community Size

Many water systems serving these DACs face challenges related to the quality of their water and/or the number of supply sources available.

The water quality primary constituent MCL exceedances reported in these communities include coliform bacteria, arsenic, nitrate, uranium, fluoride, dibromochloropropane (DBCP), perchlorate, polychlorinated biphenyls (PCB), and disinfection by-products such as trihalomethanes. Based on the database information collected and analyzed, arsenic, nitrate, and uranium are the contaminants of greatest concern in the region since those constituents had the greatest number of exceedances reported. Coliform exceedances are also common, but coliform is readily treatable as discussed and documented in the Technical Solutions pilot study.

There are approximately 216 DACs with water systems in the Study Area. Approximately 89 out of the 216 DACs with water systems in the Study Area reported at least two water quality exceedances between 2008 and 2010. An exceedance of an MCL does not always constitute a violation, but does indicate a potential issue. A breakdown of the water quality exceedances by contaminant is presented in the Technical Solutions pilot study.

Limited reliable water supply is also a concern within the Study Area, since many communities only have a single source of water supply, usually from groundwater. Based on the database information available, approximately 96 out of the 354 DACs in the Study Area have a single supply source. Communities that rely on a single water source are especially vulnerable to drought and other water supply challenges, as well as changes in water quality. An entire community can go from having safe drinking water to not having access to safe water or not having water at all with the failure of a single source.

The communities with the various water supply and quality issues are illustrated on the maps shown as **Figure 2-1** through **Figure 2-4**. As noted, these systems are not all in violation of water quality standards. A list of compliance orders for the Fresno, Visalia and Tehachapi Districts of CDPH are presented in **Appendix D**.

The database is a collection of information from PolicyLink, CDPH, Self-Help Enterprises, County of Fresno, and County of Tulare, as well as other sources. The database has been reviewed to evaluate the water quality and supply source issues as well as wastewater treatment and disposal issues within the Study Area. More specifics of the database and how it was developed are found in the Tulare Lake Basin Disadvantaged Community Water Study Final Report. The database will continue to be maintained and updated by the County of Tulare after completion of this Study.

The database includes the best available data, but it is not a complete and comprehensive database of all water supply systems in the Study Area, and as such should be considered a work in progress for future updating. It is likely that there are communities and/or systems with water quality problems that have not been specifically identified because water quality data was limited or not available. Very small water systems (15 connections and less) are likely to have the most limited data available, and data for households with individual wells was not available. Their problem types, however, will likely fall within the family of problems identified to exist for other communities in the database. Water systems with less than 15 connections and individual household systems are discussed in the Individual Households pilot study.

There are also some emerging contaminants of concern that are discussed in the Technical Solutions pilot study. The emerging contaminants of most imminent concern are Hexavalent Chromium (Chrome-6) and 1,2,3-Trichloropropane (TCP). CDPH developed a maximum contaminant level (MCL) for Chrome-6 of 10 parts per billion (ppb), which became effective on July 1, 2014. CDPH has also developed a public health goal for TCP and is in the process of developing an MCL. It is anticipated that many of the DACs within the Tulare Lake Basin will be impacted by implementation of MCLs for Chrome-6 and TCP, and they could be expensive contaminants to mitigate.

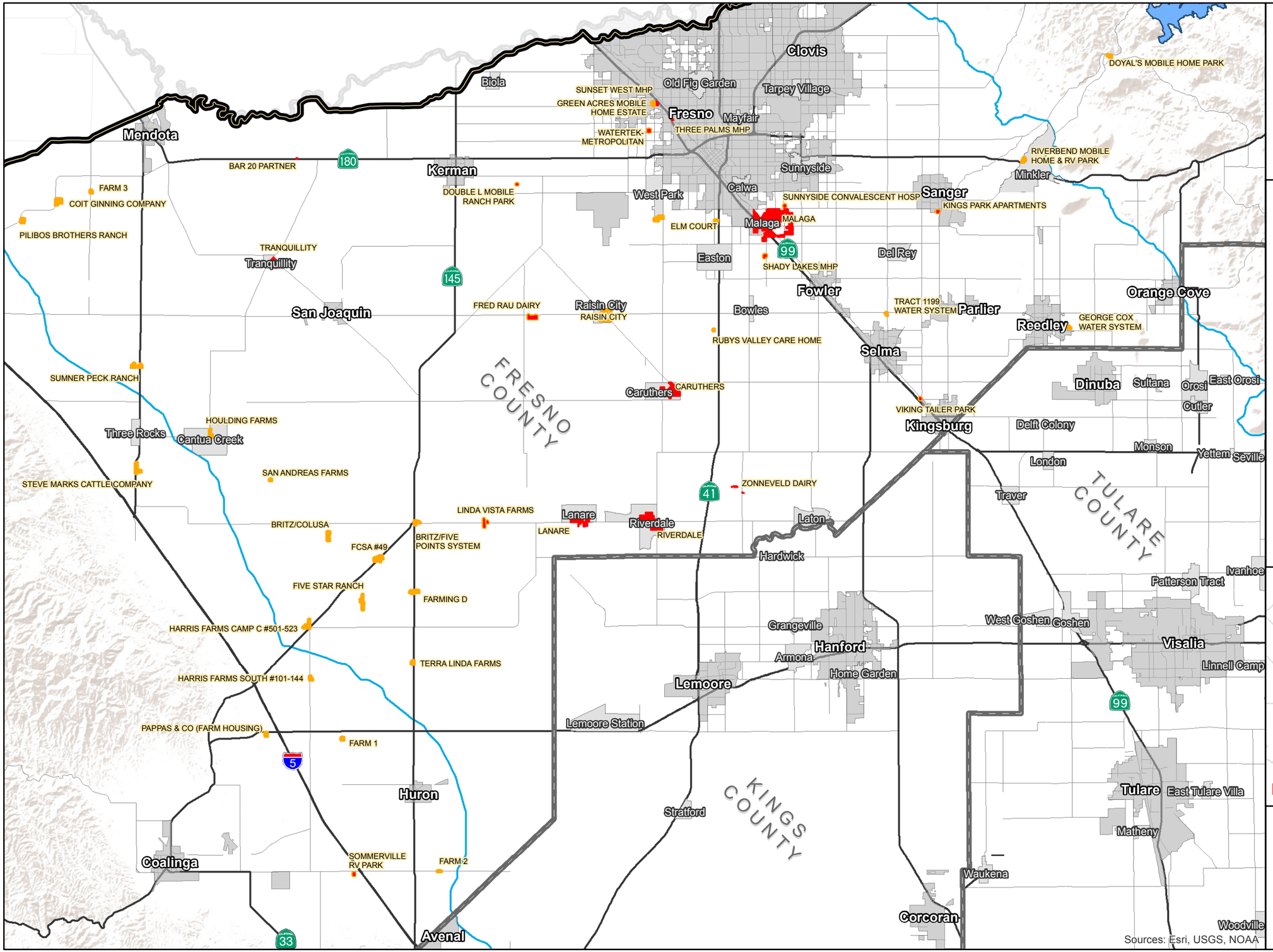
The Tulare Lake Basin has been the subject of several other studies in recent years that are referenced in the TLB Study. The “Kings Basin Water Authority Disadvantaged Community Pilot Project Study” (KBWA Study) was commissioned to study the Kings Basin area, which overlaps much of the Tulare Lake Basin Study Area. The KBWA Study area included most of Fresno County, and portions of Kings and Tulare Counties. The Kings Basin Water Authority contracted with Provost & Pritchard to conduct the KBWA Study. The State Water Resources Control Board commissioned the preparation of the report entitled “Addressing Nitrate in California’s Drinking Water”. The University of California was contracted to prepare the report with a focus on nitrates in the groundwater of the Tulare Lake Basin and a portion of Salinas Valley. The State Water Resources Control Board also administered a report entitled “Communities that Rely on Contaminated Groundwater”, in response to Assembly Bill 2222.

Tulare Lake Basin Disadvantaged Community Water Study

FRESNO COUNTY Communities

DAC and SDAC Communities With A Single Active Water Source Or *Water Quality Issues

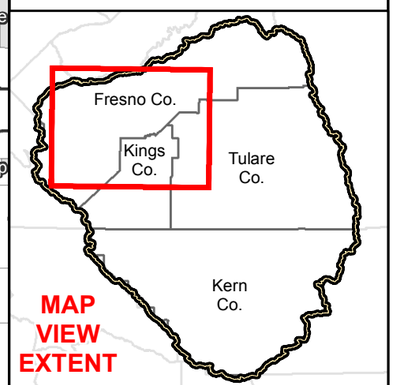
FIGURE 2-1



Legend

- Tulare Lake Basin
- County
- *Source Exceeded MCL for either Arsenic, Uranium, Nitrate or Half Nitrate (2008-10)
- 1 Active Water Source Identified
- City
- Community (Non-Incorporated)
- Major Road
- Highway / Interstate
- Major Canal

*Source exceeded MCL in one or more samples collected from 2008-2010. Source status is AU (Active Untreated), CU (Combined Untreated), AT (Active Treated), or CT (Combined Treated). Considered as delivered water. Communities with raw water samples that exceeded MCL are shown if no samples exist for the source codes listed above.



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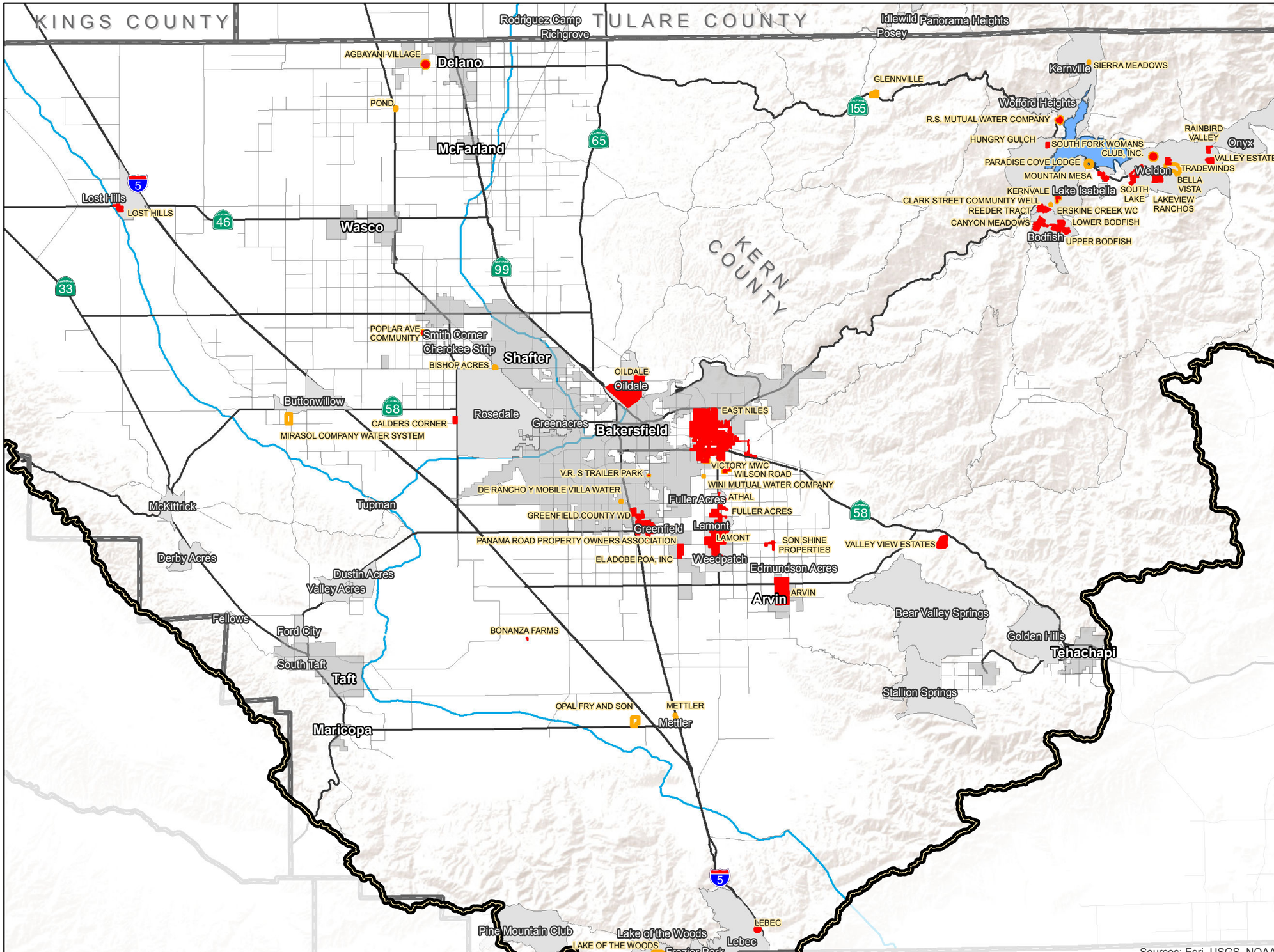
Fresno, CA 93711-6162
(559) 449-2700

Tulare Lake Basin Disadvantaged Community Water Study

KERN COUNTY Communities

DAC and SDAC Communities With A Single Active Water Source Or *Water Quality Issues

FIGURE 2-2

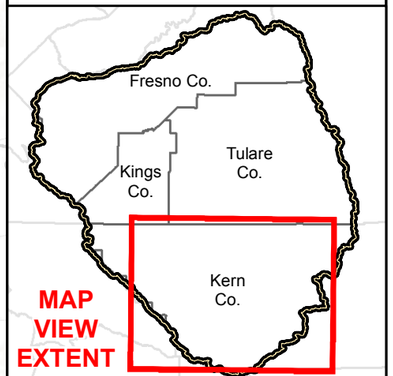


Sources: Esri, USGS, NOAA

Legend

- Tulare Lake Basin
- County
- *Source Exceeded MCL for either Arsenic, Uranium, Nitrate or Half Nitrate (2008-10)
- 1 Active Water Source Identified
- City
- Community (Non-Incorporated)
- Major Road
- Highway / Interstate
- Major Canal

*Source exceeded MCL in one or more samples collected from 2008-2010. Source status is AU (Active Untreated), CU (Combined Untreated), AT (Active Treated), or CT (Combined Treated). Considered as delivered water. Communities with raw water samples that exceeded MCL are shown if no samples exist for the source codes listed above.



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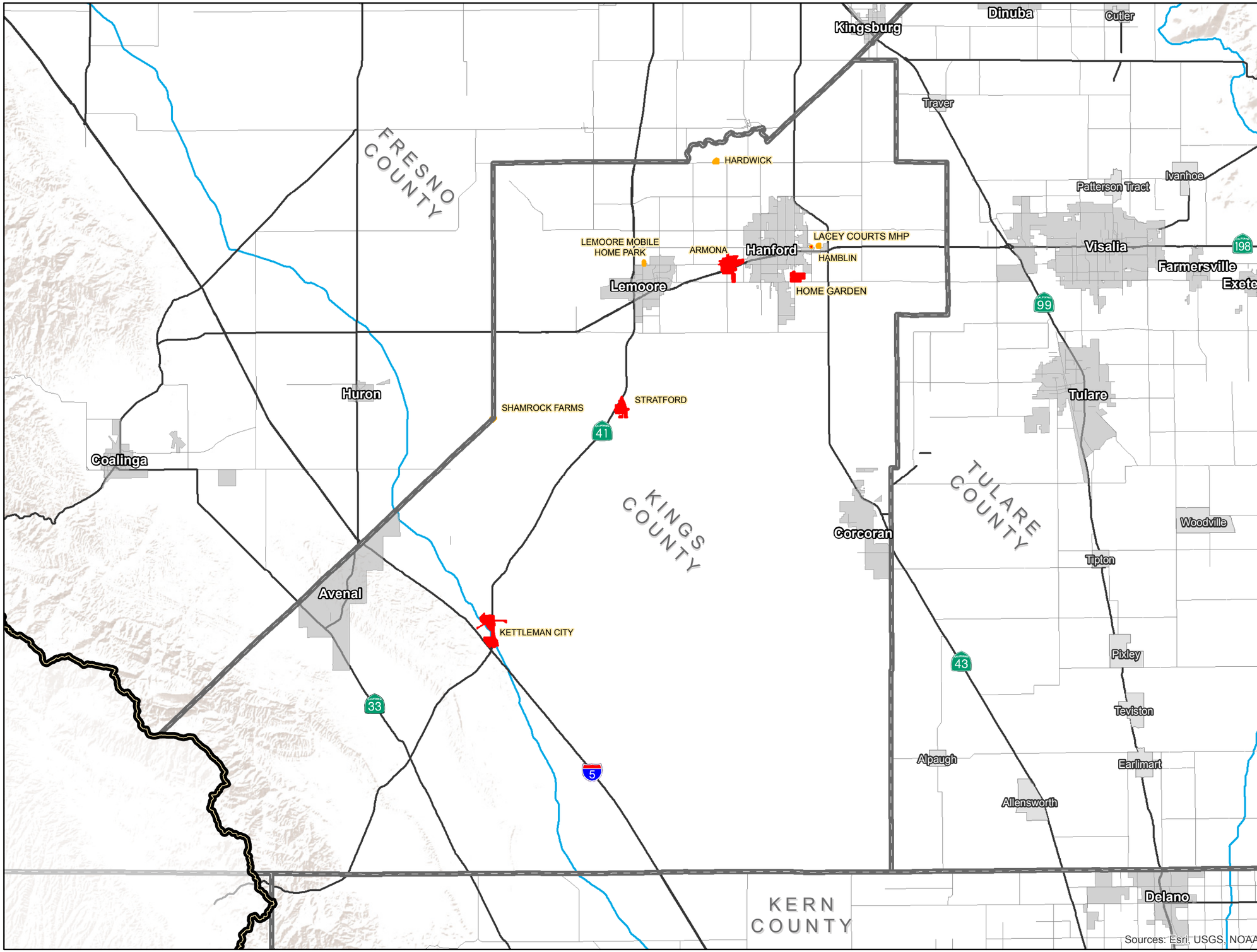
Tulare Lake Basin Disadvantaged Community Water Study

KINGS COUNTY
Communities
DAC and SDAC Communities
With A Single Active Water Source
Or *Water Quality Issues

FIGURE 2-3



Legend

- Tulare Lake Basin
- County
- *Source Exceeded MCL for either Arsenic, Uranium, Nitrate or Half Nitrate (2008-10)
- 1 Active Water Source Identified
- City
- Community (Non-Incorporated)
- Major Road
- Highway / Interstate
- Major Canal

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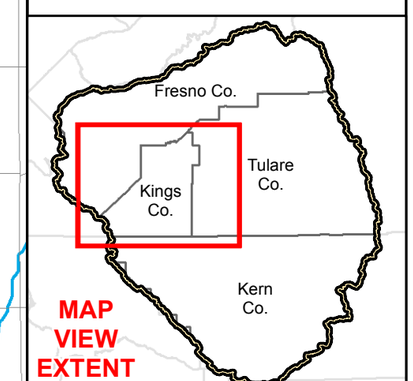

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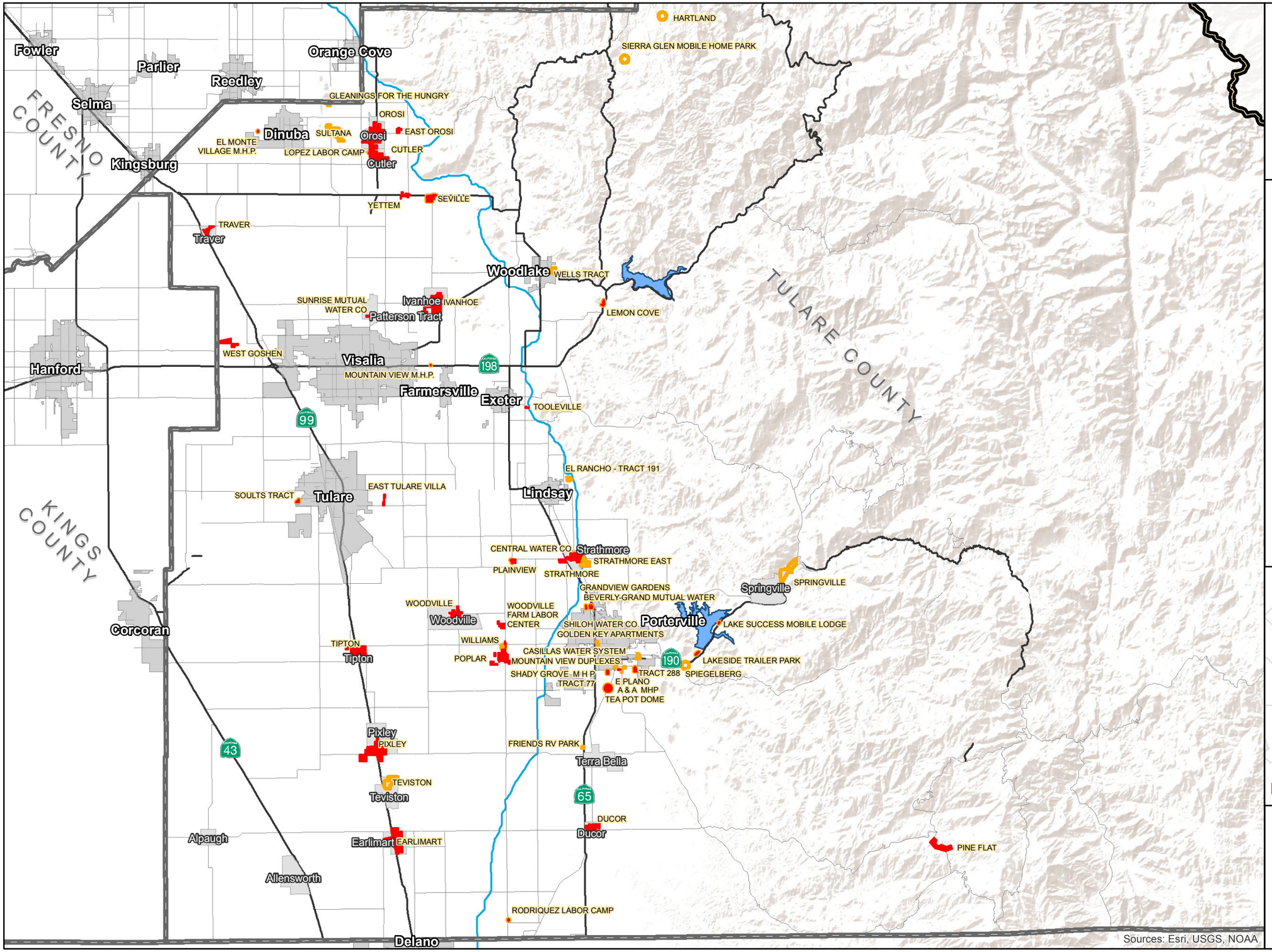
Tulare Lake Basin Disadvantaged Community Water Study

TULARE COUNTY Communities

DAC and SDAC Communities With A Single Active Water Source Or *Water Quality Issues

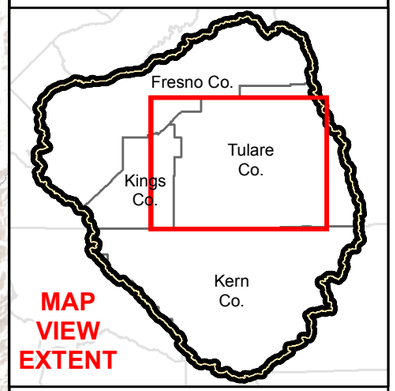
FIGURE 2-4



Legend

- Tulare Lake Basin
- County
- *Source Exceeded MCL for either Arsenic, Uranium, Nitrate or Half Nitrate (2008-10)
- 1 Active Water Source Identified
- City
- Community (Non-Incorporated)
- Major Road
- Highway / Interstate
- Major Canal

*Source exceeded MCL in one or more samples collected from 2008-2010. Source status is AU (Active Untreated), CU (Combined Untreated), AT (Active Treated), or CT (Combined Treated). Considered as delivered water. Communities with raw water samples that exceeded MCL are shown if no samples exist for the source codes listed above.



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2.3 Definitions

2.3.1 Definition of Water Systems

The following are definitions from Title 22 California Code of Regulations, related to various categories of water systems. The emphasis of this Study is on small water systems, state small water systems, and community water systems. Non-community water systems, non-transient non-community water systems, and transient non-community water systems do exist within the Study Area, but are not a focus of this Study. A decision tree, published by the California Department of Public Health, illustrating the classification of water systems as defined below, is presented as **Figure 2-5**. The decision tree provides a visual depiction of the terms defined herein.

Constructed Conveyances: Any manmade conduit such as ditches, culverts, waterways, flumes, mine drains or canals.

Community Water System (CWS): A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 year long residents of the area served by the system.

Non-Community Water System (NCWS): A public water system that is not a community water system. A NCWS can serve either a transient or a non-transient population (see *Non-Transient Non-Community Water System* and *Transient Non-Community Water System*)

Non-Transient Non-Community Water System (NTNC): A public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year. This may include local schools or hospitals with their own water system.

Public Water System (PWS): A system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

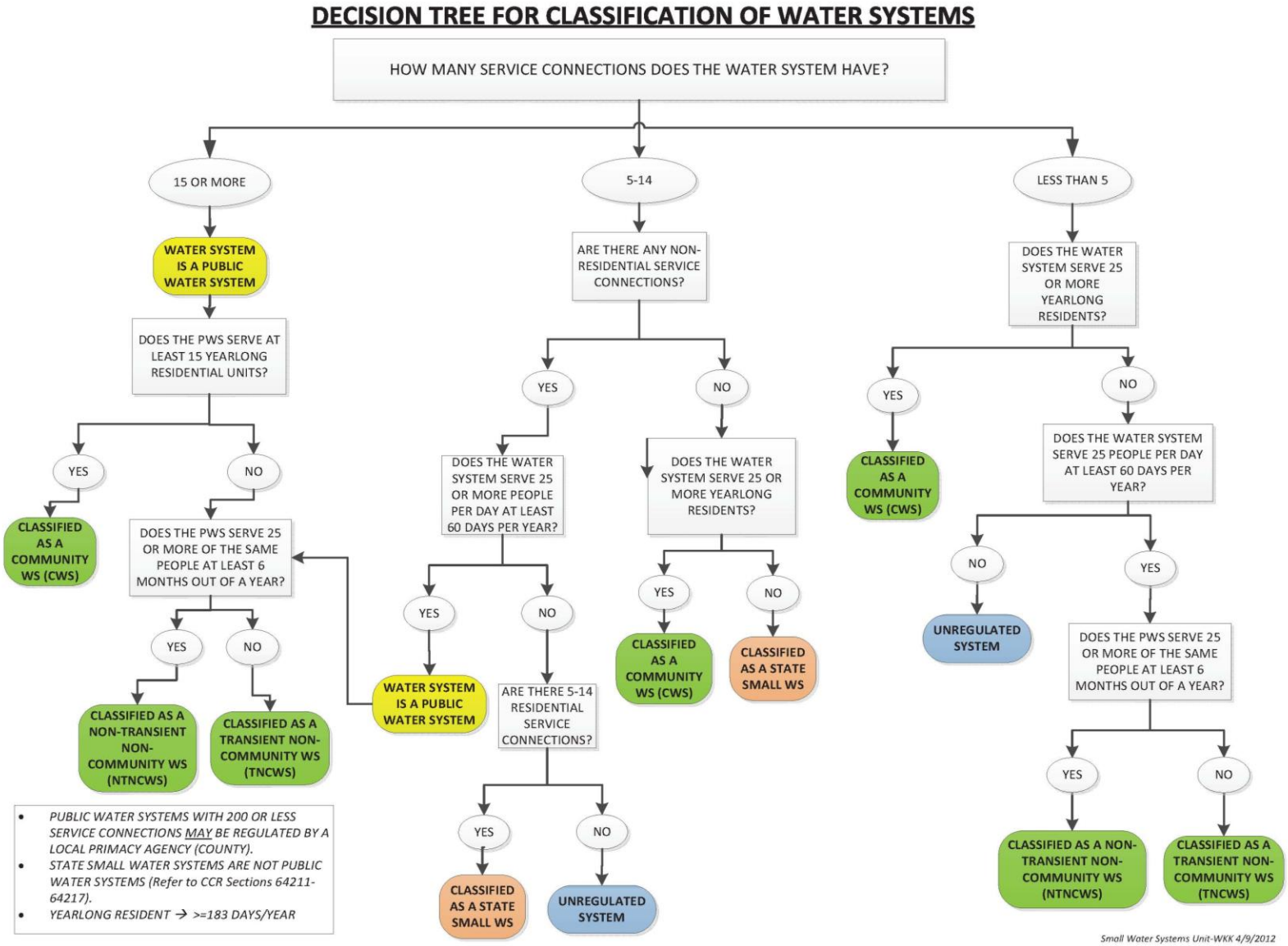
Small Water System (SWS): A community water system, except those serving 200 or more service connections, or any non-community or non-transient non-community water system.

> *It is noted that the U.S. Environmental Protection Agency (EPA) uses a different definition for small public water systems as follows: Public water systems with fewer than 1,000 service connections and a population served of less than 3,300.

State Small Water System (SSWS): A system for the provision of piped water to the public for human consumption that serves at least five, but not more than 14, service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year.

Transient Non-Community Water System (TNC): A non-community water system that does not regularly serve at least 25 of the same persons over six months per year.

Figure 2-5. Decision Tree for Classification of Water Systems (CDPH)



2.3.2 Types of Organizations

Community Services District (CSD): A community services district is an entity formed by residents of an unincorporated community, which is authorized to provide a wide variety of services, including water, garbage collection, wastewater management, security, fire protection, public recreation, street lighting, ambulance services, and graffiti abatement. A CSD may span unincorporated areas of multiple cities and/or counties. A CSD may issue bonds, or form an improvement district for the purpose of issuing bonds, as any City or County might do. Any bond issuance or other long-term debt will require a 2/3rds majority approval of registered voters residing within the CSD.

County Service Area (CSA): The County Service Area Law created in the 1950's allows residents or county supervisors to initiate the formation of a County Service Area. A CSA is authorized to provide a wide variety of services, including extended police protection, fire protection, park and recreation facilities, libraries, low power television and translation facilities and services. CSAs also may provide other basic services such as water and wastewater service and garbage collection if they are not already performed on a countywide basis. A CSA may span all unincorporated areas of a county or only selected portions.

County Water District (CWD): This type of district establishes rules and regulations for the sale, distribution, and use of water. The district also stores and conserves water for present or future beneficial use, and is authorized to run recreational facilities, sanitation facilities, and fire protection.

Integrated Regional Water Management (IRWM) Group: An IRWM group is a local group of agencies and communities dedicated to regionally managing the water resources in its area, including coordinating projects to maximize regional benefits to the groundwater and surface water resources.

Joint Powers Agency/Authority (JPA): The Joint Exercise of Powers Act allows public agencies, ranging from federal government to the smallest special district, to enter into an agreement with each other to jointly exercise a common power.

Mutual Water Company (MWC): A mutual water company is a privately owned, public utility, regulated by the California Public Utilities Commission (CPUC). MWCs are most commonly formed as general corporations or as nonprofit mutual benefit corporations, although other structures are sometimes used for tax or other reasons.

Principal Act: The principal act of a special district is the law that enables a district of that type to form and gives it authority to operate. Each special district type (for example, flood control, public utilities, or community services districts) has its own principal act. (*See Special Act definition*)

Public Utility District (PUD): This district type maintains the infrastructure for public service and provides public utility service such as electricity, natural gas, sewer, waste collection, wholesale telecommunications, water, etc., to the residents of that district.

Special Act: Special acts are laws that the Legislature passes to address the specific needs of a community and establishes a district to address those needs. These specific districts (rather than district types) are uniquely created by the Legislature. (*See Principal Act definition*)

Special District: Special districts are a form of local government created by a local community to meet a specific need (for example water or sewer service). When residents or landowners want new services or higher levels of existing services, they can form a district to pay for and administer those services.

Water District (WD): A water district is a district that performs at least one of three specific duties: water delivery, waste disposal (sanitation), and flood control and water conservation. A water special district can be created either by forming under a general water district act or through a special act of the Legislature.

2.3.3 Other Definitions

Affordability Level: CDPH considers 1.5% of the Median Household Income (MHI) as the affordability level for water service for disadvantaged communities. With an annual MHI of $30,000, this would equate to $450 per year, or $37.50 per month.

Affordability thresholds set by other organizations and used in other studies range from 1.5% to 3% of the MHI. For the purposes of this study, a threshold of 1.5% of the MHI is used.

Disadvantaged Community (DAC): A community whose median household income is 80 percent or less of the statewide median household income. For the purposes of this study, the American Community Survey (ACS) for 2006-2010 was used. The California annual Median Household Income (MHI) for 2006-2010 was $60,883. A DAC is therefore a community whose annual MHI for the 2006-2010 ACS dataset is $48,706 or less.

Economy of Scale: The increased efficiencies inherent in providing services or delivering products by increasing the number of units over which the fixed costs are spread. Often operational efficiency is improved with increasing scale, leading to lower variable and overall costs.

Local Agency Formation Commission (LAFCo): A local agency formation commission (LAFCo) is an independent commission working within the boundaries of each county to help control the borders of cities and special districts, to discourage sprawl and encourage orderly government. As part of this effort, LAFCos conduct sphere of influence assessments and municipal service reviews. The Knox-Nisbet Act of 1963 established LAFCos in law.

Memorandum of Understanding (MOU): A memorandum of understanding (MOU) is a written agreement between two or more parties. This document is not as binding as a contract, but it outlines a commitment between the parties to work together toward a common goal. MOUs do not generally discuss the exchange of money. Instead, MOUs

are helpful for organizations that want to formulate partnerships and exchange supportive services.

Non-Profit or Not-for-Profit: An entity that provides services at cost or operation on a not-for-profit basis, which is typically exempt from taxes under United States Internal Revenue Code Section 501(c), 26 U.S.C. 501(c). In the context of this Study, a non-profit organization generally refers to those that provide technical assistance to and advocacy for community water and wastewater providers.

Operator Certification Levels: (Distribution System Operators: D1-D5; Treatment Plant Operators: T1-T5)

Operator certification helps protect human health and the environment by establishing minimum professional standards for the operation and maintenance of public water systems. In 1999, EPA issued operator certification program guidelines specifying minimum standards for certification and recertification of the operators of community and non-transient non-community public water systems. These guidelines are implemented through State operator certification programs.

The California Regulations Related to Drinking Water, Title 22 Code of Regulations, Chapter 15 Domestic Water Quality and Monitoring Regulations, Article 2 General Requirements describes the classification of water treatment facilities and distribution systems.

Water treatment facilities are classified pursuant to Table 64412.1-A of the California Code of Regulations. The calculation of total points for a water treatment facility is described in the California Code of Regulations, and depends on the water source, water quality, and treatment method.

Table 2-1. California Code of Regulations Table 64413.1-A - Water Treatment Facility Class Designations

Total Points	*Class*
Less than 20	T1
20 through 39	T2
40 through 59	T3
60 through 79	T4
80 or more	T5

Distribution systems are classified pursuant to Table 64413.3-A of the California Code of Regulations.

Table 2-2. California Code of Regulations Table 64413.3-A - Distribution System Classifications

Population Served	*Class*
1,000 or less	D1
1,001 through 10,000	D2

Population Served	*Class*
10,001 through 50,000	D3
50,001 through 5 million	D4
Greater than 5 million	D5

Primary Drinking Water Regulations: National primary drinking water regulations (primary standards) are legally enforceable standards that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water.

Proposition 218: Proposition 218, officially titled the "Right to Vote on Taxes Act", was approved by California voters in 1996. It established additional substantive and procedural requirements and limitations on new and increased taxes, assessments, and property related fees and charges. When referred to in this Study, Proposition 218 refers to the requirements associated with changes to fees and charges imposed by an agency for water or sewer service (water/sewer rates). Prior to adopting or increasing a property-related fee or charge subject to Proposition 218 (such as a water or sewer rate increase), the agency must conduct a public hearing at which property owners can protest the rate change. The hearing must be held at least 45 days after the mailing of the notice of the proposed fee or change to record property owners. At the hearing, the agency must consider all protests against the proposed fee or charge; however, when evaluating whether the number of protests defeats the imposition or increase of the fee or charge, only written protests are counted. "If written protests against the proposed fee or charge are presented by a majority of owners of the identified parcels, the agency shall not impose the fee or charge." (California Constitution, Article XIIID, § 6, Subdivision (a), Part (2).) If a majority (50% plus one) of owners or renters (utility rate payers) do not submit a written protest, the fee or charge proposed can be imposed.

Receivership: Whenever the [State Department of Public Health] determines that any public water system is unable or unwilling to adequately serve its users, has been actually or effectively abandoned by its owners, or is unresponsive to the rules or order of the department, the department may petition the superior court of the county within which the system has its principal office or place of business for the appointment of a receiver to assume possession of its property and to operate its system upon such terms and conditions as the court shall prescribe. The court may require, as a condition to the appointment of the receiver, that a sufficient bond be given by the receiver and be conditioned upon compliance with the orders of the court and the department, and the protection of all property rights involved. The court may provide, as a condition of its order, that the receiver appointed pursuant to the order shall not be held personally liable for any good faith, reasonable effort to assume possession of, and to operate, the system in compliance with the order (California Statutes Related to Drinking Water, Health & Safety Code, Division 104, Part 12, Chapter 4, Article 9, §116665).

Secondary Drinking Water Regulations: National secondary drinking water regulations (secondary standards) are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as

taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply.

Severely Disadvantaged Community (SDAC): A community whose median household income is 60 percent or less of the statewide median household income. For the purposes of this study, the American Community Survey for 2006-2010 was used. The annual California Median Household Income (MHI) for 2006-2010 was $60,883. A SDAC is therefore a community whose annual MHI is $36,530 or less, per the 2006-2010 ACS dataset.

Technical Assistance Provider: Technical Assistance Providers, as discussed in this Study, are those organization contracted through the State to provide onsite technical assistance, workshops and fairs, and other resources for other water professionals throughout the State. California Technical Assistance Providers (CalTAP) include CDPH, California Rural Water Association (CRWA), Rural Community Assistance Corporation (RCAC), Self-Help Enterprises, US EPA, California State University, Sacramento, and University of California, Davis.

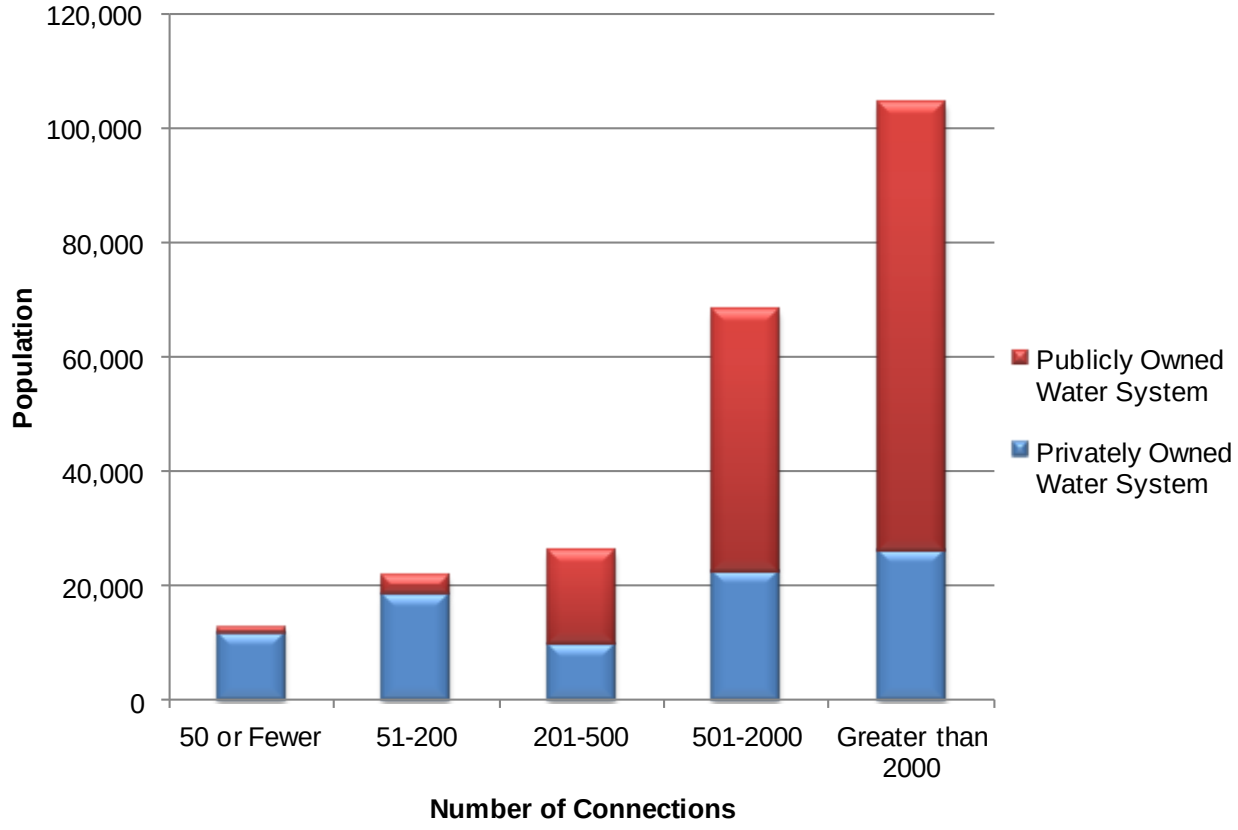
2.4 Community Characteristics

The Management and Non-Infrastructure pilot study documents organizational issues with small communities and delivery of water and sewer services to the residents of those communities. Water systems are emphasized in this study, but all of the alternatives discussed are applicable for water systems, sewer systems, or both. Communities are grouped by size as follows: 50 connections or less, 51 to 200 connections, 201 to 500 connections, 501 to 2,000 connections, and greater than 2,000 connections. In general, the number of connections refers to the number of water system connections. These ranges were chosen to look for operational correlation that might be dependent on community size. This section includes general assumptions related to communities of various sizes. **Table 2-3** summarizes the number of communities in each size range within the Tulare Lake Basin. This table includes the total number of communities in each category, as well as the number of communities with a water system owned by a public agency. Those communities not shown to have a publicly owned system may 1) have a privately owned water system; 2) be served by a separate larger water system and therefore do not have their own water system; or 3) be a community of private well owners. Smaller systems are most often privately owned, while the larger systems are increasingly publicly owned systems, as shown in **Figure 2-6**. This is important because some funding sources are available only to publicly owned systems.

Table 2-3. Community Size Ranges

Community Size Range (connections)	Number of Communities		Number of Connections/Dwellings		Population	
	Total	*With Publicly Owned Systems*	*Total*	*Within Publicly Owned Systems*	*Total*	*Within Publicly Owned Systems*
50 or Fewer	199	8	4,669	277	15,036	1,338
51 through 200	85	13	8,700	1,394	28,170	4,795
201 through 500	37	16	11,008	5,245	34,290	18,218
501 through 2,000	26	17	24,071	15,506	78,201	52,738
Greater than 2,000	7	5	37,068	24,255	120,669	78,671
Total	354	59	85,516	46,677	276,366	155,760

Figure 2-6. Disadvantaged Community Water Systems by Community Size



A summary of community characteristics for a representative selection of the communities studied is presented in **Table 2-4**. A selection of community profile descriptions are provided in **Appendix E**. These community profiles are included to provide a more complete characterization of some select communities that may be representative of other communities in the Study Area. The community profiles include information such as the location of the community and when it was established, how old the water and/or sewer systems are, median household income, monthly water and/or sewer rates, the financial condition of the water or sewer system, the range of household budgets within the community, population served, description of the water and/or sewer systems and how they are operated and managed, and water and wastewater challenges that they face.

Table 2-4. Summary of Community Characteristics

Name of Community	County	Population	Number of Connections	Water Source (GW/SW)	Community Water (Y/N)	Community Sewer (Y/N)	Ownership (Public/Private)	MHI[2,3] (DAC/SDAC)
50 or Fewer Connections								
Camden Trailer Park	Fresno	100	25	GW	Y	N	Private	$25,982 (SDAC)
Mettler CWD	Kern	157	42	GW	Y	N	Private	$28,000 (SDAC)
Lemoore MHP	Kings	125	38	GW	Y	N	Private	$37,303 (DAC)
Central Mutual Water Co.	Tulare	115	23	GW	Y	N	Private	$33,271 (SDAC)
51 to 200 Connections								
Lanare CSD[1]	Fresno	600	169	GW	Y	N	Private	$26,375 (SDAC)
Raisin City (Fresno CSA#43)	Fresno	350	60	GW	Y	N	Public	$24,167 (SDAC)
Athal	Kern	150	62	GW	Y	N	Private	$27,465 (SDAC)
Lost Hills	Kern	1,991	434	GW	Y	Y	Private	$31,875 (SDAC)
El Dorado MHP	Kings	297	90	GW	Y	N	Private	$28,757 (SDAC)
Allensworth CSD	Tulare	471	119	GW	Y	N	Public	$22,625 (SDAC)
Yettem (Tulare Co. RMA)	Tulare	350	64	GW	Y	Y	Public	$31,736 (SDAC)
201 to 500 Connections								
Biola CSD	Fresno	749	206	GW	Y	Y	Public	$32,667 (SDAC)
Del Rey CSD	Fresno	950	240	GW	Y	Y	Public	$26,458 (SDAC)
Buttonwillow CWD	Kern	1,266	472	GW	Y	Y	Public	$28,370 (SDAC)
Kettleman City CSD	Kings	1,439	366	GW	Y	Y	Public	$25,988 (SDAC)
Stratford PUD	Kings	1,215	240	GW	Y	Y	Public	$29,205 (SDAC)
Alpaugh CSD	Tulare	1,026	360	GW	Y	N	Public	$24,688 (SDAC)
Plainview MWC	Tulare	945	240	GW	Y	N	Private	$15,500 (SDAC)[4]
501 to 2000 Connections								
Caruthers CSD	Fresno	2,103	672	GW	Y	Y	Public	$29,750 (SDAC)
Riverdale PUD	Fresno	3,000	930	GW	Y	Y	Public	$29,886 (SDAC)
Armona CSD	Kings	3,239	1,179	GW	Y	Y	Public	$32,790 (SDAC)
Pixley PUD	Tulare	3,310	800	GW	Y	Y	Public	$35,759 (SDAC)
Richgrove CSD	Tulare	2,882	600	GW	Y	Y	Public	$28,261 (SDAC)
Greater than 2000 Connections								
Lamont PUD	Kern	15,120	3,500	GW	Y	Y	Public	$33,799 (SDAC)
East Niles CSD	Kern	24,900	7,338	GW/SW	Y	Y	Public	$47,663 (DAC)

1. Lanare CSD's water system was placed into receivership by CDPH in 2010.
2. California Median Annual Household Income = $60,883 (American Community Survey 2006-2010); DAC =< $48,706; SDAC =< $36,530.
3. MHI for each community is generally based on American Community Survey 2006-2010 data.
4. MHI is based on community survey results. The American Community Survey MHI was not deemed accurate for this community, so a community survey was conducted.

2.4.1 Communities with 50 or Fewer Connections

The majority of communities in the Study Area with fewer than 50 connections have privately owned water systems (approximately 96%). Water systems of fewer than 15 connections are all privately owned (within the Tulare Lake Basin Study Area), and are usually run by one individual, often one of the property owners using the system, with minor maintenance done by that property owner. When there is a major maintenance issue that needs to be addressed, the responsible owner of the system will often call someone to fix the problem, sometimes a qualified contractor, but not necessarily. Experience has generally shown that systems of 6 connections or less have an easier time working out issues between neighbors as problems arise. Systems between 7 and 15 connections tend to have more difficulty resolving issues, because consensus is harder to reach as a group gets larger. General operations are commonly carried out by unpaid volunteers.

Typically for these very small systems, the system owner collects money for expenses. Engineers and legal representatives rarely get involved. If they do, there may be a critical issue to resolve and the system may be in crisis mode. Many of these small entities are very difficult to operate on a sustainable basis. It is difficult for these small entities to budget even for basic expenses, including insurance which can protect the owner(s) from liabilities. It can be virtually impossible for entities of this size to budget sufficient funds to cope with large-scale emergencies or capital improvements.

Systems of 15 connections or more are considered by CDPH as Community Water Systems (CWS), and are regulated either by CDPH or the Local Primacy Agency. CWSs with fewer than about 50 connections are still limited due to lack of resources and economy of scale. As with the very small systems (14 connections or less), there is often a need for volunteers to keep the system running and rates as affordable as possible.

The presence of volunteerism can lead to the perception that systems of this size can be viable from a water rate perspective, but this is misleading because having a volunteer manage or operate the system does have unaccounted-for costs associated with that volunteer's time and resources. In general, this is not a reliable and repeatable model for long term sustainability of a system. However, there are systems that do operate successfully in this manner for many years.

2.4.2 Communities with Between 51 and 200 Connections

Many small DACs in the Tulare Lake Basin have user rates over the affordability level of 1.5% of median household income that CDPH uses as a benchmark, often because the community systems lack sufficient economy of scale, yet these small systems must meet the same regulatory requirements of much larger systems. A comprehensive study of water (or sewer) rates has not been conducted in this region, so it is not known exactly how many DACs are paying more than their calculated affordability level. However, the lack of affordable rates was highlighted as a major issue through the Stakeholder Oversight Advisory Committee's process of identifying issues.

Systems at the lower end of this size range may still rely on volunteerism, but systems closer to 150 or 200 connections should have at least a part-time office person to perform administrative tasks and a contract or part-time D1 Distribution Operator, or possibly a T1 Treatment Plant Operator (See Section 2.3.2 for operator classifications).

Systems in this size range tend to have a better ability to acquire resources than smaller systems, but they still face challenges related to customer affordability and insufficient economy of scale. In order to be sustained long term, a system must generate more revenue than the short term on-going expenses. Surpluses should be placed into a reserve account to cover future emergencies, increases in operational expenses, debt service (if a loan is being repaid) and future system replacement costs. In the TLB, many small systems are fortunate if they even have a savings account in addition to one general checking account, and most lack a plan or policy for systematic accumulation of reserves.

Another measure of the health of the water system purveyor is how the water system is operating. Does the responsible party (owner/board of directors) adopt annual budgets and set rates based on those budgets? Is the system operating in the black? If there is a board, does it meet on a regular basis? Does the board operate according to its bylaws or as per state statutes? All of these factors are important regardless of the size of the system. While there are some well-run smaller systems, generally the smaller systems have difficulty maintaining the resources to meet these requirements.

2.4.3 Communities with Between 201 and 500 Connections

Systems with between 201 and 500 connections are usually more viable than the smaller systems described above. Some systems of this size can be sustained at a higher level of operation, and may even have a full time manager. They may also have part or full-time maintenance personnel and some office staff. Operators can be contracted or in-house staff.

The Kings Basin Disadvantaged Community Water Study identified an approximate efficiency level, where, based on the data available, it appeared that a system becomes more viable, rates stabilize, and the system is able to run more efficiently. This efficiency level is not presented as a definitive number, but rather to provide a general idea of where other communities have shown the benefits of greater economy of scale. The Kings Basin DAC study suggests this level may be at approximately 600 connections, although this number is dependent on a variety of community characteristics that are unique to each community, and is based on only a small selection of communities in northern Tulare County. The analysis is highly dependent on the level of volunteerism available and utilized, operations costs specific to each water system (e.g. if treatment is required, costs will be higher than if there is no treatment), source of water supply (groundwater versus surface water), and other variances between communities. It is not possible to realistically prescribe a specific number of connections at which a system becomes optimally “efficient”. In other words economy of scale is very dependent on the specific circumstances of the individual systems and communities. Generally larger systems have greater potential to realize an

economy of scale, which is beneficial, regardless of the circumstances specific to a given community or system. While the size at which a system realizes the benefits of increased economy of scale cannot clearly be defined, systems serving 201 to 500 connections can often be sustainable.

Drawing conclusions from rate comparisons should be done with caution, and must include evaluation of several community characteristics, such as geography, climate, service area, use of taxes, subsidies, and grants, etc. The determinants of utility rates are varied and complex and do not necessarily reflect the true cost of service. A low rate or a high rate does not necessarily mean that a utility is more or less efficient.

2.4.4 Communities with Between 501 and 2,000 Connections

Systems with between 501 and 2,000 connections are typically sustainable and self-reliant, and due to the economy of scale they are able to have the resources necessary to deal with emergency situations. Typically systems of this size will have a full time manager, full time maintenance personnel, and a bookkeeper. Full time operators can be staffed by the service provider or contracted through a separate entity. Systems in this category can become part of the solution for surrounding communities, and gain from increased economy of scale also.

2.4.5 Communities with Greater than 2,000 Connections

Unincorporated communities with more than 2,000 connections are similar to small cities in the Tulare Lake Basin Study Area. There are approximately seven (7) communities of this size within the Study Area, six (6) of which are in Kern County. Any system, no matter the size, will have ongoing challenges. However, communities of this size are able to utilize the economy of scale available with the increased population and are able sustain full services on an ongoing basis. These communities are generally able to sustain themselves and have potential to implement regional solutions.

One of the challenges faced by communities of this size is retention of staff. As with small cities, qualified personnel are often trained in a small community organization and then move on to larger organizations or coastal communities where there are more opportunities.

3 GOAL

The main goal of the TLB Study was to provide useful information and tools that can function as a roadmap or guidelines for multiple audiences. Discussion items and recommendations were considered from the perspectives of the customer, the water or wastewater service provider, agencies, and the legislature. Much of this pilot study provides information for the service provider or customer regarding potential alternatives to resolve their water or wastewater challenges. A discussion of existing funding opportunities and barriers faced by DACs when trying to pursue solutions then lead to various recommendations. Recommendations are presented for the consumer and service provider, as well as for regulatory and funding agencies, and the Legislature. This section discusses each of the considered perspectives.

The information presented in this study includes descriptions of actual community efforts toward solving water supply challenges. The information may also include recommendations for other communities to consider regarding:

a) Steps toward solving remaining existing water supply and wastewater collection or treatment challenges,

b) Identifying obstacles interfering with resolving remaining existing water supply and wastewater collection or treatment challenges, and

c) Steps toward minimizing or mitigating future water supply and wastewater collection or treatment issues.

3.1 Consumer Perspective

When alternatives to address water supply and wastewater challenges are evaluated, the impacts to the consumer should be considered. Impacts that the consumer may be concerned about include:

- The cost of receiving service
- The quality of water delivered
- The reliability of water delivered
- Restrictions regarding the use of water
- A change in water or wastewater service provider that may result from a consolidation
- A change in how bills can be paid (e.g. is there still a local office that consumers can go to in order to pay their bills?)

The cost of receiving service may be in the form of initial capital costs for connection fees and/or monthly service charges. If an evaluated alternative involves connecting to a new system, a connection fee may be assessed. For most of the alternatives

presented in this Management and Non-Infrastructure pilot study, connection to a new system is not required. However, monthly service charges may be impacted. When implementation of an alternative will impact the service charges, the effect that will have on the consumer must be considered. Particularly in disadvantaged communities, the financial impact of a rate increase can be difficult to overcome.

The quality of water delivered is a primary concern. For a system that had existing water quality problems, it is important to consider whether the alternative will improve their drinking water quality. Consumers want to know that the water they are receiving is safe.

Similarly, the reliability of the water supply may be important to consumers. If water supply reliability has been an issue, they may want to know whether a proposed alternative will resolve that issue. No alternative should be recommended that would diminish the reliability of a system.

If an alternative could result in restrictions regarding water use, the impacts to the consumer should be considered. Water use restrictions would likely be implemented for the benefit of the consumer, in that it may aid in the reliability and sustainability of a water supply. However, consumers may be concerned about such restrictions. Restrictions may include general conservation measures, limitations on outside water usage or usage during peak times of day.

Consumers may also be concerned about a change in the water service provider as a result of an ownership transfer. While this may be a concern to some, if the new service provider provides safe and reliable drinking water at affordable rates, most consumers will be satisfied.

Some alternatives may cause a change in how bills can be paid. For example, consumers may currently be able to make payments at a local water district office, but contracting for billing services with a nearby district or city may require consumers to mail payments or drive elsewhere to make payments.

3.2 Service Provider Perspective

The service provider will be interested in evaluating the impacts of a potential solution from a different perspective. The service provider should consider various questions regarding the alternatives presented in this pilot study, including the following:

- What are the pros and cons of the proposed alternative(s)?
- Can the solution proceed while allowing each entity involved to maintain a level of quality that is acceptable to the customers?
- Will all entities involved have the same rate structure, or will it differ by community (for consolidation or shared services)?
- Will there be more staff needs / less staff needs?

- In what condition are the finances of the new partners? Will the surviving entity be responsible for the debt of a consolidating entity?
- How will delinquent accounts and difficult customers be handled?
- What information or resources are available to help evaluate/implement these types of alternatives?
- What will implementation look like, and how long will it take to fully implement selected alternative(s)?
- Is funding available to implement selected alternative(s)?
- Are annual revenues sufficient to offset expenses?
- What are the leadership and governance implications?
    - Is there a manager?
    - How are formal decisions made?
    - How are emergency decisions made?
    - Will proposed changes reduce/increase the number of board members, managers, employees, or other?
    - How will community engagement/buy-in be developed?

The service provider will be concerned about whether an alternative will provide safe reliable water, whether it can improve a component of their technical, managerial, and financial capacity, if it makes sense financially for the system, and whether the alternative can be implemented with the political, governance, and ownership issues for each participating entity in mind.

3.3 Regulatory Agency Perspective

Considerations from the various agency perspectives focus on whether regulations are being met, including water quality standards, water demand objectives, and waste discharge requirements. At the agency level, various policy considerations could also benefit the ability to provide safe, reliable drinking water and wastewater services.

3.3.1 County Government

Items that counties should consider related to water supply and wastewater challenges include:

- Existing land development policies
- Consideration of impacts to land use control/zoning/building permit.

- Local Agency Formation Commission (LAFCo) for each county in regards to any changes in a DACs service area or potential joint agreements between communities.
- Conformance with the County General Plan

Counties may want to consider existing land use policies from two perspectives: 1) consistency with existing land use policies; and 2) potential adjustments to existing land use policies that could be made to minimize future water quality issues.

Counties also take into consideration minimum lot size requirements for on-site septic systems and location of individual wells to minimize contamination by on-site septic systems. These issues will be discussed further in the Individual Household pilot study, and are not relevant to the alternatives presented in this pilot study.

3.3.2 Regulatory Agencies

The perspectives of regulatory agencies to be considered include California Department of Public Health, California Department of Water Resources (DWR), Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), and United States Environmental Protection Agency (EPA). The involvement that these regulatory agencies may have include:

- Permitting requirements for new systems
- Guidelines/directives to correct violations
- Sharing knowledge (e.g., training programs and other education opportunities and/or requirements)

Each of these regulatory agencies has rules, regulations, and other elements that they consider for new and existing facilities. Regulatory agencies will consider the permitting requirements for a new system, and whether the system is able to comply with those requirements. They can also provide guidelines or directives of how to correct violations, as well as potential funding opportunities in some cases. These regulatory agencies can be a good resource for information about existing and proposed regulations, guidance related to correcting violations, funding opportunities, training opportunities, as well as education and training requirements.

3.3.3 Funding Agencies

Funding agencies may include any of the regulatory agencies listed above. Funding agencies may also include the federal Community Development Block Grant program (CDBG) provided by the Department of Housing and Urban Development (HUD) and (for non entitlement jurisdictions) provided through the California Department of Housing and Community Development, the United States Department of Commerce Economic Development Administration (EDA), the United States Department of Agriculture (USDA) Rural Utilities Program. State funding is often funded through the sale of State Bond issues such as Proposition 84. One such program funded by bond issues is the

Integrated Regional Water Management (IRWM) program administered by the California Department of Water Resources (DWR) through which watershed level planning groups can apply for such funding for local entities. Considerations from the perspective of the funding agencies may include the following:

- Does a proposed project and applying entity meet the requirements to receive funding?
- Does the proposed project fix a priority issue that the funding program aims to address?
- Does the applying entity have the resources and funding to administer the funding and sustain the proposed facilities?

3.4 Legislative Perspective

This Study will help identify potential new policies or legislation to aid communities in providing safe and affordable drinking water and wastewater services, or suggestions to possibly improve existing policies. Some considerations from the legislative perspective may include the following:

- Identification of new legislation to facilitate funding assistance opportunities
- Routine identification of impacts to DACs when new legislation is proposed or implemented
- Identification of new legislation that may address DAC priority issues, as defined by the SOAC

4 PRIORITY ISSUES

The Stakeholder Oversight Advisory Committee was created by the Tulare County Board of Supervisors on August 16, 2011. The SOAC bylaws, created with input from the project team, and adopted by the Tulare County Board of Supervisors, defined the role of the Committee and established the Committee's composition. The SOAC was created to be a dynamic group of stakeholders that represent the interests of the Study Area. The Tulare County Board of Supervisors made appointments to the Committee on October 11, 2011.

The responsibilities of the SOAC included recommending to the Tulare County Board of Supervisors which pilot projects and/or studies would be completed for the Tulare Lake Basin Disadvantaged Community Water Study. The SOAC worked with the project team to identify plan priorities for the Tulare Lake Basin pilot studies, and review and provide input on draft and final recommendations.

The SOAC developed a list of water and wastewater issues common to communities within the Study Area. The SOAC then divided into work groups and ultimately voted on the highest priority issues and approved a final prioritized list of issues to be addressed by the pilot studies. The pilot studies were identified in order to address those five priority issues approved by the SOAC. Each of the pilot studies had specific priority issues it aimed to address. The SOAC defined priority issues that this pilot is to address are discussed in this section.

4.1 SOAC Defined Issues

Several priority issues were developed during the Stakeholder Oversight Advisory Committee (SOAC) process, which was convened as an initial task of this Study. The details of the SOAC, including the purpose of the committee and actions performed, are described in the main body of the Final Report. The specific priority issues that the Management and Non-Infrastructure pilot study aims to address include the following:

- Lack of Funding to Offset Increasingly Expensive Operations and Maintenance Costs in Large Part Due to Lack of Economies of Scale
    - Small systems serving primarily low-income households and remote locations cannot keep rates affordable and still generate enough revenue to run the system safely over the long term;
    - Lack of funding resources to operate and maintain water or wastewater systems at affordable levels and lack of funding for planning and replacement of infrastructure as it ages.
- Lack of Technical, Managerial and Financial (TMF) Capacity by Water and Wastewater Providers
    - Lack of adequately trained technical, legal, financial, and managerial professionals, as well as inadequate training and ongoing education and assistance for existing water and wastewater providers;

- Lack of knowledge of available training, assistance, and educational opportunities to help local employment in these sectors.

4.2 Description of Issues

4.2.1 Lack of Funding

Funding that is available is typically in the form of grants or loans for capital improvement projects. While funding for capital improvements is critical in assisting communities with water and/or wastewater system improvements necessary to keep the systems in compliance, the ongoing operations and maintenance costs must still be financed by the service provider. These costs may be particularly high if treatment is needed. These operations and maintenance costs also impose an increased hardship on small systems serving primarily low-income households. These systems struggle both with a lack of economy of scale due to the limited customer base, which drives up the cost per household, and, due to the low income of many of the residents, the costs for service become a higher percentage of their overall income. According to CDPH, a reasonably acceptable cost for water service is approximately 1.5 percent of the median household income (MHI). According to *Assessing Water Affordability* (Christian-Smith et al, 2013), communities in the Tulare Lake Basin pay water rates ranging from 0.5 percent to 3.4 percent of their MHI. Nine of the 51 water systems (approximately 17%) within the Tulare Lake Basin that were analyzed exceed the water affordability threshold. An affordability threshold of 2% was used for that study, versus the 1.5% affordability threshold used herein. However, *Assessing Water Affordability* also analyzed water affordability on a household level (rather than the typical method of evaluating based on the MHI of the entire community), and found that nearly 30% of households within the Tulare Lake Basin spend more than 2% of their household income on drinking water services.

As a result of the lack of funding for ongoing operations and maintenance expenses and the limited affordability for residents, many disadvantaged communities in the Tulare Lake Basin do not have the revenue to set aside reserve funds in order to plan for replacement of equipment and infrastructure as it ages. With inadequate planning, these replacement needs that may be part of a scheduled plan for larger more financially secure systems, become emergency fixes. Without funding to be proactive, maintenance efforts often become reactive. Rather than properly maintaining a pump or other piece of equipment and setting aside funds to replace it as it ages, the pump may not be replaced until it fails and potentially causes a health and safety risk for customers.

4.2.2 Lack of Technical, Managerial, and Financial Capacity

Technical, Managerial, and Financial capacity limitations stem from a lack of formal education, lack of technical skills, and lack of leadership within the community. Water and wastewater personnel who do have a higher level of education and technical skills do not typically stay very long in these small communities where support, pay, and

benefits are generally limited. Instead, the more skilled workers are likely to move up to larger communities and cities where there are more resources and opportunities. This leads to a high turnover rate, which perpetuates the lack of TMF capacity.

Technical

Technical limitations faced by many DACs include aging or inadequate infrastructure, insufficient source capacity, lack of a qualified operator, and insufficient training for staff. A water system is required to have the capacity to meet the system's maximum day demand as described in California Code of Regulations, Section 64554. Additionally, it must ensure that it has suitably adequate sources of water to serve the needs of its constituents in the future. Most small DACs do not have a sufficient water supply to meet these requirements.

CDPH or the LPA identifies the grade of certified distribution and treatment operators based on criteria presented in **Table 2-1** and **Table 2-2**. Often communities will have a D1 or D2 operator requirement, but if additional grades of certification are required it becomes more expensive and difficult for a DAC to obtain a qualified operator. Competent management and operation of a water or wastewater system is critical to providing a safe and reliable water supply or sewer service to system customers. To maintain an efficient and sustainable system, training should be provided to all water and wastewater system staff and the governing board, to ensure that everyone associated with the system has the knowledge to competently comply with requirements. Many DAC systems are unable to provide adequate training for their staff and board.

The lack of TMF capacity in many of these small DACs is in large part due to the lack of funding available to retain adequately trained professionals. There is also insufficient training and ongoing education for the existing water and wastewater providers to help develop their technical and managerial skills. There are some training, assistance, and educational opportunities available, however many water and wastewater providers are not aware of these programs, or they do not have the resources or funding to send personnel to participate in these programs. In situations where there are part time or volunteer personnel who may have other jobs, or where there is no backup operator to run the system, it can be especially difficult to attend training programs. Also, some staff and board members are not fluent in English verbal and reading skills, and find it difficult to comprehend trainings and educational materials unless provided in their primary language, which is primarily Spanish within the TLB Study Area.

Managerial

Many DACs have difficulty recruiting and retaining qualified staff and filling their local boards with eligible people. Through various outreach efforts, it has been found that board vacancies are common in communities within the Study Area. This is due to a variety of issues including problems with citizenship (a large percentage of the population in a community may not be U.S. citizens, and thus unable to become a registered voter, which is a prerequisite to serving on a public board), residents who have previous convictions that may prohibit them from holding a seat on the board, or

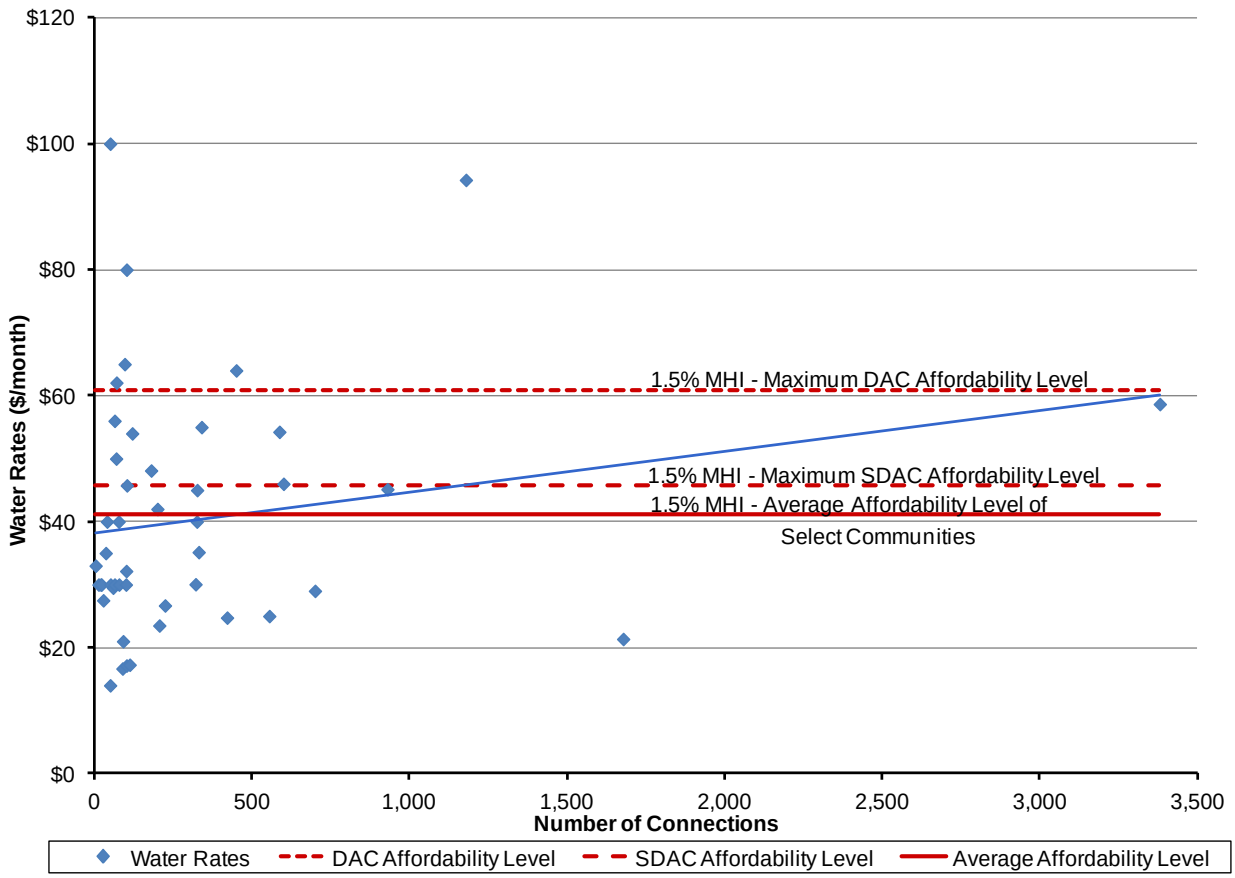
lack of knowledge about how to get on a board. Retaining board members can also be an issue in small communities. In communities where everyone knows each other, board members may feel pressured by other community members to make "popular" decisions that may not be sustainable for the water or wastewater system. Living in a small community and representing interests of one's neighbors can be rewarding, but board members may get grief from community members for an unpopular decision. If the pressure of being on the board gets to be too much or too personal, board members often resign or decide not to run again.

Financial

As previously mentioned, water rates for residents in DACs often exceed the affordability level. Water rates were collected from 44 disadvantaged communities in Fresno, Kern, Kings and Tulare Counties. This included 9 communities with 50 or fewer connections, 19 communities with between 51 and 200 connections, 9 communities with between 201 and 500 connections, 6 communities with between 501 and 2,000 connections, and one community with greater than 2,000 connections. The water rate data was collected from Christian-Smith et al, and Self-Help Enterprises. As shown in **Figure 4-1**, the water rates vary significantly at all size ranges, and it is therefore not practical to develop a realistic trend. The trendline shown is likely misleading, as there is only one data point represented for communities larger than 2,000 connections. The wide variability in rates is caused by many variables that make each community unique. Some of these variables include size of water system, source of water, water quality constraints, groundwater level, water treatment requirements, geographic isolation, level of service, number of staff and staff wages, as well as other community specific issues. The fact that a 2,000 connection system may have a higher water rate than a 200 connection system does not contradict the fact that increased economy of scale can benefit these communities; rather it indicates that many of these variables may be driving up the cost due to the unique community situation, and possibly that more services are provided and additional staff is able to be hired and to be paid better wages.

The three red horizontal lines shown on **Figure 4-1** indicate the affordability level (1.5% of the median household income) at three different median household income conditions. The top red line is the maximum affordability level for a DAC, calculated based on 80 percent of the statewide median household income. The middle red line is the maximum affordability level of a SDAC, calculated based on 60 percent of the statewide median household income. The lower red line shown is the average affordability level of the 44 disadvantaged and severely disadvantaged communities for which rates were collected, based on the average median household income for those communities.

Figure 4-1. Tulare Lake Basin Water Rates by Community Size



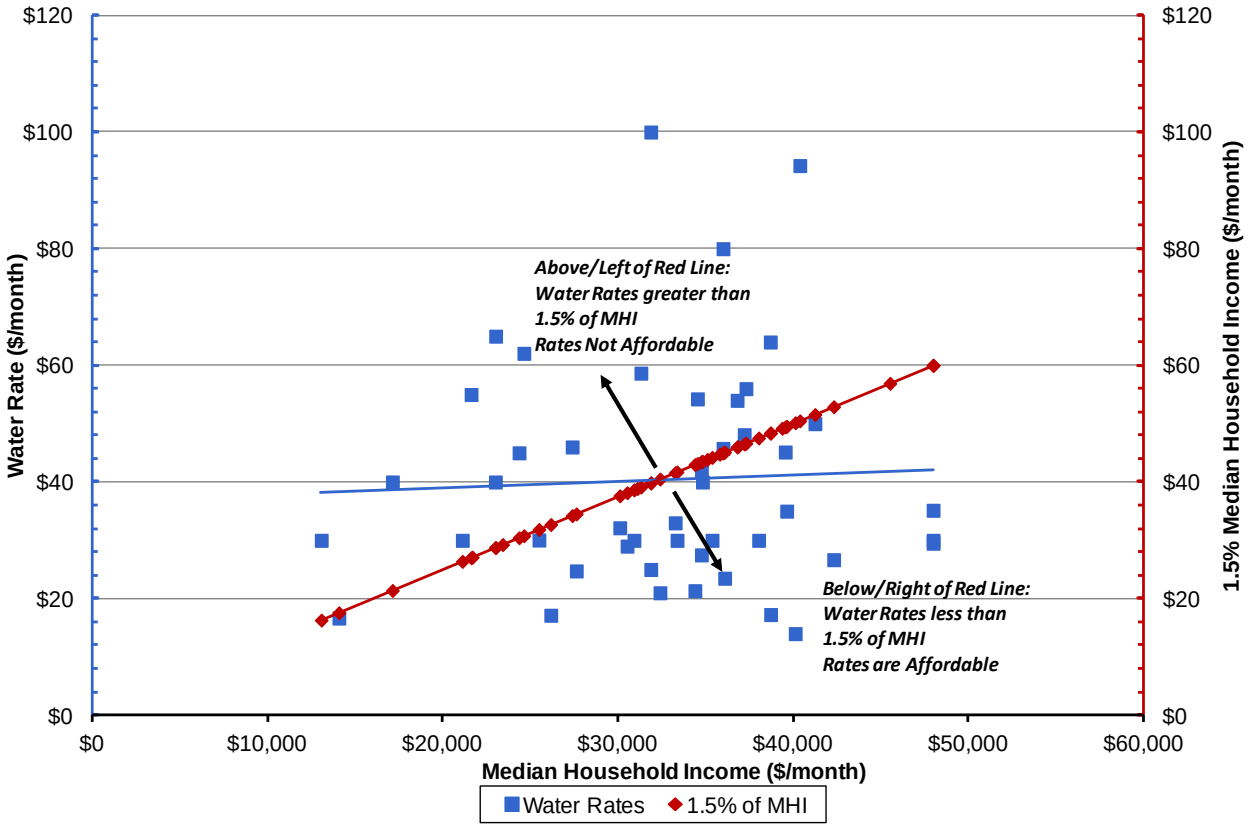
Note: Water rate data presented in this figure was collected from Christian-Smith et al, and Self-Help Enterprises.

Figure 4-2 shows the water rates versus affordability level for the communities analyzed. The affordability level of 1.5% of the median household income is shown in red, while the water rates are shown by the blue data points. The blue line is a linear trendline of the water rates. This may show a general trend, but water rates are highly variable due to many community specific issues as described above. Those water rates shown below and to the right of the red affordability line are considered to be affordable (less than 1.5% of the MHI for the community). Those water rates shown above and to the left of the red affordability line are not considered to be affordable (greater than 1.5% of the MHI for the community). Many of these communities are shown to have affordable water rates, based on this method of analysis. This does not, however, indicate that water is affordable for everyone in a community whose water rate is less than 1.5% of the MHI for the entire community, as discussed in *Assessing Water Affordability* (Christian-Smith et al, 2013). For that reason, *Assessing Water Affordability* calculated water affordability based on household incomes, in addition to median incomes for an entire community. They found that, while only about 17% of water systems in the Tulare Lake Basin region had unaffordable rates based on the

median household incomes for communities, 29% of households had unaffordable rates, indicating the problem of water affordability may be greater than has been acknowledged.

Drawing conclusions from rate comparisons should be done with caution, however. There are several community characteristics that impact rates, such as geography, climate, size of service area, size of water system, source of water, water quality constraints, groundwater level, water treatment requirements, level of service, number of staff and staff wages, use of taxes, subsidies, and loan payments, etc. The determinants of utility rates are varied and complex and do not necessarily reflect the true cost of service. A low rate or a high rate does not necessarily mean that a utility is more or less efficient. In fact, it may be that a system with a higher rate provides a higher level of service. There are also systems whose rates are artificially low because they rely on volunteers to manage or operate the system, which is not a replicable model of service.

Figure 4-2. Tulare Lake Basin Water Rates vs. Median Household Incomes



Note: Water rate data presented in this figure was collected from Christian-Smith et al, and Self-Help Enterprises.

5 POTENTIAL ALTERNATIVES

Four potential solution sets were identified to be analyzed through the pilot studies. This section focuses on management and non-infrastructure solutions to reduce costs and improve efficiency. These alternatives are aimed to help resolve the problems described in the previous section, primarily lack of funding and lack of technical, managerial, and financial capacity.

5.1 Range of Potential Alternatives

The Management and Non-Infrastructure pilot study includes alternatives ranging from sharing of resources on a small scale, such as sharing of personnel or purchasing pools, increasing to larger scale governance approaches and full organizational consolidation, all with the goal of reducing costs, improving efficiency, and/or increasing technical, managerial, and financial capacity. Various types of cost-sharing mechanisms include:

- Shared purchasing – such as pooled purchasing and shared use of vehicles (pickup trucks, small dump trucks, backhoes, etc.), chemical supplies and operational and testing equipment, spare parts for repair and maintenance of system components.
- Pooled insurance – groups of small communities could pool together to get more affordable insurance.
- Use of same auditing, engineering, legal, financial/bookkeeping, or other professional services firms in a coordinated basis. For instance combining efforts in acquiring engineering or legal services that are common among communities.
- Use of and coordination with the same contract water and wastewater operators between communities.
- Shared management – opportunities for adjacent or nearby operations to share management functions, including coordinating board meetings, assigning daily operational tasks, cash flow/billing function, planning for present and future needs, hiring contractors, evaluating employees, etcetera.
- Shared equipment such as mentioned in shared purchases above or sharing equipment where one entity provides a backhoe and another entity supplies a sewer cleaning vacuum truck (for example).
- Backup of maintenance/operator personnel – operator of one system can help operate a neighboring system while that operator is on vacation (for example).
- Various governance approaches (JPA, consolidation, new legal entity, etc.).
- Association formation to provide ongoing support to water/wastewater system operators within the Tulare Lake Basin region (or encourage utilization of existing associations).

- Training and education programs – programs to develop education, technical skills, and leadership (develop new programs and encourage utilization of existing programs).

A system partnership or cost-sharing approach may include two or more systems working together to overcome challenges and build capacity to create a mutually beneficial situation for all systems involved. There is a range of levels of collaboration between systems that can be implemented. **Table 5-1**, developed from the webinar 'Partnering Over Time' (EPA, 2011), illustrates a broad spectrum of partnership approaches. The range of potential alternatives include: informal cooperation, such as operator-to-operator mentoring, or sharing equipment; contractual assistance, such as contracting operations or management services; joint powers authority, which is where systems can get together and form a new entity to share some or all services, functions and responsibilities; and complete ownership transfer, where a system is consolidated into another system. This can sometimes involve physical consolidation of the systems, but physical connection is not required. This pilot study will discuss consolidation in terms of ownership transfer, both for systems that physically connect and those that do not. This pilot study focuses on the governance changes associated with consolidation, while the physical interconnection will be discussed further in the New Source Development pilot study.

Table 5-1. Spectrum of Partnership Solutions[4]

→ Increasing Transfer of Responsibility →			
Informal Cooperation	**Contractual Assistance**	**Joint Powers Authority**	**Ownership Transfer**
Work with other systems, [without contractual obligations] each system maintaining own functions	Requires a contract, but contract is under each system's control	Creation of a new entity by several systems that continue to exist as independent entities, but assign some functions to the JPA	Takeover by existing or newly created entity
Examples:	**Examples:**	**Examples:**	**Examples:**
Sharing equipment	Contracting operation and management	Sharing system management	Acquisition and physical interconnection
Sharing bulk supply purchases	Contracting legal or financial services	Sharing operators	Acquisition and satellite management
Mutual aid arrangement	Purchasing water	Sharing source water	One system transferring ownership to another to become one system or entity

[4] This table originated from the 2011 EPA webinar, "Partnering Over Time", and has been modified for purposes of this study.

5.2 Types of Alternatives

This section presents potential alternatives ranging from the internal changes that an individual system can implement to achieve and maintain sustainability, to various levels of partnerships between systems, aimed at sharing costs to achieve and maintain a sustainable system.

Sharing resources or developing partnerships can promote other operational efficiencies such as improved economy of scale, benefits to employees where benefits may not have been provided before, and many other benefits associated with developing a larger customer base.

5.2.1 Internal Changes

Various changes within an individual system can be implemented to reduce costs, improve efficiency, and assess technical, managerial, and financial (TMF) capacity for possible improvement. Internal changes may include the following:

- Assess the existing rate structure to determine if adjustments to the rate structure can be made to increase revenue and/or encourage water conservation.
- Assess the budget, financials, and reserves. Many communities do not maintain sufficient reserves to be prepared in case of equipment or other failure. It is important to evaluate the budget, and make adjustments as necessary to sustain the system.
- Evaluate the management structure to see if changes may be beneficial to the operations and sustainability of the entity.
- Prepare a written operation and maintenance plan including equipment maintenance, line flushing, inspecting/exercising control valves, and other operation and maintenance activities that should occur on a regular basis to improve the life and efficiency of the system.
- Develop an organization chart and descriptions of roles and responsibilities for each employee, contractor, or consultant, and their interaction with each other, so that everyone understands what their roles and responsibilities are supposed to be.
- Provide training for operators, other staff, and board members to keep key people informed.
- Adopt formal policies on payments, collections, water rates, connection charges, customer complaints, etc.
- Prepare an Emergency Response Plan detailing how to handle water outages, contamination issues, etc.

- Install water meters on all services. This will allow for a metered rate structure, which may encourage water conservation and increase revenue from those high water users.

5.2.2 Informal Cooperation

Informal cooperation involves two or more entities working with each other in a mutual aid arrangement, but without contractual obligations. Informal cooperation could involve:

- Sharing equipment
- Sharing bulk supply purchases
- Sharing operator and maintenance personnel (backup personnel)
- Coordinating/sharing sampling and testing services
- Sharing of billing and bookkeeping services

While informal cooperation does not require executing a formal contract, a memorandum of understanding (MOU) is typically prepared to document what is agreed upon between the communities.

5.2.3 Contractual Assistance

Contractual assistance could be provided in various different forms. An entity or group of entities could contract with a private third party organization to provide bookkeeping services, operation and maintenance services, management, or other services. This type of contract would be under each individual system's control, and would not necessarily involve cooperation between two systems. Similarly, an entity could contract with a non-profit organization to provide any of a variety of services. This could involve an existing non-profit entity or one formed for the specific purpose of the contracting service, which would offer services to public or private water/sewer service entities. Alternatively, the contractual assistance could be between service suppliers. In this case, an entity could enter into one or more contracts with other entities for the provision of services and/or the purchasing of goods and equipment.

5.2.3.1 Contract with Private Third Parties

This option requires a contract that would be made with a private/outside company. Some examples of this type of contractual assistance may include:

- Contracting bookkeeping/financial/auditing services
- Contracting operator services
- Contracting management services
- Contracting legal services
- Contracting engineering services

A group of public and/or private entities could collectively enter into a contract with a private, third party entity, for the provision of goods and/or services at a “group rate”. For example, a contract operations company could agree to provide professional services to a consortium of entities under a “master” contract at agreed upon, discounted rates.

This would be one of the least complicated options, as each individual entity could choose to participate as it so desires, on an item by item basis. There would need to be no action taken by the entity, except for the board to authorize participating in the contract.

In the case of a public entity, the statutory provisions relative to hiring the specific service, or purchasing the particular type of goods, would be applicable.

This alternative could provide the benefit of improving technical or managerial capabilities. Hiring the services of a contract operator, for example, may have a broader range of experience and may provide more reliable and efficient services.

5.2.3.2 Contract with Non-Profit Organization

An existing non-profit organization, or one formed for the specific purpose of contracting services, could offer to contract to provide goods and/or services to public and private entities. It is not unusual for a public entity to create a non-profit organization for the purpose of providing one or more specific services. For example, cities and housing authorities have created non-profits to develop, build, own and/or operate low- and moderate-income housing. The public entity in turn contracts with the non-profit so that one provides services to the other.

The primary advantage of contracting with a non-profit versus contracting with a private third party entity would be the potential for the lower cost of providing service since there is no profit.

There are precise legal and procedural steps required to be followed to form the non-profit organization and obtain tax-exempt status from the IRS. The non-profit would have its own board of directors and staff, separate from the contracting entities. The by-laws could be written so that public and/or private entities which create the non-profit can assure themselves that they would have a director’s position on the board.

As with the previous alternative of contracting with a private third party, contracting with a non-profit organization would provide the benefit of improving technical or managerial capabilities, although it does cost money to provide those services. The non-profit organization may be less expensive than a for-profit company, however a non-profit organization for the desired services may be less readily available.

5.2.3.3 Contract to Share Services and/or Staff

Both public and private entities could choose to enter into one or more contracts with other entities for the provision of services and/or the purchasing of goods and equipment. The process for acquiring such goods and services, and for entering into

such contracts would have to follow the requirements of the public entity members (which are generally more restrictive), such as competitive bidding (if required by law).

One entity could agree to provide all or selected specific services to other entities under a contract agreement. Thus, for example, a district with a full time manager could agree to provide managerial services to other entities. Multiple contracts could be developed, each applying to different services. Likewise, an entity with a certain piece of equipment could agree, by contract, to permit other entities to have access to the equipment, and, if so desired, provide an operator for the equipment.

This arrangement has the advantage of being very flexible, since both public and private entities could participate, and any variety of services or equipment could be shared. In addition, different entities could provide different services so that the entity with the best available staff or resources could provide the services of that staff to others. Increased economy of scale and increased levels of expertise would result.

To accomplish this result, the board of the participating entities need only agree to enter into a contract for the agreed upon services.

This alternative has the potential to provide the benefit of improving technical, managerial, or financial capabilities, and, depending on the circumstances, could provide a reduction in costs for each entity involved.

5.2.4 Joint Powers Authority

A joint powers agreement would allow creation of a new entity by several systems, which would each continue to exist as independent entities. This new entity may be in the form of a Joint Powers Authority (JPA) to operate the system as one entity, but maintain other independent processes (billings, budget, bookkeeping). The JPA could be formed by two or three entities, or it could be a larger regional authority with a large number of participating entities. Government Code Section 6500 governs JPA's. Section 6502 requires that only public entities can be part of a JPA, unless otherwise permitted by the Chapter (6500 et seq). One exception identified is for Mutual Water Companies (MWC), which may enter into a joint powers agreement with any public agency for the purpose of jointly exercising any power common to the contracting parties (Section 6525). The JPA can only carry out functions which are common to ALL of its members. Examples of functions that may be provided through the JPA include:

- Shared system management
- Shared operators
- Shared billings and bookkeeping
- Shared source water

The model for formation of a JPA already exists among irrigation and water districts in the Central Valley. An example is the Friant Water Authority, a Joint Powers Authority comprised of irrigation and water districts that receive irrigation water from Friant Dam and the Central Valley Project. There is the potential for flexibility with this option, as

the member districts can determine which powers and responsibilities to convey to the JPA and which to retain within the individual districts.

Only public entities can become part of a JPA (with the exception of MWCs). If a private entity wishes to become a member of a JPA, the citizens and voters within the entity must carry out the process of creating a public entity, which generally means the private company cannot be directly involved; however the private company can facilitate the start of the process and assist. To create a public entity involves the County Board of Supervisors, LAFCo, and an election, as well as a group of interested and concerned citizens and voters. This process is discussed further under "Formation of a Legal Entity". The private company can express its willingness to convey its assets to a newly formed public entity and to dissolve when the new public entity is formed. The JPA's powers would be contained in an Agreement, and would be limited to those powers common to all members. For example, if only four out of the five member districts have the authority to provide sewer service, sewer service cannot be a function of the JPA.

The governing board of each potential member district of the JPA would have the power and authority to join the JPA without the requirement of an election, although member boards could choose to put an advisory election before their voters.

Each entity joining the JPA would have one member on the JPA board (or perhaps two to three if the number of member entities is small). Especially in two-agency JPAs, care should be taken to avoid the formation of a JPA board with an even number of board members, to avoid bifurcation of the board. The JPA could operate all or parts of the infrastructure of the members under a contract. The board of each entity would control the rate setting within their individual boundaries.

Interested entities would need to meet and direct legal counsel to draft a joint powers agreement document. This would be reviewed and discussed by the individual member boards. Eventually, each individual member board would vote on executing the document, joining the JPA, and appointing a representative to the JPA board.

The on-going structure and operations of a JPA require a necessary time commitment and there are financial responsibilities and costs. The JPA board would need to meet regularly, minutes taken, and, if there are director's fees, they must be paid. The JPA may have staff or pay to contract with member agency staff. The entity would need to have its own insurance and would need to keep its own books and cover the costs of audits.

Formation of a JPA, however, could provide a benefit of increased economy of scale and expertise (technical capacity) for those functions performed by the JPA. There should also be added strength and political impact resulting from the JPA representing the cumulative interests of the member districts. This option also has the flexibility of crossing county lines and the advantage that it does not require co-terminus borders (more flexible geographically).

5.2.5 Ownership Transfer

Ownership transfer would be in the form of full consolidation of two or more systems into one existing or newly created entity. This may include acquisition and physical interconnection (discussed in further detail in the New Source Development pilot study), or acquisition and satellite management (no physical interconnection).

Depending on the type of entities being consolidated and the resulting consolidated entity, full consolidation may require separate concurrent elections to merge the various districts. The voters of each existing district involved would have to approve the consolidation and creation of the new entity (if applicable). This would require approval from the Local Agency Formation Commission (LAFCo). If the consolidation results in the creation of “islands” within the resultant service area, LAFCo would also have to approve the consolidation. In addition, LAFCo may require the expansion of services into areas not currently being served, to compensate for the creation of “islands” that may result from consolidation. LAFCos may take this opportunity to be proactive in facilitating this type of consolidation.

A critical consideration, depending on the arrangement of the ownership transfer and types of entities involved, would be the size and makeup of the new Board for the consolidated entity. If one or more entities consolidate into an existing entity and are subsequently absolved from providing their original services, this may not be a major consideration. However, if several entities consolidate into a new entity or restructured existing entity, the size and makeup of the new Board will be an important consideration, since it is likely each of the current existing entities would want to have representation on the new Board. The new “super” District may have to create service areas or zones to accommodate the different levels of service and rates, particularly if the consolidation does not include physical interconnection. In this case the existing infrastructure, water quality, water supply quantity and reliability, etcetera may differ within the consolidated District.

Consolidation with a neighboring system that has sufficient and safe water supply can be one of the most effective long-term solutions. Consolidation refers not only to the physical interconnection of water systems, but also the regionalization and restructuring of the two water systems, which may or may not include physical connection. Full consolidation may take years to complete but initial activities could include development of operator agreements that may lead to future consolidation.

Consolidation of smaller community systems into one larger system increases the rate-payer base, makes treatment more affordable, and may also increase management efficiency and oversight of system resources.

There are many potential benefits to consolidation, including the following:

- Increase economy of scale, spreading capital, operation, and maintenance costs over a larger population to lower the per customer base ratepayer costs.
- Increase ability to apply for and obtain funding for capital improvements, including improvements necessary to meet existing water quality requirements.

- Reduce costs associated with equipment, maintenance, billing, and other management issues by sharing resources across communities.
- Increase reliability with respect to number of water sources.
- Improve the ability to access and hire more skilled employees, and provide those employees with full-time work, rather than on-call or part-time work.
- Retention of existing staff that may be looking for career advancement

5.2.6 Formation of a Legal Entity

Formation of a public legal entity may be an option for: (1) existing private entities that currently do not have access to funding or other opportunities as a private system, or (2) communities that do not have an existing water or sewer system and want to form a legal entity to provide water and/or wastewater service to the community. These would be communities that rely on private wells and/or septic systems. Individual households with private wells and septic systems are discussed further in the Individual Household pilot study.

The 1996 amendments to the federal Safe Drinking Water Act responded to national drinking water infrastructure needs by establishing the Safe Drinking Water State Revolving Fund (SDWSRF) program. The SDWSRF provides financial assistance in the form of capitalization grants to states to provide low interest loans and other assistance to PWSs. However, federal law requires the State to enter into binding and enforceable contracts only with legally established entities that have the ability to hold property, assess and collect funds, and operate as an on-going business. Systems that lack a legal entity with the necessary authority are therefore not eligible to receive SDWSRF funding.

Formation of a legal entity would help a system to become eligible for future funding opportunities for which they may have not otherwise been eligible.

5.2.7 County Operation of Multiple Zones of Benefit or County Service Areas

In unincorporated areas, basic services like water, sewer, police and fire protection may be provided by the county. Since counties often consist of large and diverse geographical areas, providing a consistent and adequate service level across all areas can be difficult. The County Service Area Law (Government Code §25210.1 et seq.) was created in the 1950's to provide a means of providing expanded service levels in areas where residents are willing to pay for the extra service.

The law allows residents or county supervisors to initiate the formation of a County Service Area. A CSA is authorized to provide a wide variety of services, including extended police protection, fire protection, park and recreation facilities, libraries, etc. CSAs also may provide other basic services such as water, sewer, and garbage collection if they are not already performed on a countywide basis.

A CSA may span all unincorporated areas of a county or only selected portions. CSAs allow small communities in unincorporated areas to pay for and receive specific services from the county. If residents are willing to pay, they can receive the types of services and improvements not available in other areas of the county. There is no cost to residents of other areas of the county who do not wish to receive the additional services.

The advantage to this approach would be the ability to rely on sustainable County staff that may be more likely to remain in place long term. The challenge to this approach is finding County staff and/or contract operators to do the work within a budget that provides affordable customer rates. This approach has been utilized in the Tulare Lake Basin counties of Fresno, Tulare, and Kern, as well as the neighboring county of Madera. This option should be considered for its ability to sustain services long term, where there is a system in place to do so. However, review of financial statements indicates that some of these county operated systems are not financially viable, even with user rates exceeding 1.5% of the communities' median household income.

5.2.8 Regional Association

A regional association focusing on sharing information would entail the creation of a voluntary, independent association whose principal goal and objective would be to act as a clearinghouse of information, materials, and resources to those entities that choose to be part of the association. The association could also organize and coordinate ongoing education and training programs on subjects of interest to water service providers, sewer service providers, and other interested parties in the industry. These could include operator training, business and budgeting of small systems, and management and leadership training for existing and potential managers and other decision-makers. An association could also potentially provide temporary operation and maintenance services to DACs. The existing entities would continue to exist and function independently.

There are various existing associations that already provide many of the services described. Several of these existing associations are discussed in Section 7.1.8. Rather than forming a new association, if an existing association provides the information, training, or other services desired, a community or community representative could join an existing association.

For a determined fee, entities can become part of an association and receive information, documents, training, etcetera on what is working best among the members. This could be very similar to the existing support entities, such as the League of California Cities, California State Association of Counties, California Special District's Association, Rural Community Assistance Program, California Rural Water Association, etcetera. A new entity could be developed on a regional basis with a focus on the various kinds of services provided by members. Education and training opportunities could be provided through the association, or it could be that the association informs participating entities of training and educational programs that are available through other organizations. Other alternatives presented in this pilot study, as well as other

studies, will have limited benefit if there is insufficient staff available with proper education and training to manage and operate the system improvements.

This entity could also serve as a centralized voice for attempting to obtain legislation and/or funding needed to assist the members in the delivery of services. This type of entity could cross county lines, or it could be provided at the county level.

An association could also provide representation for DACs in the Integrated Regional Water Management (IRWM) planning process. The association could help to address some of the challenges DACs face when trying to participate in IRWM planning groups.

Integrated Regional Water Management groups could also provide the benefits of a regional association. Integrated Regional Water Management is a collaborative effort to manage all aspects of water resources in a region. IRWM crosses jurisdictional, watershed, and political boundaries. It involves multiple agencies, stakeholders, individuals, and groups, and attempts to address the issues and differing perspectives of all the entities involved through mutually beneficial solutions. The Department of Water Resources (DWR) has offered a number of planning and implementation grant funding opportunities for IRWM groups through bond funds provided by Propositions 50 and 84.

5.2.9 Combination of Alternatives

The options that have been presented in this section are not mutually exclusive. Various combinations may prove to be the most beneficial for different entities and circumstances. A regional association could serve as a clearinghouse of information on the other alternatives discussed, providing the pros and cons of each.

Given the significant number and variety of entities in the area, with their divergent circumstances and needs, and the political, financial and practical differences among them, it is not likely that a single alternative is best for all situations, nor is it likely to be adopted by all interested parties. However, it is evident that there is a very real need for existing entities to improve the delivery of domestic water and wastewater services to their constituents, and one or more of the alternatives presented herein can help provide the necessary resources to do so. It is noted that all of the options presented require local leadership and involvement to begin the process and facilitate the implementation.

6 IMPLEMENTATION PROCESS

6.1 Implementation Process

Cooperation between public water systems can provide the opportunity for systems to share resources to reduce capital and operating costs, and to mitigate concerns regarding meeting Safe Drinking Water Act requirements. Alternatives can take many forms, ranging from informal cooperation and assisting neighboring utilities during times of need, to consolidating with a neighboring city or consolidating various entities into a regional entity. It is critical to gain an understanding of the problems or challenges as well as the organization of each of the entities involved to fully evaluate these alternatives.

As is common to most rural water systems, distressed rural economies preclude straight-forward capital-intensive solutions without outside sources of funding. Creative solutions for sharing common functions (billings, operations, etc.) could help free up resources for capital investment.

There are several steps that can be taken to develop the management and non-infrastructure alternatives described in this pilot study. The process of implementing a partnership solution will involve the following steps:

1. Identify a facilitator to lead the public outreach and information process;
2. Conduct a study to screen identified areas, determine the appropriate level of partnership for the participating systems, define participant roles and responsibilities, and determine the preliminary engineering and financial feasibility of sharing or consolidating system resources;
3. Establish an agreement between the participating systems;
4. Apply for grants and/or loans to fund the project (as applicable); and
5. Implement partnership solution between systems or system resources.

It has been the experience in New Mexico where the western United States non-profit Rural Community Assistance Corporation (RCAC) has facilitated the process, that many regionalization efforts have been successful. In most cases, regionalization happened with help from persons and agencies outside of the communities involved. Most communities are busy dealing with day to day issues and community members do not realize that other neighboring communities are dealing with the same issues. They may not have the time or resources to learn about options on their own. The potential for a partnership or consolidation effort is often identified by a funding agency, regulatory agency, or a technical assistance provider familiar with funding sources and options available. These outside entities have the ability to see information from more than one community at a time. In most cases, this outside person or agency will plant the seed within the community to begin the process.

Collaboration between entities usually begins with one person. This person could be a community member who recognizes the need for a partnership solution, or it could be an outside entity providing information or encouraging a solution. The person reading this study could be the visionary who will start the process. Every regional project takes a leader who will be willing to look beyond how things have "always been done" and move to do what is best for the local community or group of communities.

The process of implementing one of the management and non-infrastructure alternatives may be initiated through the work of this leader to introduce the concept. The water and/or wastewater systems must then identify their needs; these needs may include needing an adequate water supply, meeting regulatory compliance, being able to afford capital improvements, getting volunteers to serve on the board, etcetera.

When should management and non-infrastructure alternatives be considered?

1. Lack of Funding to Offset O&M Costs
2. Lack of TMF Capacity

Management and non-infrastructure alternatives, as presented in this pilot study, should be considered when a system faces one of the following challenges:

1. Lack of Funding to Offset O&M Costs
   - Sustaining aging infrastructure is not feasible
   - Meeting drinking water requirements is a challenge
   - Drinking water sources are not meeting capacity
2. Lack of Technical, Managerial, and Financial Capacity by Water or Wastewater Service Providers
   - Retaining adequately trained staff is a challenge
   - Rates are not sufficient to set aside reserve funds for capital improvements

Systems that suffer from lack of funding or lack of TMF capacity to satisfactorily operate their water or wastewater system may recognize the benefit from sharing resources to optimize system operation, reduce costs, and maintain compliance with the Safe Drinking Water Act. They can begin a conversation with neighboring systems or they can talk to assistance providers, state agencies, funding agencies, or other technical assistance providers, about helping to facilitate a process to discuss regional collaboration and partnerships.

Some issues or characteristics that should be considered in approaching a partnership solution include: community size, DAC or SDAC status, relative location to other systems, etc. It could be that a region is made up of similar size communities all with similar issues, or it could be that one or more smaller systems consolidates or partners with a large community or city to take advantage of the existing system already in place and greater economy of scale realized by that larger community. Each regional effort will be unique due to geographical constraints, water quality issues, water sources available, political issues, economic issues, and many other deciding factors.

Decision trees are flow charts that were developed to assist the user in evaluation of alternative solutions to a problem. Decision trees for the Management and Non-Infrastructure pilot are presented in **Appendix F**. Each community is unique, however there are decisions that will be required of each community to be able to make progress toward addressing the water supply, water quality, or TMF issues. Decision trees are prepared based on the experiences of the case studies (see Section 7), community outreach (see Section 8), other efforts that were part of developing this pilot study, and other anticipated decisions.

Once the communities decide to move forward, it should be discussed what the best options are for the specific communities and alternatives being considered. It may begin with some internal changes, or that the communities involved may internally review their respective management and financial practices before implementing a solution.

Several levels of change are discussed below. These are generally ordered from the least to the greatest level of commitment involved by the participating communities.

6.1.1 Internal Changes

There are internal changes that can be made to improve the viability of a system without necessarily implementing a partnership or cost-sharing solution. Some of these changes include, as necessary or appropriate, reviewing and updating the billing system, reviewing and modifying the rate structure, developing or updating a written operation and maintenance plan, defining roles and responsibilities for each staff position, provide training for operators or other employees, review revenues and expenses on a regular basis, adopt formal policies on payments, collections, water rates, connection charges, customer complaints, develop an Emergency Response Plan, and develop a financial plan that includes operations and maintenance as well as reserve funds. Other examples include revising ordinances and/or policies to reduce or eliminate instances where connections and/or monthly service fees are not being required, improving the collection policies to be certain that all revenues are being collected, etc.

Internal changes can be implemented by the owning/governing entity. If the internal changes dictate a change in rates, public entities must go through a Proposition 218 process. The governance structure and decision-making would remain unchanged.

The process to implement internal changes would depend on the changes to be made, and whether funding is available. There would likely be some staff costs and consultant fees associated with the changes, but would not be anticipated to require a major capital cost, except in the case of installing meters or similar physical improvements. Funding opportunities are available for installation of water meters. If implemented correctly, these internal changes should reduce ongoing costs and/or improve revenues to offset these costs.

6.1.2 Informal Cooperation

Informal cooperation is the start of developing a working relationship, which may or may not lead to more formal cooperation or ownership transfer. Informal cooperation may include working together to buy bulk items, share backup operations, share equipment and other resources, and potentially seek funding together.

Informal cooperation may require only minimal contracting of services and still allow each entity to operate independently. Informal cooperation does not require an initial investment and can be initiated at any time. The key for the success of this alternative is the development of interpersonal relationships between the operators and/or other personnel who will be involved in the partnership.

While informal cooperation does not require executing a contract, a memorandum of understanding (MOU) should be prepared to document what is agreed upon.

6.1.3 Contractual Assistance

Three different types of contractual assistance are presented. For each of these types of contractual assistance, there are similar items that need to be taken into consideration during the implementation phase. Some of the considerations to discuss include:

- Define scope of work (services to be provided)
- Define fees for the service(s) to be provided
- Define responsibilities and liabilities of each party involved
- Define where each party involved can hold each other harmless
- Define insurance needs/limits for the entities involved
- Define cost sharing parameters
- Define conditions and parameters for dissolution of contract

6.1.3.1 Contract with Private Third Parties

Contractual assistance may include contracting with a private company to operate a single or multiple systems. In this case, each water or wastewater service provider still has to follow their respective Proposition 218 requirements. In most cases, each individual entity would develop a contract with the private operating contractor. In this case, the water purveyor and private contractor could, at any time, enter into a contract for services. There will be some legal service costs associated with drafting and executing the contract.

In some situations, a group of local water systems may choose to jointly enter into a contract with the private entity to get a reduced rate from the private contractor. In this case, each entity would still be independent and follow their individual Proposition 218 requirements. However, the contract would be drafted and agreed upon by all systems

involved. This would require more time and legal service costs upfront than if each water purveyor entered into a separate contract with the private operator, but it should be less expensive for each participant because said costs would be shared.

Depending on the complexity of the agreement, developing the terms of service (assuming all parties are in agreement to move forward) and finalizing an agreement for contract services may take approximately five (5) to nine (9) months. If a rate adjustment is needed, the rates will need to be analyzed, a rate structure defined, and a Proposition 218 process will need to be administered. This process may take an additional four (4) to six (6) months. The cost to implement this alternative may be about $15,000 for a more straightforward agreement without need for rate adjustment, up to approximately $65,000 for an agreement with more complex terms that requires a rate increase and Proposition 218 election.

6.1.3.2 Contract with Non-Profit Organization

Contractual assistance may, alternatively, include contracting with a non-profit organization to operate a single or multiple systems. Each water or wastewater service provider still has to follow their respective Proposition 218 requirements, and each individual entity would develop a contract with the non-profit organization for operating or management services. In this case, the water purveyor and non-profit organization could, at any time, enter into a contract for services. There will be some legal service costs associated with drafting and executing the contract.

Depending on the complexity of the agreement, developing the terms of service (assuming all parties are in agreement to move forward) and finalizing an agreement for contract services may take approximately five (5) to nine (9) months. If a rate adjustment is needed, the rates will need to be analyzed, a rate structure defined, and a Proposition 218 process will need to be administered. This process may take an additional four (4) to six (6) months. The cost to implement this alternative may be about $15,000 for a more standard agreement without need for rate adjustment, up to approximately $65,000 for an agreement with more complex terms that requires a rate increase and Proposition 218 election.

6.1.3.3 Contract to Share Services and/or Staff

Contracting between water systems may include similar cooperation as the Informal Cooperation section, but on a contractual level. It may also involve contracting for operations and maintenance with shared operators running both (or all) systems, or it may include contracting for water or wastewater service. A community could contract with a larger community or city to receive water through a master meter. A community could also contract with a larger community or city for wastewater treatment service.

This type of contract could be initiated at any time, but would require a nominal investment for legal services to negotiate and prepare the contract. Each entity would still follow their respective Proposition 218 requirements.

Depending on the complexity of the agreement, developing the terms of service (assuming all parties are in agreement to move forward) and finalizing an agreement for

contract services between two service providers may take approximately three (3) to nine (9) months. The cost to implement this alternative may be about $10,000 to $25,000.

6.1.4 Joint Powers Authority (JPA)

Joint Powers Authority contracts would likely be in the form of a Joint Powers Agreement for public agencies. The JPA may conduct full joint operations of the system as one entity, or the JPA may have an agreement to consolidate one duty, perhaps either operations or billings. Other system duties not performed by the JPA would remain the responsibility of each entity.

In the alternative, the JPA could agree that various services and duties could be handled by different members. Thus, for example, one member could be responsible for billing and collection for all members while another member could be responsible for maintenance services for all members. Payment for such services could be made through the JPA or directly to the member providing the service. The JPA could directly provide one or more services for the members as well.

Similar to the contractual assistance solution, several considerations must be taken into account during the implementation phase of a JPA, including the following:

- Define scope of work (services to be provided)
- Define fees for the service(s) to be provided
- Define responsibilities and liabilities of each party involved
- Define where each party involved can hold each other harmless
- Define insurance needs/limits for the contractor
- Define cost sharing parameters
- Define conditions and parameters for dissolution of contract
- Develop joint powers agreement documents for approval
- Define makeup of Authority officers, board members, and management governance structure
- Define decision making process
- Define individual entity operations and services independent of the JPA

The JPA would be a separate legal entity. It would not need to have much staff or directly perform many functions. Conversely, a JPA could be charged with delivering more functions, decreasing necessary staffing levels of its member agencies, depending on the goals of the JPA. JPAs are generally restricted to public entities, although MWCs are allowed to join JPAs.

This option allows communities to share certain specified services while retaining separate oversight by each individual community. The JPA would have a Board of

Directors, and each member entity would typically appoint a director and an alternate. The JPA would have the same requirements for Brown Act, Public Records Act, conflicts of interest 1090, and political reform act. This creates additional restrictions and costs, but increases transparency.

Typically, JPAs do not impose charges directly to the customers. Instead the arrangement is more often that the member entities charge fees of their respective customers and then pay into the JPA. This means that typically a Proposition 218 process would need to be run by each of the separate entities that are imposing their own fees. If it is the case that the JPA is imposing the fees, it could be one Proposition 218 process for the JPA, if there is one rate policy applied equally across the JPA jurisdiction.

Formation of a JPA requires consent of each member agency Board, preparation of a Joint Powers Agreement and bylaws, and decisions being made on the roles and responsibilities of the JPA. The primary purpose of pursuing a JPA (or other alternative solutions presented) would be to save money to the participants. There would be added costs for a JPA associated with having to maintain separate records, documents and financial books, as well as the costs for complying with the Public Meetings Law and the Public Records Act, but these should be offset by the savings to be generated in improved economy of scale and joint use/sharing of staff and expertise.

Differences in size of service area, population, and financial circumstances will have to be discussed, and the makeup of the governing board will have to be negotiated. Additionally, a financial analysis should be conducted to evaluate financial viability of this alternative prior to forming a JPA.

Formation of a JPA is less expensive than full consolidation, because it does not require LAFCo involvement or elections. JPAs are also easier and faster to implement than consolidation. It is easier to start, easier to form, and easier to dissolve if necessary. A JPA can be constructed to fit the specific needs of the entities involved. The entities will work together to set the parameters of what functions the JPA is and is not going to do.

Depending on the complexity of the agreement, developing the terms of service (assuming all parties are in agreement to move forward) and finalizing a joint powers agreement may take approximately nine (9) to fourteen (14) months. If a rate adjustment is needed, the rates will need to be analyzed, a rate structure defined, and a Proposition 218 process will need to be administered. This process may take an additional four (4) to six (6) months. The cost to implement this alternative may be about $30,000 for a more standard agreement without need for rate adjustment, up to approximately $90,000 for an agreement with more complex terms that requires a rate increase and Proposition 218 election.

6.1.5 Ownership Transfer

This option involves full consolidation of multiple water systems into one existing or newly created entity. Full consolidation as discussed in this study refers to full organizational consolidation, which may or may not involve physical connection

between systems. The surviving entity may be a city if the smaller communities had consolidated with a city, or it may be a special district, such as a Public Utility District (PUD) or Community Services District (CSD). Alternatively, a special act district (see Types of Organizations definitions, Section 2.3.2) could be created, similar to the Kings River Conservation District, as an example. If a special act district is created, it must be done through the State Legislature.

Any type of special district would be subject to the same requirements for the Brown Act, Public Records Act, Conflict of Interest 1090, Political Reform Act, and other general local election and government code requirements. Board members can be elected and removed if constituents are unsatisfied with their performance.

The Proposition 218 process would depend on how the rate structure is set. If there is a different charge for different zones, then separate Proposition 218 processes may be needed for each zone. However, with full consolidation where all customers have the same rate structure, only one Prop 218 process would be required for the entire entity.

Consolidation is most likely to occur with a small community (or communities) consolidating with a city or large district. Ownership transfer between communities is often less feasible because there are many more issues to address and resolve. Consolidation with a city or other larger entity requires agreement with the consolidating entity. In order to develop such an agreement, it will need to be shown that the consolidation benefits the city or other consolidating entity.

Consolidation is consistent with State and Federal goals of creating more economy of scale and greater TMF capacity. This provides the most efficient management structure by spreading costs among more customers. This process does, however, take several years to implement, and significant capital cost. It is possible to get funding for the capital investment when physical interconnection is involved. There are also geographic restrictions and political issues that can be obstacles. The process to implement full consolidation with physical connection is described further in the New Source Development pilot study.

Some of the steps that are necessary to implement a consolidation include:

1. Understand budgets and rate structure in each entity. Prepare a complete and specific written financial plan for the resulting entity.
2. Explore how to combine the financial obligations, especially in the case of existing debt. Prepare a complete and specific written plan for transfer of any obligations from one entity to the other.
3. Develop full list of responsibilities, including maintenance, testing, operations, management, financial, etc. Prepare a complete and specific written plan for the implementation of all responsibilities, operation and maintenance.
4. Prepare a complete and specific written plan for ownership transfer (what is being transferred and what is not). Ownership transfer may include one or more of the following services, and the associate physical infrastructure:
    - Water

- Sewer
- Fire
- Police
- Streets
- Other

5. Comply with LAFCo requirements, Proposition 218 requirements, and other state law requirements.
6. With some cities this may require annexation; otherwise, consolidation may take place in the form of an extraterritorial service area.

One of the major obstacles to consolidation is the governance structure of the resulting entity. Existing governing boards may fear that the interests of their respective constituencies will no longer be represented or advanced with the same energy as before. It should be noted that Section 61030 (a) of the CSD law allows LAFCo to increase the number of members to serve on the initial board of directors of the resulting entity from 5 to 7, 9, or 11. Terms to be served by the new board of directors can also be set by LAFCo in accordance with Section 56886 (n). The expanded board of directors can be elected by division, with division boundaries being drawn according to community boundaries to ensure that customers of existing districts continue to have adequate representation on the new board.

Ownership transfer (managerial only, not including physical interconnection) may take approximately 24 to 40 months. The cost to implement will vary depending on various factors involved in the transfer, but may be $100,000 to $200,000.

Ownership transfer may also involve reorganizing a district to provide both water and sewer service (increase economy of scale), where water and sewer service are provided by two separate existing entities. This process would likely be much less expensive than transferring ownership from one community system to another, as there would likely be fewer political hurdles or resistance from community members.

6.1.6 Formation of Legal Entity

During the course of this Study, CDPH developed a new funding source that was implemented as a pilot. This funding was “pre-planning” funding aimed at forming public entities.

CDPH had grant funds available under a new local assistance set-aside for a pilot program to assist with the formation of a legal entity with the necessary authority to enable access to the SDWSRF project funding process for these communities. This funding program was designed to assist communities that do not have access to safe drinking water, and public water systems (not necessarily publicly owned – see Section 2.3 Definitions) not eligible for SDWSRF funding due to lack of an eligible legal entity.

Residents and voters would carry out the process of creating a public entity. In most circumstances, an existing private company cannot be directly involved in this process. The private company could, however, facilitate the start of the process and assist with outreach to encourage formation of a legal entity that can operate a water or wastewater system.

To create a public entity involves the County Board of Supervisors, LAFCo, and an election, as well as a group of interested voters. The private company can express its willingness to convey its assets to a newly formed public entity and to dissolve when the new public entity is formed.

Formation of a legal entity would include written plans to address each of the following:

- Identification of one or more concerned residents/voters within the potential boundaries to initiate the process
- Evaluation of options for formation of an entity with the appropriate legal authority to enter into a contract with the State for SDWSRF or other funding
- Identification of the geographic area to be covered by the legal entity
- Perform public outreach to the affected community to inform residents about the benefits of forming a legal entity
- Coordinate with and get approval from LAFCo
- Legal services and financial planning related to formation of a legal entity
- Preliminary engineering and surveying necessary for formation of a legal entity
- Feasibility study to identify water source options (and/or wastewater options)
- Environmental work necessary for the formation of a legal entity

To form a new public entity other than a JPA, requires one or more persons to begin the process by petitioning the County Board of Supervisors, engaging an attorney for legal advice, engaging an engineer and a planner to draw up proposed boundaries, etc. Thereafter, the Board of Supervisors would hold public hearings and if they were supportive, would then require the calling of an election for the voters to approve the formation and elect an initial governing body. This would generally be a 6 to 12 month process and would involve considerable expense, which would have to be paid up front by someone, although upon formation such costs could be repaid by the District if funds are available.

6.1.7 County Operation of County Service Areas

Formation of a County Service Area requires acceptance by both the residents and the County. A CSA is initiated by a petition of registered voters or by adoption of a resolution at the county level. Once proposed, the formation of the CSA will be subject to public notice and a public hearing. If more than 50 percent of registered voters or landowners protest, the CSA may need to be subject to voter approval at a special

election. Once approved, the CSA is normally granted limited powers and the county board of supervisors act as the CSA board.

When a CSA exists, the property owner will pay taxes and fees to the CSA instead of the county for the services provided. These will be billed as line items on the county property tax bill. The taxes may take a variety of forms.

- General property taxes may be levied depending upon Proposition 13 constraints. These taxes are based on the assessed value of the property.
- Special taxes may be levied for specific purposes. These taxes must be approved by a 2/3 vote of the CSA residents.
- Benefit assessments may be levied for specific purposes and are based on the direct benefit each parcel receives from the improvements or services financed. These charges are subject to annual approval at a public hearing.
- Water and sewer standby charges may be levied to ensure future availability of service, subject to certain limitations.

Additionally, the CSA may charge these fees and taxes according to zones to more accurately bill residents for the particular services provided to their individual property. (www.californiataxdata.com)

6.2 Public versus Private Governance

The alternatives described in this pilot study will generally apply for publicly owned water or wastewater systems, although private systems can also participate. Public systems have greater access to state funding; however there are funding opportunities available for private systems, but often only as loans and not grants. It is also possible that a public entity can be formed to replace an existing private entity in order to allow a project to be implemented. Private water systems, such as a Mutual Water Company, have the ability to extend services to public or private systems, either through a simple provision of service or by purchasing the entire system. Public funding may be available for such consolidations either through the smaller MWC or directly to the larger public entity.

6.3 Policy Issues

Various existing policies and programs are beneficial to, or can encourage implementation of partnership solutions. There are also some policies that could potentially be implemented to further assist or encourage these types of solutions. Some existing policies include:

- Incentives for consolidation using funding at state level (Consolidation Incentive Program)
- Opportunities for formation of a legal entity (Pre-Planning and Legal Entity Formation Assistance Program)

- Various other funding programs described in Section 9

Some potential policy issues that could be considered to further encourage these types of solutions include:

- Funding assistance for pre-work (initiating the process, outreach and communications)
- Additional opportunities for incentives
- Land use planning restrictions to ensure safe and reliable water can be provided
- Farm labor housing policy amendment to restrict construction of such housing where safe and reliable water is not available

6.4 Costs by Community Size and Setting

Usually, the group that begins to collaborate together will set up a budget for expenditures that may include costs such as mailings, filing of documents, meeting space, etc. Later the group may also identify the cost of having a consultant complete a feasibility study for the alternative they are pursuing. The feasibility study may include a financial plan for the new or surviving entity, rate structure, budget, ordinances, staff, office, administration, operation and maintenance, etc. If a small system is consolidating with a city, or other larger existing entity, development of a financial plan may not be necessary, as the city's rate structure and budget would be maintained.

It is not practical to try to develop costs to implement these solutions at this phase because the costs vary significantly based on the number and size of systems involved, the level and type of partnership to be developed, existing water quality (treatment needs), condition of existing systems, financial and managerial situation, geography, etc. There are too many variables to provide representative costs for the entire region. Once a specific group of communities is identified, associated costs can be considered and developed specific to that group.

Generalized cost ranges and timelines are presented with the decision trees in **Appendix F**. A summary of these generalized cost ranges are presented in **Table 6-1**. These costs and timelines are based on the assumption that discussions have been initiated and all parties involved are in agreement to move forward. The cost and timeline estimates were developed based on the experience of the project team and the anticipated tasks that would need to be completed to implement a solution. As discussed, the cost ranges presented are very conceptual and should not be relied upon when developing project costs, due to the wide variability between communities and project components. Rather, these cost ranges are presented to give communities and potential funding agencies an idea of the costs that may be involved in implementing a management and non-infrastructure solution.

Table 6-1. Summary of Implementation Costs

Non-Infrastructure Alternative	Approximate Cost Range	Approximate Timeline
Contractual Assistance – Private 3rd Party	$15,000 - $65,000	5 to 15 months
Contractual Assistance – Shared Services	$10,000 - $25,000	3 to 9 months
Joint Powers Authority	$30,000 - $90,000	9 to 20 months
Ownership Transfer[1]	$100,000 - $200,000	24 to 40 months
Formation of Legal Entity	$60,000 - $100,000	6 to 12 months

1. Ownership transfer cost and timeline does NOT include physical interconnection.

The cost to implement the alternatives presented in this pilot study can be considerable, depending on the level of partnership to be implemented. The cost savings as a result of implementing one of these alternatives may or may not provide a significant impact. These alternatives provide the opportunity for the water or sewer service provider to save money, but implementation of one of these alternatives will not likely reduce rates for the customers. However, having an ongoing relationship with a neighboring community will open the door for more opportunities to share services, purchases, or information when those needs occur, and can provide value to the services each entity is able to provide, even if it does not allow for reduced rates.

The example of sharing the purchase of a sewer cleaning machine can be used to illustrate this. If two entities are both in the need of a sewer cleaning machine and are within about 5 or 10 miles of each other, they could consider purchasing the machine together to reduce costs. The agreement to do so could be informal, with a MOU prepared to describe the agreement for shared purchase, use and storage of the machine, or it could be a contractual agreement to share this purchase and use of the equipment. This would be a relatively straightforward agreement, and may cost about $10,000 to develop and finalize. A sewer cleaning machine costs about $65,000 to purchase; therefore developing an agreement and purchasing one sewer cleaning machine would save about $55,000 for the two communities (about $27,500 per community), as opposed to each community purchasing a separate sewer cleaning machine. The impact per service connection, assuming each community serves about 500 connections, and assuming a life of the machine of 15 years, would be a savings of about $0.30 per connection per month. This does not account for potential savings in interest from the purchase of an additional sewer cleaning machine, which may slightly increase the savings per connection; however this value would still be very small. As shown, there is a real savings for the utility, although the users will not likely see the results.

	Community A Purchases Sewer Cleaning Machine	Community B Purchases Sewer Cleaning Machine	Community A and B Share Purchase	Cost Per Community for Shared Purchase
Develop Agreement	$0	$0	$10,000	$5,000
Sewer Cleaning Machine	$65,000	$65,000	$65,000	$32,500
Total Cost	$65,000	$65,000	$75,000	**$37,500**

7 CASE STUDIES

7.1 Local Examples

There are various examples within the Tulare Lake Basin Study Area of projects that have been implemented or are in the process of being implemented that are representative of the alternatives presented herein. The projects summarized are only those relevant to alternatives presented in this Management and Non-Infrastructure pilot study. Some of the communities have implemented or are implementing other solutions to their water and wastewater issues that include development of new sources or treatment.

These example projects are presented to help communities learn about the options that are available, provide real life examples of how these alternatives can be successfully implemented, and to provide a sense of what it takes to implement these solutions. The goal is that these examples will help build an awareness of the solutions that are being implemented, and encourage other communities to explore these alternatives because they can see the outcomes of implementation in other similar communities.

7.1.1 Internal Changes

Lanare CSD

The Lanare CSD water system has had ongoing arsenic issues. In 2006, Lanare constructed an arsenic treatment plant to address its arsenic levels, using CDBG funds. However, due to very high operating costs including treatment process chemical expenses, inadequate collection and management of water fees, the District accrued unmanageable debt in a short amount of time, causing the treatment plant to close in 2007, within one year of start-up. One of the challenges for the Lanare CSD when it operated the water system was the billing process. According to the Fresno County Grand Jury Report (2007-2008), accurate records were not kept and there was inconsistent billing and collections. On top of this, treatment process operating expenses soared. The expensive water with arsenic reduced below the MCL was being used largely for outside watering under a flat rate structure. These practices contributed to significant expenses in excess of revenue collected that was needed to run the water system. The system was therefore placed into receivership in 2010, and those inconsistencies have since been rectified. The receiver ensured that all properties connected to the water system are billed accurately and consistently utilizing water meters installed during the receivership, and if bills are not paid, water service is discontinued.

After water meters were installed in 2012-2013, water charges were billed according to the volume of water used. Many residents were caught by surprise and found themselves with exorbitant water bills. CDPH funded free water audit services to help residents locate potential leaks and learn how to reduce water usage. Additional water conservation classes and free water audits are also planned.

Under the monitoring of CDPH, it was the objective of the receiver, under court order, to rectify previous billing errors and establish an effective billing system that will "ultimately return the system to the community in a sound fiscal state." (Status Report to CDPH and Court, December 31, 2012). As of January 2014, after being operated by the receiver for 41 months, the Lanare water system is now operating with a positive cash flow for annual operations, but is still not treating water for arsenic contamination and still has outstanding debt to repay. The current rates have been adequate to cover operations by the receiver, including emergency repairs, and they will begin paying down the CSD's debt.

Currently the Lanare CSD Board of Directors agrees with CDPH that it is appropriate for a receiver to continue to manage the water system until it becomes fiscally sound. New Board members were elected in November 2013, with the desire to develop the Technical, Managerial, and Financial capacity to eventually operate and manage the water system. There is potential assistance from Self-Help Enterprises, CDPH, and possibly Rural Community Assistance Corporation to help develop the management capacity.

By cleaning up the billing and collection process, Lanare has seen improvement in the ability to operate the water system. While these improvements do not directly resolve the water quality issues that Lanare faces, they are now on a path to becoming financially sound, which may allow them to better deal with their water quality challenges.

Additional information about Lanare and their water system is included in the Community Profiles provided in **Appendix E**.

7.1.2 Informal Cooperation

Pixley PUD, Tipton CSD, and Woodville PUD

Tipton CSD, Pixley PUD, and Woodville PUD share backup operators, sewer cleaning equipment, backup generator, and other equipment. They also talk with each other regularly and share knowledge, experiences, and other resources. This informal cooperation between the operators of each entity allows the systems to be operated more efficiently and effectively.

The shared jet sewer cleaner is an approximately $65,000 piece of equipment. Woodville PUD originally purchased the unit, then Tipton CSD and Pixley PUD each bought in, so they are all 1/3 owners. The three entities share the cost for maintenance. They also improve the usefulness of the sewer cleaner. Since each system only uses the sewer cleaner once or twice per year, they rotate it so it is used more frequently, which is better for the cleaner than letting it sit in storage for six months at a time.

Tipton, Pixley, and Woodville are each about five miles from each other, and the ongoing informal cooperation between each, as well as other nearby communities, is beneficial to all. A decision tree showing the path followed by these communities to implement their informal cooperation is included in **Appendix F**. This cooperation began by the operators talking with each other and building relationships.

7.1.3 Contractual Assistance

Porter Vista PUD and City of Porterville

East Porterville constructed a sewer collection system in the 1970s to replace their previous individual septic systems. Porter Vista Public Utility District was formed in 1977 to provide sewer collection service to the 1,733-acre area east of the City of Porterville. In 1995, the Porter Vista PUD and the City of Porterville executed an agreement allowing wastewater collected from Porter Vista PUD to be treated at the City of Porterville wastewater treatment facility. The conditions agreed upon between the two agencies included:

- Porter Vista PUD must amend its sewer ordinance to adopt standards no less stringent than those in the City of Porterville's sewer ordinance.
- Porter Vista PUD must adopt an enforcement program.
- Porter Vista PUD must adopt the City of Porterville's sewer rates, and Porter Vista PUD is responsible for collecting sewer enterprise funds within its boundaries.
- Porter Vista PUD customers must apply for industrial discharge permit using a joint city/district application.

As a result of this agreement, Porter Vista PUD is primarily in charge of wastewater collection for distribution into the City's WWTF, collection of sewer rates, and enforcement of adopted sewer ordinance and regulations. The majority of flows from Porter Vista PUD are distributed to the City's facilities through a sewer lift station owned by Porter Vista PUD. Porter Vista PUD also contracts with the City for operation and maintenance of this lift station.

Porter Vista PUD contracts with City of Porterville for sewer lift station maintenance and wastewater treatment. Porter Vista provides sewer collection service, and pumps the sewerage to the City of Porterville for treatment and disposal.

East Porterville areas such as Fairways Tract that were previously unincorporated but are now annexed into the City of Porterville are still provided sewer collection from the Porter Vista PUD. Porter Vista continues to contract with the City of Porterville to treat Fairways Tract's wastewater.

A decision tree showing the path followed by Porter Vista to implement their contractual agreements is included in **Appendix F**.

This has been a successful partnership for many years. Porter Vista PUD is able to provide sewer collection for its residents, but saves the expense of constructing, operating, and maintaining a WWTF. The City of Porterville, which already had its own treatment facility, was able to expand its customer base, resulting in improved economy of scale with respect to their WWTF operations and maintenance.

7.1.4 Joint Powers Authority

Alpaugh Joint Powers Authority

Tulare County Water Works District (WWD) No. 1 and Alpaugh Irrigation District (AID) formed a JPA for water service in 2003. At the time, the formation of the JPA allowed the greater Alpaugh area to receive a $2,100,000 grant from the State Department of Water Resources to replace a large part of the water distribution system both in and outside the community. The JPA also provided the governance structure for the area to receive over $2,000,000 in USDA and other funding to drill a new well, construct a water storage tank and make other improvements to the system. These physical improvements to the water system were made possible through the formation of this JPA.

From 2003 until December 2012, the Alpaugh water system was managed by the Alpaugh Joint Powers Authority. Previously, Tulare County WWD No. 1 provided domestic water to residents within the one-square-mile townsite of Alpaugh, and the AID provided domestic water to its more rural irrigation district customers for several square miles around Alpaugh. In 2003, the two agencies entered into a joint powers agreement to run the domestic water system, with each contributing its existing distribution system pipelines. AID also contributed the use of its Well No. 45 (under lease to the AJPA), which exceeded even the old arsenic standard of 50 ppb. The use of this well was abandoned by the AJPA once AID Well 10 and AJPA Well 1 were completed. AID constructed and contributed Well 10 with USDA funding. Tulare County WWD No. 1 contributed Well 1 and its well site with storage facilities, also financed by USDA, along with replacement of roughly 10 miles of distribution lines.

The AJPA board of directors was comprised of six directors, three each from the two member agencies. All six were appointed by their parent agency and "…serve at the pleasure of the [agency] who appointed [them] and may be replaced at any time by the [agency] who appointed them." (Joint Exercise of Powers Agreement, 2003) This led to constant turnover and frequent partisanship, along with the obvious voting problems that come with a board comprised of an even number of directors. No provisions existed for tie-breaking votes.

The joint powers agreement also provided for an executive director appointed by the board. The executive director (ED) could be a member of the Board of Directors, or not; the ED could be the same person as the secretary and/or treasurer, or not. The joint powers agreement vested the ED with the authority to discipline employees and conduct day-to-day operation of the system. This, too, proved to be problematic; sometimes the ED was a volunteer and it's a rather large job for a volunteer to take on. The joint powers agreement did not specify the need for a general manager and so presumably meant for the ED to serve in such role. Prior to the dissolution of the AJPA in December 2012, the AJPA had a general manager in place whose contract identified him as the ED, essentially combining these two roles into one. When a new Community Services District was formed, the Alpaugh CSD hired the previous AJPA ED as the CSD's General Manager. The current manager is a local resident, and has been able to

get everyone moving in the same direction in a much more effective manner than previous EDs hired from outside.

Per the joint powers agreement, the intent was for the Authority to be an interim measure, a step on the way to forming one public agency for the provision of water service to the entire Alpaugh area. The formation of a Community Services District was approved by Alpaugh voters on the November 2012 ballot. The ACSD now owns and operates the domestic water system that the JPA used to operate. The Alpaugh Irrigation District now only deals with issues related to providing irrigation water to farmers. The old Tulare County Water Works District No. 1 has been dissolved. The community is back to being represented by only two water related entities, saving the cost of operating a third district.

Ultimately, the AJPA did provide an interim step to developing a single community services district to serve an area previously served by two separate districts. The AJPA was not without its challenges, and offers some lessons learned for other communities considering formation of a JPA.

- Be sure formation documents clearly identify the number of board members from each member entity, and that there are provisions for a tie-breaking vote.
- There are difficulties when member agencies have different priorities (as in an irrigation district versus a municipal water service district), which should be taken into consideration when forming a JPA.
- Roles and responsibilities of all positions identified should be clearly defined.

Additional information about Alpaugh is included in the Community Profiles provided in **Appendix E**.

Cutler-Orosi Joint Powers Wastewater Authority

The Cutler-Orosi regional wastewater treatment plant serves a 23,040 acre rural area including the communities of Cutler, Orosi, Sultana, East Orosi, Seville, and Yettem, with a combined population of about 13,190 residents. The Cutler-Orosi Joint Powers Wastewater Authority (JPWA) operates the plant, which was originally constructed in 1958. The Cutler-Orosi JPWA was formed in 1983.

The Cutler-Orosi JPWA is a good example to highlight some of the advantages and disadvantages of a JPA. The Cutler-Orosi JPWA sees the benefit of economy of scale with the increased user base of all six communities being served. All communities served benefit from the JPWA providing treatment and disposal of their wastewater.

The issues related to the Cutler-Orosi JPWA are primarily related to the governance structure. There are two member agencies, Cutler PUD and Orosi PUD. Each of the two member agencies has three representatives on the board, and so there is the potential for decisions to be split three-three between the two. If the two boards are in disagreement, it could lead to frustration for operators and staff. In practice, it appears that such deadlocks have been minimal.

Additionally, there are four other communities served by the JPWA, including Seville, Yettem, East Orosi, and Sultana. These four communities have no representation on the board because they are not member agencies. Historically there has not been an increase in wastewater capacity available for these outlying areas, which in effect now hinders growth in these communities. It remains to be seen how easily and at what cost such additional capacity can be secured.

Selma-Kingsburg-Fowler County Sanitation District

The Selma-Kingsburg-Fowler County Sanitation District (SKF or District) is a public agency formed in 1971 through the Fresno County Board of Supervisors through authority granted in the County Sanitation Districts Act and the Health and Safety Code of the State of California. The District collects, treats and disposes wastewater from the three member cities (Selma, Kingsburg, and Fowler), as well as parts of unincorporated Fresno County. The District, which currently serves an estimated population of 40,000, operates and maintains the wastewater treatment plant and the sewer collection system. The District refurbishes and replaces each city's facilities. The member cities own the local sewer collection system, which includes sewers, lift stations, and appurtenances not owned by the District. Each member city is responsible for expanding the facilities that it owns. The District was formed in 1971, but the wastewater treatment plant was not completed until 1974. The construction project was substantially financed through the Federal Clean Water Act.

Prior to construction of the regional wastewater treatment plant, each of the cities now served by SKF had their own wastewater treatment plants and disposal facilities. The three cities had similar problems with their wastewater treatment and disposal facilities, which were inadequate to handle their domestic and industrial wastewater volumes. According to "Information for Voters" for a May 1971 special election, the Selma plant was under a State "Cease and Desist" order from the RWQCB, due to obnoxious odors, pollution of the Kings River by the Kingsburg plant was a constant possibility, and Fowler's treatment plant was overloaded and needed to be expanded or replaced. The 1970 Master Plan Study for Sewage Disposal, prepared by the County of Fresno, called for a South Fresno County Regional Sewage Treatment Plant to resolve these issues. SKF was subsequently formed.

Engineering studies had shown that the required sewerage improvements could be built and operated better and at less cost on a regional basis rather than by each city attempting to resolve its issues on its own. As an additional incentive, it was estimated that 50 to 80 percent of the total project cost could be obtained through Federal and State anti-pollution grants, which would not be available to individual cities.

SKF is an example of a joint powers authority that has been successfully operating for many years. Operation of a regional facility provides increased economy of scale that allows some cost savings and improved efficiency. A larger system also allows for hiring of better qualified staff and better planning, training, policies, governance, capital improvements plan, budget, and financial management.

7.1.5 Ownership Transfer

No Physical Consolidation:

The case studies presented here include examples where transfer of ownership was completed, but the transfer did not include a physical interconnection.

Alpaugh CSD

The Alpaugh JPA (as discussed in Section 7.1.4), reorganized to a Community Services District. The ownership/managerial reorganization increased efficiencies and reduced the duplicative costs of the previous JPA and its entities.

In the November 2012 general election, the voters within both the Alpaugh Irrigation District and Tulare County Water Works District #1 voted to form the Alpaugh CSD. The Alpaugh CSD has the power to provide domestic water to those previously receiving water through the AJPA. This allows the AID to concentrate only on providing irrigation water to farmers. The Tulare County Water Works District #1 has now been dissolved, thus reducing three legal entities down to two, with a resulting cost savings.

There are various ways to initiate the formation of a Community Services District (or other local district), including by citizen petition to LAFCo. In this case, time constraints did not allow for a full petition to be circulated, but early consultation with LAFCo staff was sought in order to identify the most workable approach and appropriate boundaries for the new District. A memorandum was circulated among residents of the proposed District, addressed to the County Board of Supervisors, requesting that the Board take action to initiate a LAFCo application for the formation of the new district and dissolution of the old Tulare County WWD No. 1. By Resolution, the Board did so, in accordance with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. Subsequently, LAFCo approved the application and sent it back to the Board of Supervisors, who in turn directed the Registrar of Voters to place the issue on the November 2012 general election ballot. The formation was approved by voters, and directors elected by the same ballot. The Board of Directors of the new CSD voted to dissolve the Alpaugh JPA, and the Tulare County WWD No. 1 was automatically dissolved, effectively ending the Joint Powers Authority.

The costs associated with forming the Alpaugh CSD were principally attributable to LAFCo fees and election costs to place the item on the ballot. In this case, the preparation of documents, budgets, bylaws and application to LAFCo were provided as an in-kind donation, but there would otherwise have been legal costs in the $5,000 to $10,000 range. In total, the cost to form the new Alpaugh CSD was approximately $10,000.

Goshen – Cal Water

In 1991 the Goshen Community Services District sold their water system to California Water Service Company (Cal Water). They used the proceeds from the sale to help fund construction of the community's sewer system in 1999. The Goshen CSD contracts with the City of Visalia to treat Goshen's wastewater. Cal Water purchased the City of

Visalia's system in the 1993 and provided a physical interconnection between the two systems.

Plainview Mutual Water Company

In 2012, the Plainview Mutual Water Company purchased the adjacent Central Water System from a private owner. The Central Water System is adjacent to the traditional boundaries of the Plainview Mutual Water Company, but it has not been interconnected with the rest of the system. The additional user base of 44 connections has helped the revenue stream of the Mutual Water Company since the cost of operating the adjacent system is incrementally small. On the negative side, the Central Water System's only well produces water exceeding the nitrate MCL and is therefore out of compliance. In response, the Plainview Mutual Water Company has submitted a SDWSRF planning application to CDPH to seek a solution.

Additional information about Plainview is included in the Community Profiles provided in **Appendix E**.

Lost Hills Utility District

Lost Hills Sanitary District purchased the community's water system, which previously was privately owned. The District subsequently changed its name to Lost Hills Utility District to reflect its operation of both a sewer and water system. This allows for an increased economy of scale with a single district operating both the water and sewer systems. The Lost Hills Utility District is still organized under the Sanitary District Act and is still a sanitary district. However, in 1986, the District was able to obtain special legislation to give it powers under the County Water District Act to operate the water system. The legislation is codified in Health and Safety Code Section 6512.6.

The special legislation was adopted in order for the District to be able to purchase a private water system from Chevron Oil Company, which served the town site but also served the Interstate 5 and Highway 46 interchange, properties east of the interchange, and properties west of the town site. The District eventually purchased the water system and has been operating it since 1987. The District later acquired another private water system operated by Mobil Oil Company, and just recently acquired the domestic water system for the Berrenda Mesa Water District in a transfer negotiated between the two districts. Lost Hills Utility District has also worked with Chevron, Paramount Farms, and Kern County in providing expanded services to the town site of Lost Hills, most notably with regard to a park site.

Tipton CSD

The previous Tipton Mutual Water Company operated the water system and the Community Services District operated the sewer system. The MWC transferred assets and liabilities to the CSD, which now operates both the water and sewer systems. This allows for an increased economy of scale with a single district operating both the water and sewer system.

There were two MWCs that existed – Tipton MWC and North Tipton MWC. They were both very small and the President did everything, including maintenance. The respective

water companies were tired of doing everything and the infrastructure was getting old, so they started to talk about consolidating with Tipton CSD.

Both MWCs knew it would be better to consolidate. From the initial conversation about consolidating to the dissolution of the MWCs it took 2 ½ years. The MWCs were set up as corporations, so they had to dissolve the corporations.

The hardest thing to deal with is the community comparing the rates in Tipton to other communities, but every community is different and has different rates for a variety of reasons. Overall, the consolidated Community Services District works very well. It is much more efficient than having three separate entities. As a consolidated system, there is a single billing system, a single payment, one CDPH contact and one RWQCB contact, one manager, and one insurance policy.

The water rate is approximately $35.50 for the average single family home; water rates are higher than other communities nearby. The sewer rate is $30.25 for a single family home.

All legal costs associated with the consolidation were covered by funds supplied by the MWC. Most of the fees were associated with the dissolution of the corporations (MWCs) and remaining funds were then transferred to the CSD.

Physical Consolidation:

Many case studies that involve physical consolidation are described in the New Source Development pilot study. A few example projects are highlighted in this section, since there is a non-infrastructure component to the physical consolidation, which is dealing with the management structure, finances, etc. that are required for the consolidation to be complete.

Fairways Tract/City of Porterville

The Fairways Tract Water Company was formed in 1948. The Water Company had to deal with numerous nitrate MCL violations, and was required to notify customers that the water was unsafe to drink. The water distribution system was also old and prone to leaks. Volunteer board members would make repairs when they could, while major breaks would be repaired by contractors at a much greater cost. With only one active well, the Water Company had no back-up source of water when the pump was down. In addition, there were no isolation valves on the old water systems to allow sections to be taken out of service without impacting the entire system. When line repairs were made, the entire system had to be shut down.

The Fairways Tract Water Company received grant funding from CDPH to design and build a new water distribution system with an intertie to the City of Porterville's water system. The Water Company was dissolved in 2012 since the neighborhood has been annexed into the City of Porterville and the water supply and distribution system was physically consolidated with the City.

The consolidation was initiated due to an opportunity to obtain State grant funding through Proposition 84 that was expected to pay to connect to the City of Porterville's water system and remove the Water Company's contaminated well from service and

replace the aging distribution system. The Water Company's well samples showed nitrates above the MCLs, and annexing and connecting to the City's water system was the preferred solution.

The Water Company received a Proposition 84 Grant that provided funding for the planning and construction phases including annexation, preparation of an Engineer's Report, preparation of Plans, Specifications and Estimates, and construction of the new distribution system and abandonment of the existing well. The Project was started in Fall 2006 and was completed in Spring 2011.

This improves the efficiency of operations and improves the service provided because water delivery is now reliable and is being managed by the City of Porterville, which is in the business of providing safe drinking water. The Fairways Tract Water Company, no longer incorporated, was unable to keep up with the demands of providing safe drinking water to the residents of the tract including operation and maintenance tasks.

As part of the City, the neighborhood now has the opportunity to benefit further through the City's access to resources that unincorporated areas find more lacking.

Total project cost to implement this consolidation was approximately $1,000,000. Cost savings would be in the form of:

i. Potentially less water being consumed because the system is now metered,

ii. Potential savings to customers that do not have to buy bottled water,

iii. Costs to operate and maintain an inefficient well and pipeline system,

iv. The value of providing reliable and safe drinking water on an ongoing basis.

Additional information about Fairways Tract is included in the Community Profiles provided in **Appendix E**.

<u>Beverly Grand/City of Porterville</u>

The Beverly Grand Mutual Water Company has about 28 connections. The system has only one water supply well, and no back-up source of water. Water pumped from the community's sole well has exceeded the nitrate MCL multiple times over the past 10 years, with levels typically around 65 mg/L, and as high as 91 mg/L.

The MWC has successfully applied for and received a Proposition 84 Planning grant from CDPH to design a new water distribution system with an intertie to the City of Porterville's water system. Negotiations have begun on the annexation of the Beverly Grand Area to the City.

Physical consolidation with the City of Porterville would resolve the water quality problems of residents served by Beverly Grand MWC and possibly neighboring properties served with private domestic water wells.

Unfortunately, the City's policy of requiring annexation has been challenging in this case. Annexing only the Beverly Grand service area to the City of Porterville's service area would create a peninsula, which is discouraged by both LAFCo and the City of Porterville. Therefore, the proposed annexation is being required to consolidate with a neighboring proposed annexation, along with some other parcels that will fill the gap between the two proposed annexations, creating a neat city limit line. Although consent to annex has been obtained from all Beverly Grand property owners, it may be more difficult to get consent from the neighboring parcel owners since they do not stand to gain water service as part of this project.

Additional information about Beverly Grand is included in the Community Profiles provided in **Appendix E**.

Matheny Tract (Pratt MWC)/City of Tulare

The Pratt Mutual Water Company (PMWC) water system has increasingly experienced problems associated with water quality and supply over the last few years. The PMWC has been issued violations for being out of compliance with state and federal drinking water standards and permit requirements, including nitrate and total coliform. PMWC Well 2 was condemned in 2002 due to high nitrate levels. The remaining wells remain in service, however dropping water levels have required the pumps be lowered. In 2006, with the adoption of the new MCL for arsenic, the system was found in violation of the arsenic MCL with concentrations of 15 and 20 µg/L.

A Preliminary Engineering Report was prepared in 2006 to evaluate the alternatives for improving the water system. The alternatives included: 1) drilling a new water supply well; 2) installing a treatment facility; 3) installing a tank and blending the existing water supply with a new water supply; 4) consolidating with the City of Tulare; 5) installing a master meter connection to the City of Tulare; or 6) do nothing. The selected alternative was consolidation with the City of Tulare.

The project was implemented through a grant from CDPH for planning/engineering services and another grant for construction services. The Preliminary Engineering Report was started in December 2005 and completed in December 2006. The plans, specifications, and engineer's estimate of probable construction costs were started in late 2010 and completed in April 2012. The project went to bid in April 2013, and construction started in September 2013. The anticipated completion date is July 2014. From beginning to estimate construction completion, the project will have taken 8 years, 7 months from concept to end of construction.

The project will improve the service provided for Matheny Tract. Prior to the project completion, the residents experienced reduced water pressure, no water supply, contamination notices, boil water orders, etc, on a frequent basis. Once the project is completed, the residents of Matheny Tract will have reliable, safe drinking water on a consistent basis. Water rates will be similar as existing for the average user. Residents of Matheny Tract currently pay a flat rate of $35 per connection. The new rate will be based on the metered usage for each connection. The metered rates are set up to increase annually through 2017. Based on the rate that will be in effect as of January 1,

2015, a residence using a typical volume of about 30,000 gallons per month would be charged approximately $34.35 per month. Those using less or more water each month will be charged less or more, respectively.

The planning grant was $500,000 and the construction grant is $4,500,000.

7.1.6 Formation of Legal Entity

Richgrove CSD

Until the 1970s, Richgrove's water service was provided by the Richgrove Mutual Water Company. In the late 1970s, the system's two existing wells were found to produce water exceeding the nitrate and DBCP health standards. In order to qualify for State Safe Drinking Water Bond Law Grant funds, the community formed a CSD in 1977, which then took over the assets of the old MWC.

Richgrove CSD's sewer collection and wastewater treatment and disposal facilities were constructed in 1985. The sewer collection and treatment facilities replaced many failing septic systems in the community. The formation of the CSD in the late 1970s allowed the community to seek funding to construct the sewer facilities. This also allowed for an increased economy of scale with a single district operating both the water and sewer systems.

Additional information about Richgrove CSD is included in the Community Profiles provided in **Appendix E**.

Other

Applications for Pre-Planning and Legal Entity Formation funding were solicited by CDPH in 2013 (See Section 9.4). As a result, applications were submitted on behalf of various communities with the intent of forming legal entities. Applications had to be submitted by an existing legal entity (Lead Agency) on behalf of a community. Some of the communities on behalf of which applications were submitted included:

- Easton, Fresno County, Easton CSD applicant
- Frazier Park, Kern County, Frazier PUD applicant
- Monson, Tulare County (applicant)
- Northern Tulare Co Regional SWTP Governance, Tulare County (applicant)
- Okieville, Tulare County, Self-Help Enterprises applicant
- Orange Center School Area, Fresno County, Self-Help Enterprises applicant
- Perry Colony , Fresno County, Self-Help Enterprises applicant
- Weldon, Kern County, Self-Help Enterprises applicant

When this Study was prepared, CDPH had not yet issued letters of commitment or funding agreements from this funding source.

7.1.7 County Operation of Multiple Service Areas

County Service Areas and Zones of Benefit that exist for Fresno County and Tulare County are discussed to describe the services provided by each. Discussion of specific communities served by the CSAs is not provided. If forming a CSA is of interest to a community, it is recommended that the community contact their local County, as each one is different in the services it provides and how it provides those services.

Fresno County Service Areas

The Fresno County Department of Public Works and Planning administers 128 County special districts. These 128 districts serve more than 30,000 residents throughout the unincorporated area of Fresno County. The special districts include 35 County Service Areas, 5 Waterworks Districts, 7 Maintenance Districts, 1 Highway and Lighting District, and 80 Road District Zones of Benefit.

Fresno County Special Districts Administration is responsible for managing funds made available by each district's assessments, fees, grants, and/or loans to provide a specific service to each district. Services provided include one or more of the following: community water, community wastewater, street lighting, snow removal, storm drainage, structural fire protection, landscaping, refuse collection, park maintenance, wetlands monitoring, and road maintenance. Fresno County is responsible for 22 community water systems with a total of approximately 2,700 connections, and 12 community wastewater systems with a total of approximately 2,500 connections. Operations and maintenance services for these systems are provided by County staff.

A single entity (the County) providing service to multiple systems provides a potential benefit due to the increased economy of scale, increased knowledge base and resource availability, providing an opportunity for improved system reliability. Fresno County Service Areas are listed in **Table 7-1** and **Table 7-2**.

Table 7-1. Fresno County - Community Water Systems

CSA Number	CSA Name	Number of Connections
CSA 01	Tamarack Estates	38
CSA 05	Wildwood Estates	144
CSA 10	Cumorah Knolls	47
CSA 10A	Mansionette Estates No. III	29
CSA 14	Belmont Manor	41
CSA 23	Exchequer Heights	16
CSA 30	El Porvenir	50
CSA 32	Cantua Creek	78
CSA 34A	Brighton Crest	91
CSA 34B	Ventana Hills	3
CSA 34C	Bella Vista	45
CSA 39	Beran Way / Prospect Grove	142

CSA Number	CSA Name	Number of Connections
CSA 43W	Raisin City	70
CSA 44C	Riverview Ranch	12
CSA 44D	Monte Verdi Estates	119
CSA 47	Quail Lake	583
CSA 49	O'Neill / Five Points	46
WWD 37	Mile High	47
WWD 38	Sky Harbour	55
WWD 40	Shaver Springs	65
WWD 41W	Shaver Lake	869
WWD 42	Alluvial / Fancher	103

Table 7-2. Fresno County - Community Wastewater Systems

CSA Number	CSA Name	Number of Connections
CSA 01	Tamarack Estates	38
CSA 30	El Porvenir	50
CSA 31B	Shaver	690
CSA 32	Cantua Creek	74
CSA 34A	Brighton Crest	91
CSA 34C	Bella Vista	45
CSA 44A	Friant Mobile Home Park	98
CSA 44D	Monte Verdi Estates	118
WWD 38	Sky Harbour	55
WWD 40	Shaver Springs	64
WWD 41S	Shaver Lake	668
CSA 47	Quail Lake	557

Tulare County Service Areas

Tulare County provides water and sewer service to unincorporated communities through County Service Area #1 Zones of Benefit, County Service Area #2 (Wells Tract), and through the Terra Bella Sewer Maintenance District. The County has limited funds available for operations and maintenance, and therefore there are limits on the level of maintenance, replacement and upgrades of the systems. The County of Tulare contracts with the Fresno based firm Water Dynamics to operate the County's water and sewer systems. Tulare County is responsible for four (4) water systems, seven (7) sewer collection systems, five (5) sewer lift stations, and three (3) wastewater treatment facilities. According to Water Dynamics, equipment and facilities are mostly out of date and toward the end of their useful life. Equipment is therefore starting to fail. At present, these systems are maintained at only a basic level which negatively affects their sustainability, and therefore Tulare County does not see ownership favorably. As an

example, the El Rancho sewer system, owned by Tulare County, has 26 connections. Residents have protested any rate increases, and it cannot pay for itself.

The Tulare County Board of Supervisors is the acting Board for all of the County owned sewer and water systems, as well as for Terra Bella Sewer Maintenance District and Seville Water Company.

The Tulare County owned water and sewer systems were primarily built in the late 1980's and early 1990's. Prior to their construction, residents in these rural areas used private septic systems for wastewater and were on private, often contaminated wells. In the late 1980's it became apparent that proper sewer systems were needed as more and more of the private septic systems fell into disrepair and began to negatively impact the water quality in these areas. By the mid 1990's many of the residents were connected to newly built sewer and/or water systems. All of the systems are located in County Service Area No. 1, with the exception of the Wells Tract water and sewer systems near Woodlake which are located in County Service Area No. 2. Each system in County Service Area #1 has a defined Zone of Benefit (ZOB) for their specific service area.

Table 7-3. Tulare County - Community Water Systems

CSA Number	CSA or ZOB Name	Number of Connections
CSA 01	Delft Colony Water	103
CSA 01	Yettem Water	64
CSA 02	Wells Tract Water Distribution System (from City of Woodlake)	59
N/A	Seville Water Company (in receivership – not County owned)	89

Table 7-4. Tulare County - Community Wastewater Systems

CSA Number	CSA or ZOB Name	Number of Connections
CSA 01	Delft Colony (WWTF)	103
	Tooleville (WWTF)	77
	Traver (WWTF)	180
	El Rancho (lift station to City of Lindsay)	24
	Tonyville (lift station to City of Lindsay)	50
	Seville (to Yettem lift station)	89
	Yettem (lift station to Cutler-Orosi WWTF)	64
CSA 02	Wells Tract (lift station to City of Woodlake WWTF)	59

County Approaches

This section examines the water and wastewater system management approaches in Fresno and Tulare counties. All of the County Service Areas and Zones of Benefit systems examined are owned by their respective jurisdictions. Fresno County provides system management, which includes administration, operation and maintenance, treatment, system repair, and infrastructural planning and improvement. The County of Fresno, like most California jurisdictions, outsources the laboratory work to independent vendors. It is important to note that the County of Fresno has a relatively large number of water and wastewater systems (128 Special Districts); their relatively larger size may allow for a more efficient economy of scale, which may result in overall lower rates or improved service for customers. Also, the larger number of systems in the County of Fresno provides more political justification for the hiring and maintaining of full-time qualified operators than geographic areas with less special districts.

Tulare County provides the administration for all of the County Service Areas and Zones of Benefit for water and wastewater systems under its jurisdiction. However, most of the operations and maintenance, including the provision of various services and supplies such as laboratory work, meter reading, and supplying chemicals, treatment, and system repair, are outsourced to private contractors and water and wastewater system operators. A possible reason for the outsourcing of the bulk of the operation and maintenance may be due to the relatively small number of systems served by Tulare County. The outsourcing of these services allows the County of Tulare to reduce the cost of hiring and maintaining full-time employees.

7.1.8 Regional Association

Various associations and training programs exist that serve to share information to operators, board members, and managers of water and wastewater systems. Some examples of existing associations and training programs that could serve a s resources to local systems are presented in this section.

Associations:

American Public Works Association (APWA) is an existing association serving public works professionals, with various chapters throughout North America. APWA is a non-profit organization that provides varied educational and networking opportunities that help public works personnel to grow in their professionalism and directly impact the quality of life in all the communities they serve. http://apwa.net/

American Water Works Association (AWWA) is a non-profit scientific and educational association dedicated to managing and treating water. With approximately 50,000 members, AWWA provides solutions to improve public health, protect the environment, strengthen the economy and enhance quality of life. AWWA offers education to water professionals, advocates for safe and sustainable water, collects and shares knowledge, and creates volunteering opportunities. http://www.awwa.org/

California Rural Water Association (CRWA) is an existing regional association that provides education and training services. CRWA provides on-site technical assistance

and specialized training for rural water and wastewater systems. CRWA can assist systems with tasks such as developing a new rate schedule, setting up testing methods, understanding government regulations, or updating operator certification requirements. http://www.calruralwater.org/

Rural Community Assistance Corporation (RCAC) is a non-profit organization that provides technical assistance, training and financing to help rural communities achieve their goals and visions. RCAC's employees serve rural communities in 13 western states. RCAC's work encompasses a wide range of services, including technical assistance and training for environmental infrastructure, affordable housing development, economic and leadership development, and community development finance. Their services are available to a variety of communities and organizations including communities with populations of fewer than 50,000, other non-profit groups, and tribal organizations. http://www.rcac.org/home

Training Programs:

Tulare County Government 101 Series Seminars – Tulare County has held a series of five seminars, Government 101 through 105, with the most recent seminar (Government 105) in December 2013. The seminars are geared toward Special District Boards, and the emphasis has been on various aspects of the Brown Act, Boardsmanship and employment issues, including sexual harassment issues. Government 105 included AB-1234 training, banking issues, and embezzlement problems faced by the Districts. Government 101 was audio taped, and Government 102 through 105 were audio/video taped. The seminar recordings and reference information are available to the general public on the Tulare County website. These seminars provide useful information for many purveyors of water and wastewater services throughout the Tulare Lake Basin. (http://tularecounty.ca.gov/board/index.cfm/governance/)

The San Joaquin Valley Rural Community Leadership Institute – This San Joaquin Valley Rural Community Leadership Institute is a direct result of RCAC New Mexico staff members Olga Morales and Blanca Surgeon making presentations in the area, including one at a Tulare Lake Basin Disadvantaged Community Study SOAC meeting. The RCAC presentations inspired a group of interested people to bring this leadership capacity building program to the rural communities in the San Joaquin Valley. Several interested people met with the Fresno Regional Foundation (FRF) to investigate a way to initiate such a program. FRF initiated a new funding source specifically for rural community capacity building, especially related to water issues. Community Water Center applied for and was awarded the new FRF grant. Community Water Center also connected with RCAC, which led to additional funding for the Institute. With a lot of work and outreach, and some assistance from Self-Help Enterprises, a program was developed and the Institute provided a training program during the summer 2013.

RCAC presents free California Drinking Water Workshops, which are funded by CDPH. There are two schedules each year (January – June; and July – December). CDPH is able to specify preferences for which training is provided in this region of the state. So, if specific training is needed, CDPH can be notified and pass that on to RCAC as they prepare the next six-month schedule. The goal of these workshops is to provide

information to help small, rural water systems deliver safe, reliable drinking water to their customers and to demonstrate how to properly manage a water system for long-term viability. Each classroom workshop qualifies for six (6) CDPH contact hours. RCAC also hosts a series of free online workshops available at specified times. Each online workshop qualifies for two (2) CDPH contact hours. More information about these workshops is available at the RCAC website: http://www.rcac.org/pages/58.

There are many other training opportunities available in this region. California Rural Water Association, or other local associations, can provide information on existing training opportunities.

8 STAKEHOLDER OUTREACH PROCESS

This section presents representative communities in the Tulare Lake Basin region for which a management or non-infrastructure alternative may be viable. This is based mainly on system size and proximity. It is understood that the communities may collaborate based on identifying common needs and common solutions. These potential community pairings are presented as an illustration for the reader to better understand the alternatives described. These potential projects may or may not be viable in reality, and the communities themselves must initiate the process and be ready to move forward with a partnership approach. It is not necessarily recommended that the potential projects presented be implemented. Further evaluation and community outreach will be required to determine the feasibility of an alternative.

For each pilot study, a Pilot Project Stakeholder Advisory Group (PSAG) was formed to provide review of the pilot study, and advise on potential communities to provide outreach efforts as part of a community review process. Members of the PSAG for the Management and Non-Infrastructure pilot study included representatives from CDPH, DWR, Central Valley RWQCB, Tulare County, Fresno County, Kings County, Kern County, Tulare County LAFCo, USDA, Rural Community Assistance Corporation (RCAC), California Rural Legal Assistance Foundation (CRLAF), United Way, as well as various water districts and community representatives.

The community review process involved conducting community review meetings to ground truth findings, to learn about what the residents in the community review focus area need and want, and to assess their thoughts regarding the proposed alternatives presented within the draft pilot study. Participants in the community review process included board members, owners, operators, and residents of communities specifically selected as having potential to implement a management or non-infrastructure type alternative.

8.1 Evaluation of Potential Projects

Some of the criteria considered in evaluating communities to determine if management or non-infrastructure alternatives may be applicable include:

- Distance between water/wastewater systems
- Common needs identified between systems
- Potential for larger regional effort (range of alternatives, including sharing/training/consolidation)
- Input from Pilot Project Stakeholder Advisory Group

A Pilot Project Stakeholder Advisory Group meeting was held on April 16, 2013. At that meeting, PSAG members were asked for general input on the alternatives presented, and also specific input related to potential projects and regions that may be suitable to conduct a community review. Meeting attendees included representatives from CDPH,

DWR, Tulare County, Tulare County LAFCo, California Rural Legal Assistance Foundation, local community representatives, and other interested parties.

This section identifies some of the potential projects identified with the assistance of the PSAG, based on the criteria above. Section 8.3 discusses the community review process for the selected communities and some recommended future action items.

8.1.1 Seville, Yettem, Cutler, Orosi, East Orosi, Sultana, and Monson

Seville, Yettem, Cutler, Orosi, East Orosi, Sultana, and Monson are considered to have potential for a regional partnership solution, since they are all located near each other, and suffer from similar water supply and water quality challenges. There are existing positive relationships that exist between Seville, Yettem, Monson, and Sultana, as well as interest from local users to evaluate these types of solutions.

A shared services study for Seville, Yettem, Cutler, Orosi, East Orosi, and Monson was conducted as a pilot project for the Kings Basin DAC Study. The Kings Basin DAC pilot project for this Northern Tulare County subregion evaluated the impacts of combining services for all or portions of the various districts' operations. The initial goal of the shared services study was to evaluate the possibility of sharing services such as legal, engineering, accounting, and/or operators. By pooling cost and funding for these services, the initial goal of the pilot project was to identify efficiencies and possibly opportunities for reduced costs. After collecting water system specific information such as budgets, expenditures, and staffing characteristics, the Kings Basin DAC Study found that it was difficult to accurately extract water system data that would allow a commensurate (apples to apples) evaluation. Therefore, metrics that were more common and accurately maintained were identified to help evaluate cost distribution for the water systems. The number of water connections and water rates were selected to be the basis for water system comparisons.

By comparing water systems using these common characteristics and industry standards, some general conclusions about the distribution of costs and/or the economy of scale were developed. Therefore, the goal of the pilot project was revised to identify a trend of improved cost distribution, and when or at what point could this trend transform into a noticeable economy of scale.

In addition to the Kings Basin DAC Study, a study of the Yettem and Seville water systems is being conducted. The purpose of the Yettem and Seville project is to provide a safe and reliable drinking water system to the communities of Seville and Yettem. Engineering services involved in that project include a hydrogeological study, engineering report, property acquisition, test well drilling, environmental documents, preparation of plans, specifications and estimate, and evaluation of consolidation. Alternatives considered included replacing the Seville water distribution system and constructing a new well site and interconnection pipeline between Yettem and Seville, as well as connection to a future regional surface water treatment plant that is being considered to provide a surface water treatment plant to serve Cutler, Orosi, East Orosi, Sultana, Yettem, Seville, and Monson.

8.1.2 Communities in Western Fresno County along the California Aqueduct

There are many communities in western Fresno County, along the California Aqueduct that are all approximately 5 miles from each other. These communities include: Cantua Creek, El Porvenir, Steve Marks Cattle Company, Felger Farms, Five Points Ranch, Harris Farms, Houlding Farms, Harnish Five Points, and others. These communities use surface water as their potable water supply, and therefore have similar surface water treatment needs and Trihalomethane (THM) and other disinfection by-product (DBP) issues. A project in western Fresno County could include a regional treatment facility, operation of several existing water treatment facilities with a single operator contracted to assist all of the communities in that subregion, contracting for shared billing or management services, or other potential shared options. Another path that could be considered for this area is a training program that would provide segments of both leadership training and operator training. Lack of leadership and qualified people to manage and operate all of these systems has been identified as an issue in this area. With so many communities having similar leadership and operational needs, a training program could be developed to benefit many of these systems.

8.1.3 Communities Surrounding the City of Porterville

The communities surrounding the City of Porterville are considered to have potential for a regional partnership solution, since there is a large number of communities all located near each other that suffer from similar water supply and water quality challenges, as well as technical, managerial, and financial limitations.

Communities surrounding the City of Porterville including East Porterville to the east, and Poplar, Cotton Center (served by Williams MWC) and Woodville to the west, could develop a combined management structure, consolidate with the City of Porterville, contract with a private water company familiar with dealing with public water systems, or share resources with neighboring communities. There are more than 20 small water systems within a 5-10 mile radius of the City of Porterville that could benefit from a partnership solution. Many of these communities rely on a single well for their potable supply, and several have nitrate levels near or exceeding the MCL.

8.1.4 Alpaugh/Angiola/Allensworth

Alpaugh and Allensworth have had ongoing arsenic problems. This is an unresolved issue, and a regional project could be a solution. A Strategic Growth Council grant was awarded to Tulare County in 2012 to investigate the feasibility of a regional solution for Allensworth and Alpaugh, building on a potential partnership with Angiola Water District, located south of Corcoran. Alpaugh and Allensworth face similar problems with regard to economy of scale, arsenic contamination, and revenue deficiency, and a shared solution could potentially help to resolve the water problems in these communities. Angiola Water District owns two wells that do not have arsenic issues, making a solution with a physical interconnection a possibility, although there are several miles between the systems.

8.2 Community Review Process

The goal of the community review process was to further evaluate and perform a pilot study of one of the identified potential projects, in order to ground truth the alternatives presented and help inform the development of a roadmap that will be useful to other communities. This roadmap is presented in the form of flow charts or "decision trees" that may serve to assist DACs consider viable alternatives to solve the unique challenges they may face. Decision trees for the Management and Non-Infrastructure pilot study are presented in **Appendix F**. The decision trees that were developed with the assistance of the community review process will be useful to guide other communities considering the same types of options. The community review process also aimed to help initiate conversations between communities that have potential to implement non-infrastructure alternatives to their drinking water or wastewater issues.

The level of partnership was not dictated at the onset of the community review process, but would instead be established by the communities involved through community surveys, meetings, and other human interactions to determine the level of readiness. Additional outreach would need to be continued beyond this pilot study to implement a solution. This pilot study started the conversation, and found that people may be interested in working together if it means they will get safe and affordably drinking water. However, ground rules for potential partnerships were not established.

Based on the list of potential projects that was developed, prioritization considerations were taken into account to select one potential project or region to further evaluate through a community review process. Prioritization considerations included:

- Politics – willingness of entities to work together to resolve common problems where there are common goals
- Applicability of solution (see criteria for evaluation in Section 8.1)
- Severity of problem, with managing, operating, and financing the systems
- Representative of other communities
- Sustainability of solutions for the considered area

Identified communities with potential were not further evaluated under this pilot study if the answer to any of the following questions was "Yes":

- Is one of the other three pilot studies (New Sources, Technical Solutions, or Individual Household Solutions) more applicable to this community/region?
- Was this community/region evaluated through the Kings Basin DAC study?
- Does the community/region already have a funded project in progress or completed to address the identified issues?

Based on these criteria, the potential project selected for community review was the area surrounding the City of Porterville.

8.3 Porterville Region Community Review Focus Area

The Porterville region community review focus area included A&A Mobile Home Park (MHP), Akin Water Company, Beverly Grand MWC, Big Stump Trailer Park, Casillas Water System, Central Mutual Water Company, Ducor CSD, East Plano, East Porterville, Friends RV Park, Golden Key Apartments, Grandview Gardens, Lakeside Trailer Park, Mountain View Duplexes, Mullen Water Company, Poplar CSD, Shady Grove MHP, Shiloh Water Company, Tea Pot Dome, Terra Bella, Williams MWC (Cotton Center), Woodville PUD, and Woodville Farm Labor Center. The Porterville region focus area is shown on **Figure 8-1**. Some of the common challenges faced among the communities in the focus area include lack of technical, managerial, and financial (TMF) capacity, lack of sufficient water supply (many rely on a single well), and nitrate contamination near or above the MCL of 45 mg/L. The water quality and supply issues for each community are identified in **Table 8-1** and shown on **Figure 8-2**.

8.3.1 Goals of the Porterville Area Community Review

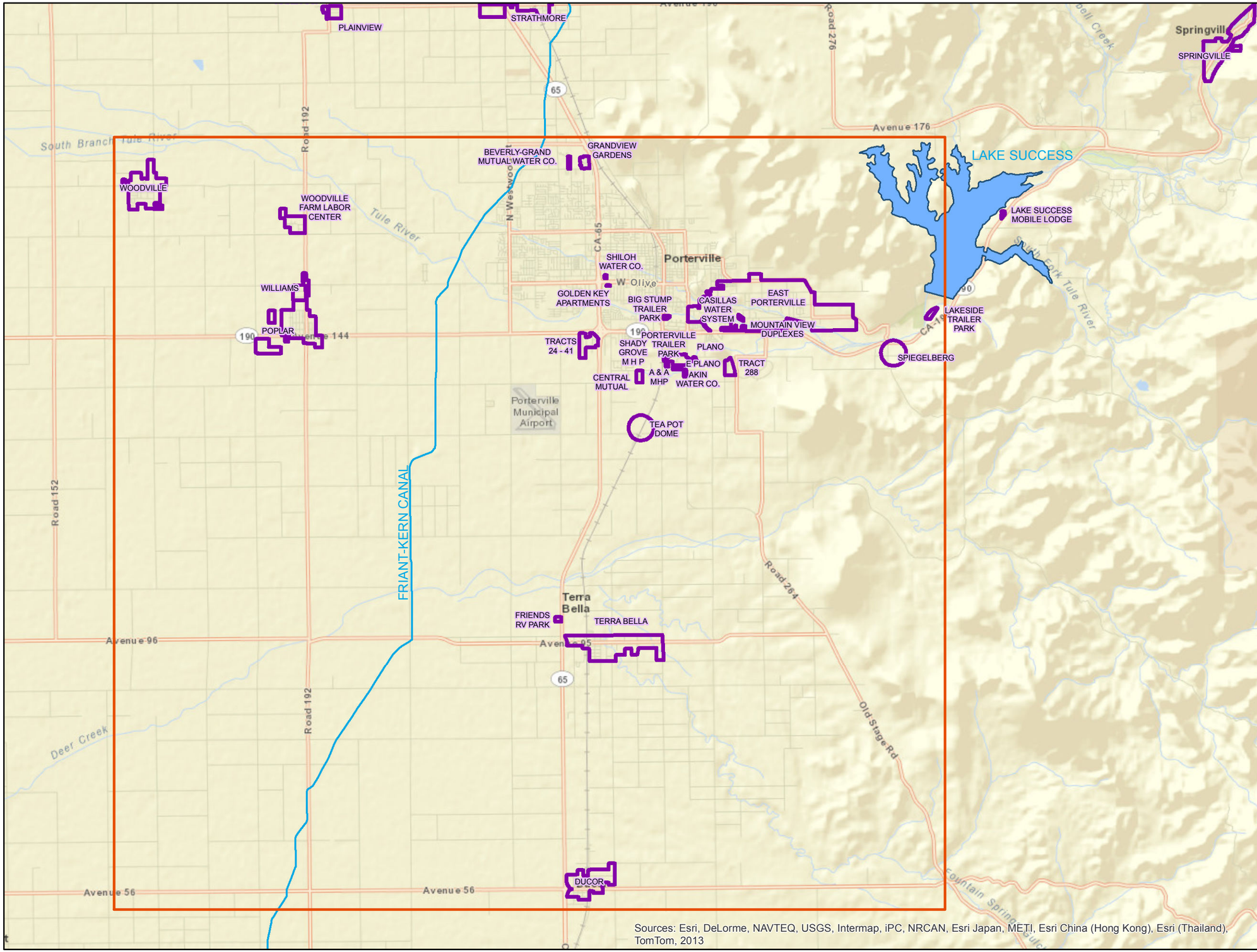
The goals of the Porterville area community review process included:

- Provide information to the community participants about the goals and objectives of this Tulare Lake Basin DAC Study and the Management and Non-Infrastructure pilot study
- Develop an understanding of the local water and wastewater needs and opportunities for solutions
- Provide a summary of the solutions identified in the Management and Non-Infrastructure pilot study
- Identify if there is interest in supporting the development of solutions for the focus area
- Get feedback on the alternatives identified, and determine what is needed to implement these solutions (inform the development of a roadmap), based on information and feedback provided by the community participants

Tulare Lake Basin Disadvantaged Community Water Study

Porterville Region Focus Area

FIGURE 8-1

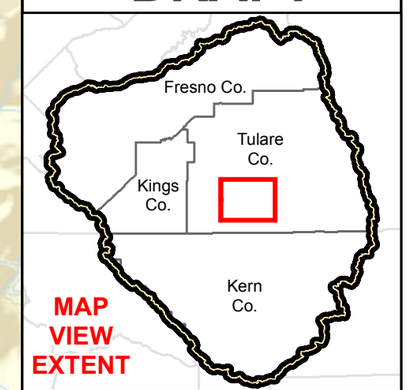


Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

Legend

- Tulare Lake Basin
- DAC or SDAC Community
- Major Canal
- Community Review Focus Area

DRAFT



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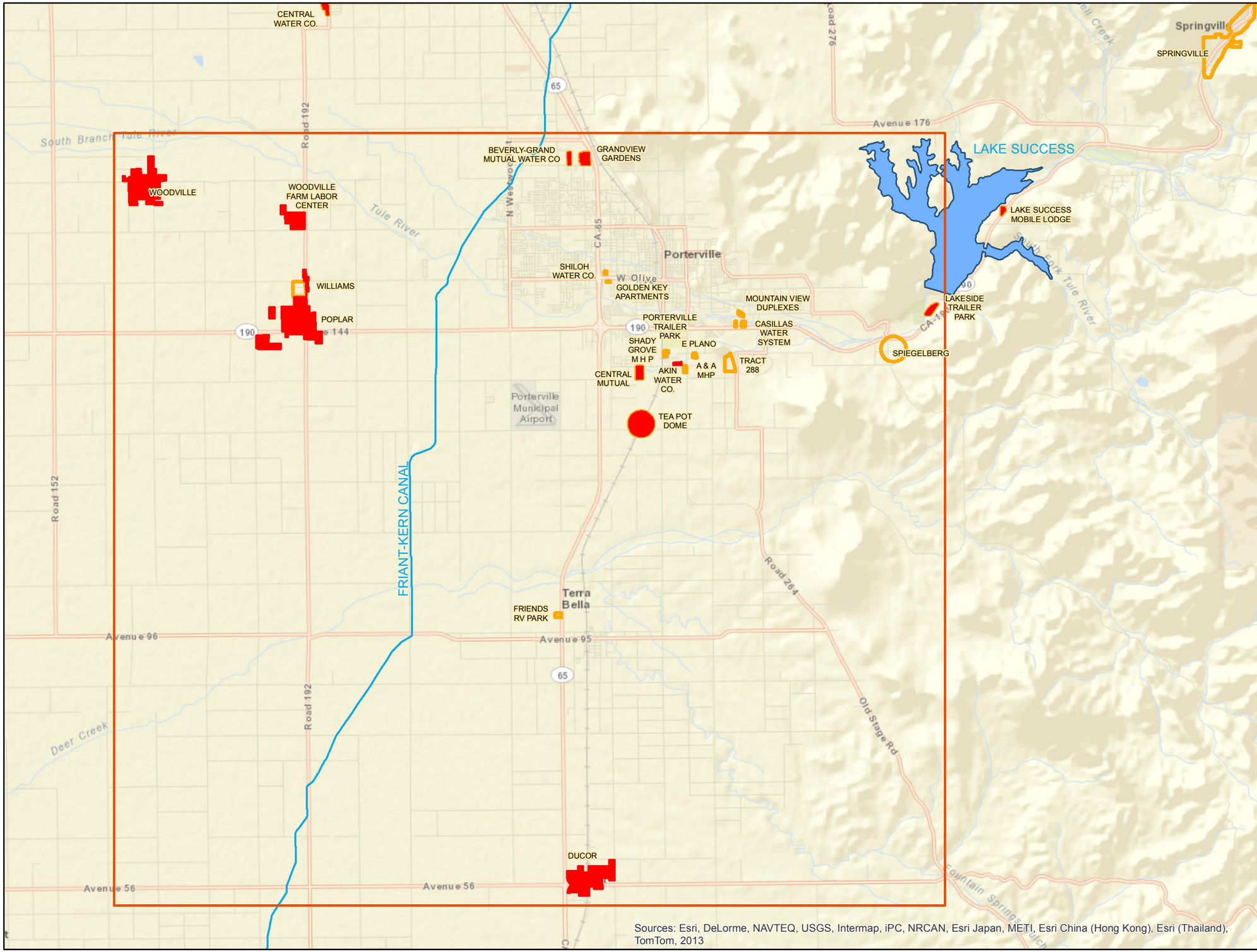
Tulare Lake Basin Disadvantaged Community Water Study

Porterville Region Focus Area Water Supply and Water Quality Issues

FIGURE 8-2



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

Legend

- Tulare Lake Basin
- *Source Exceeded MCL for either Nitrate or Half Nitrate (2008-10)
- 1 Active Water Source Identified
- Major Canal
- Community Review Focus Area

*Source exceeded MCL in one or more samples collected from 2008-2010. Source status is AU (Active Untreated), CU (Combined Untreated), AT (Active Treated), or CT (Combined Treated). Ducor and Poplar data are from sources with status AR (Active Raw). Considered as delivered water.

DRAFT

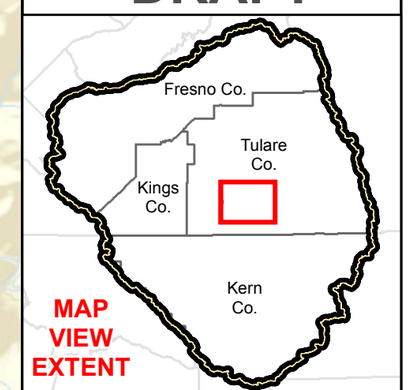


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Table 8-1. Porterville Region Focus Area

Community	Water System Name	Water System ID	Sewer System	Population	Connections	Water Quality Issues	Number of Active Sources	Notes
A&A MHP	A&A MHP	5400504	N/A	200	60	None	1	Single source
Akin Water Company	Akin Water Company	5401038	N/A	50	22	Nitrates	2	Nitrates near the MCL (40 mg/L)
Beverly Grand MWC	Beverly Grand MWC	5400651	N/A	108	28	Nitrates	1	Nitrates exceed MCL, single source
Big Stump Trailer Park	Big Stump Trailer Park	5400582	N/A	175	51	None	2	No issues noted
Casillas Water System	Casillas Water System	5403047	N/A	30	6	None	1	Single source
Central Mutual (Tract 77)	Central MWC	5400655	N/A	115	33	Nitrates	1	Nitrates exceed half of MCL (27 mg/L)
Ducor	Ducor CSD	5400542	N/A	411	102	Nitrates	2	Other water issues, including well failures
East Plano	Del Oro East Plano District	5400767	N/A	40	20	None	1	Single source
East Porterville	N/A (private wells)	N/A	Porter Vista PUD	5,528	1,675	Nitrates	N/A	No water system; private wells suspected to have nitrate contamination
Friends RV Park	Friends RV Park	5403051	N/A	24	44	None	1	Single source
Golden Key Apartments	Golden Key Apartments	5400600	N/A	48	16	None	1	Single source
Grandview Gardens	Del Oro Grandview Gardens Dist	5400666	N/A	350	102	Nitrates	1	Nitrates near the MCL (41 mg/L)
Lakeside Trailer Park	Lakeside Trailer Park	5400518	N/A	500	91	Nitrates	1	Nitrates exceed half of MCL (24 mg/L)
Mountain View Duplexes	Mountain View Duplexes	5400604	N/A	108	27	None	1	Single source
Mullen (Tract 288)	CWS - Mullen Water Company	5400935	N/A	110	44	Nitrates	1	Nitrates near the MCL (35 mg/L)
Poplar	Poplar CSD	5410026	Poplar CSD	2,200	555	Nitrates	3	Nitrates exceed MCL
Shady Grove MHP	Shady Grove MHP	5400529	N/A	137	40	None	1	Single source
Shiloh Water Company	Shiloh Water Company	5400527	N/A	75	20	None	1	Single source
Tea Pot Dome	Tea Pot Dome Water Company	5403039	N/A	25	4	Nitrates	1	Nitrates near the MCL (38 mg/L)
Terra Bella	Terra Bella ID	5410038	Terra Bella SMD	2,340	714	No Data Available	10	No water quality data available
Williams MWC	Williams MWC	5400718	N/A	180	50	None	1	Single source
Woodville PUD	Woodville PUD	5410025	Woodville PUD	1,542	421	Nitrates	2	Nitrates near the MCL (40 mg/L)
Woodville Farm Labor Center	Woodville Farm Labor Center	5400792	Woodville FLC	725	181	Nitrates	2	Nitrates exceed MCL

Note: Water quality issues and number of active sources are based on data from 2008 through 2010.

8.3.2 Results of the Porterville Area Community Review

Community Review Meeting #1

Two community review meetings were held for the Porterville focus area. The first meeting was held on June 26, 2013 and was attended by representatives from eight communities and the City of Porterville. Participants of the first meeting included:

1. Casillas Water System (owner)
2. Central Mutual Water Company (owner/operator)
3. Ducor CSD (water board member, community member)
4. East Plano – Del Oro Water Company (owner/operator)
5. Grandview Gardens – Del Oro Water Company (owner/operator)
6. Poplar CSD (community members)
7. Terra Bella Irrigation District – provides water service to Terra Bella (operations superintendent)
8. Woodville PUD (operator)
9. City of Porterville (City engineer, community members)

The first meeting introduced the goals and objectives of the Tulare Lake Basin DAC Study and the Management and Non-Infrastructure pilot study. Participants indicated that there was interest in these alternatives, and that the community review process should be continued with a second meeting. Meeting notes from Porterville focus area meeting #1 are included in **Appendix G**. Additionally, decision trees for the alternatives presented in this pilot study are included in **Appendix F**.

Findings and potential solutions noted from the first community review meeting included:

A. Central Mutual Water Company

The Central MWC owner/operator who attended the community review meeting expressed interest in having someone else operate the system, and potentially transfer ownership. Potential alternatives identified for Central MWC included:

1. Tie in to Porterville
2. Hire contract operator
3. Sell system to a water company with the resources to manage and operate the system

The Central Mutual Water Company system was constructed before 1953. They have one well that is 220 feet deep, and about 50 years old. The well has been good, with a static water level of 64 feet, and the pump set at 180 feet. They have had no history of nitrates or other contaminants in their water exceeding the MCL, except for occasional positive coliform results. The Central Mutual Water Company board believes that

groundwater recharge has been improved since the construction of nearby Success Dam, which has improved their groundwater conditions.

At the well site they have a pressure tank, which is in poor condition and which they fear could fail soon.

The Water Company serves 33 houses, with a $30 per month flat rate for water service. The system is not metered. They do have a problem with delinquencies; the largest delinquency at the time this report was prepared was approximately $2,100 (which is over five years worth of delinquent water bills). The Water Company has minimal reserves available. They do not employ any contract labor, and bookkeeping is done by someone on the system.

They have also had a problem with ownership/membership certificates due to real estate transactions that are not recorded. There are several double dwellings (two or more dwellings on one parcel), and these two factors contribute to a problem of accountability. The Water Company wants to set up a system to make sure that property owners are ultimately responsible for water bills.

Most customers are Spanish-speaking; however the small Board is all Anglo, non-Spanish-speaking. Communication is therefore a big problem. Self-Help Enterprises has agreed to help them plan a shareholders' meeting and to assist with the language barrier.

Central Mutual Water Company is open to annexation and service by the City of Porterville. However, without a contamination problem there is little incentive to pursue that, as funding is not available. They could also hire a contract operator or sell the system. At the first community review meeting, a representative from Del Oro Water Company was present. Del Oro owns two water systems within the focus area (East Plano and Grandview Gardens), and also provides contract management for Ducor CSD. Del Oro has expressed willingness to consider acquiring additional systems, as it expands their base of operations, which in turn gives more flexibility and possibilities for redundancy.

Appendix F includes decision trees for the Management and Non-Infrastructure pilot study. Sample decision trees showing potential paths for the Central Mutual Water Company are also provided. If physical consolidation is considered, it is recommended that the decision trees presented in the New Source Development pilot study also be consulted.

B. Woodville Public Utility District

Woodville PUD is already involved in shared solutions with various neighboring communities, both on an informal and on a contractual basis.

Woodville PUD has two existing wells that are currently in compliance with water quality standards. Their nitrate levels have been increasing, however, which is a concern. 10 to 15 years ago, nitrate levels were in the 20s. Now the nitrate levels are in the 30s and approaching the nitrate limit of 45 mg/L. While nitrate levels may be increasing, they have stayed in compliance.

Woodville PUD is involved in sharing of resources with neighboring communities of Tipton, Pixley, Poplar, and others. They provide a good example of successful sharing relationships. Woodville PUD, Tipton CSD, and Pixley PUD share equipment, such as their sewer cleaning machine and portable backup generator. They also share backup operators, so they assist each other when an extra hand is needed, or help each other when one system's operator is on vacation. This model of networking and sharing could be replicated throughout the Study Area.

The shared solutions exhibited by Woodville PUD, Pixley PUD, and Tipton CSD are discussed in Section 7. Decision trees showing the implementation of this informal sharing between communities is also presented in **Appendix F**.

C. Ducor Community Services District

A Ducor CSD board member/resident shared concerns related to the District's water supply. Potential alternative identified for Ducor CSD included:

1. Physical consolidation with Terra Bella ID (water service)
2. Physical consolidation with Terra Bella Sewer Maintenance District (SMD) or Richgrove CSD (sewer service)
3. Shared resources and information

Ducor CSD has had challenges with nitrate exceedances in the past, as well as trouble with wells failing. The Ducor CSD water system currently consists of two 1,400 foot deep drilled wells, Well No. 4 and Well No. 5. Well No. 4 was drilled in 1987, and was taken offline in 2009 in response to a compliance order for exceedance of the nitrate MCL. Well No. 5 was drilled in 2004, and is now the only active well. Well No. 5 has not had any nitrate exceedances. Both wells produce high levels of hydrogen sulfate, which is often found in deep wells. The water is treated with chlorine prior to distribution to control the hydrogen sulfide. Ducor CSD's residential water rates are about $80 per month as of 2010. The water rates are based on a flat rate method since the system is without working meters. A flat rate charge does not encourage water conservation. This rate is high relative to other community water systems in the region. The District has plans to install a new well and meter all services. It is expected that water use, and hopefully, costs will drop once rates are based on water usage.

Additionally, Ducor does not have a sewer system, so residents rely on individual septic systems. The community representative from Ducor suggested that physical consolidation with Terra Bella (water or sewer) or Richgrove (sewer) may help provide Ducor residents with safe drinking water. It was suggested that failing septic systems could potentially be contributing to the water quality issues. Additional evaluation would be required to confirm this. The Ducor representative indicated that Terra Bella and Richgrove had both been approached in the past regarding possible interconnection, but neither was interested at the time. In Terra Bella's case, the Terra Bella Irrigation District indicated that it had no additional water supply to share with Ducor since most of their supply is from the Friant Kern Canal. There may still be opportunity to consider consolidation with one of these systems. However, Terra Bella is located about five

miles from Ducor, and Richgrove is more than seven miles from Ducor. Supplying water to Ducor from these areas would require significant additional infrastructure and pumping costs for Ducor residents.

Shared resources and information may also be a positive solution for Ducor CSD. Particularly, operator and board trainings would help to identify improvements to the system operations. Internal changes to improve system efficiency should be considered, as discussed in Section 5 and 6 of this pilot study, as well as in the decision trees presented in **Appendix F**. For more information on evaluating physical consolidation as a potential alternative, the New Source Development pilot study should be consulted.

D. Del Oro Water Company

Del Oro Water Company currently owns and operates two systems within the focus area. Del Oro expressed interest in the following options, which may help other communities in the area:

1. Acquire additional systems in the area
2. Expand contract operation and/or contract management services to other nearby communities

Del Oro Water Company currently owns two water systems in the Porterville focus area, including Grandview Gardens and East Plano. Both systems were sold to Del Oro Water Company by their previous owners. These systems were acquired by Del Oro in 2011.

Acquisition of a water system usually takes eight to twelve months if the system is regulated under the California Public Utilities Commission (CPUC). Any other system outside the CPUC purview could be transferred immediately upon execution of an agreement to purchase. This may impact the water rates for a system; however it could improve the service provided, as the new ownership would likely have more resources and redundancy of qualified personnel, since they would be operating additional facilities in the area. The owner of a system in need of ownership change could initiate the process by contacting Del Oro (or other similar water company) and starting the conversation. They would take into account the size of the system, location of the system, and any issues within the system that need to be addressed when considering acquisition of a system.

E. Poplar CSD and Cotton Center (Williams MWC)

Poplar CSD and Williams MWC are located more than 5 miles from the City of Porterville, but they are adjacent to each other. Potential alternatives for these two systems may include:

1. Physical consolidation
2. Managerial consolidation
3. Shared resources

Poplar CSD was further evaluated under the Technical Solutions pilot study. The water system consists of three wells; however one of the wells is not used because nitrate concentrations are above the drinking water standard of 45 mg/L. The nitrate concentrations in Wells 2 and 3 are less than 30 mg/L and currently meet drinking water standards.

The Poplar CSD water system serves 568 residential accounts with a $25 per month flat rate. Poplar CSD has been approached by residents of Cotton Center (served by Williams Mutual Water Company) to have Cotton Center become part of the Poplar CSD. Cotton Center has approximately 75 houses. The houses are served by the Williams Mutual Water Company by a single well. Each connection is charged $100 per month for water. Williams MWC has only one well, but it is of good water quality. Both systems could benefit from consolidation. Currently, the major obstacle hindering consolidation of the two systems is the high cost of connection fees that residents of Cotton Center would need to pay to obtain service from Poplar CSD. Additional information about these systems and potential solutions can be found in the Technical Solutions pilot study.

F. Mobile Home Parks, Apartments, and RV Parks

Mobile Home Park, apartment, and RV park owners generally wanted to be left alone and did not want to participate in this community review process. A different approach will likely be necessary to get their participation. Regulators and residents could play a role in encouraging their participation and encouraging them to see the benefits, as they may be fearful of losing part of their business.

Community Review Meeting #2

The second community review meeting for the Porterville focus area was held on September 3, 2013. This meeting was attended by representatives from 5 communities as well as representatives from the City of Porterville, the Kings Basin IRWMA, and the United Farmworkers Foundation. Participants of the second meeting included:

1. Ducor CSD (water board member)
2. East Plano – Del Oro Water Company (owner/operator)
3. Grandview Gardens – Del Oro Water Company (owner/operator)
4. Poplar CSD (community member)
5. Woodville PUD (operator)
6. City of Porterville (community member)
7. Kings Basin IRWMA
8. United Farmworkers Foundation

At the second meeting, the Woodville PUD operator, Ralph Gutierrez, gave a presentation on the various types of sharing he is involved in. As described in the

Example Projects section, Woodville PUD, Tipton CSD, and Pixley PUD are involved in informal cooperation. These communities share use of sewer cleaning equipment, backup generator, backup operator, and general information sharing and support. Ralph Gutierrez also contracts with other small neighboring communities to operate their water systems. This helps to earn additional money for Woodville PUD to purchase tools and equipment, which can also be used in these other communities. He also hires college students to help operate the Woodville PUD system. This helps Woodville's system to have additional personnel on hand for operations and maintenance services. It also provides valuable training to young students who are interested in learning about water and wastewater system operations. These are all good examples of the mutual benefit that can be achieved through partnership solutions.

After providing a summary of the management and non-infrastructure alternatives considered in this pilot study, and hearing the case study presented by the Woodville PUD operator, the group broke out into two tables to further discuss the potential alternatives presented.

Meeting notes from Porterville focus area meeting #2 as well as the "Levels of Sharing" handout are included in **Appendix G**.

The general thoughts and considerations that resulted from this meeting included:

- Education/training is a big need
  - Improve operations/service
  - Improve budget if more appropriately managed
  - Better understanding of what is really needed
  - Better understanding of roles and duties of the board members
  - Better understanding of how community members can participate
  - A water/wastewater operator mentorship program could be useful to address the lack of certified water and wastewater operators
  - Information on trainings and upcoming opportunities is often provided to board members and operators – encourage attendance
  - IRWMPs and/or counties could be a vehicle for dissemination of information and trainings
- Non-profit organizations can provide valuable assistance and involvement in conducting outreach and guidance
- For the most part, people seem willing to consider a management and non-infrastructure solution if it would provide them safe and reliable water, and good service
- Relationship between the water operator and board is key to ensure resources are maximized and potentially shared

- Water operators could help identify needs and opportunities to collaborate with neighboring districts
- Successful local case studies can help generate interest and confidence in management and non-infrastructure alternatives
- Private companies such as Del Oro Water Company may be able to provide a range of contracted services (such as billings and/or operations), without being owners of the water system. They could also take over ownership of the system if desired.

Based on input from people involved with these types of solutions from other regions, it was anticipated that there would be a significant amount of resistance from participants when talking about shared solutions and working with neighboring communities. However, that resistance was not present with this particular focus group. They wanted safe, affordable, and reliable water, and if their neighbor could help them achieve that, they would consider it. While the alternatives presented in this pilot study do have benefits for the operation of a water system, these alternatives will not directly improve water quality without the implementation of a physical, infrastructure improvement. For optimum benefit, these management and non-infrastructure alternatives may be considered as part of a larger project that may include development of a new water source or construction of a technical solution. The management and non-infrastructure alternatives presented herein could be a first step toward getting people and communities to begin working together, in what may allow for a larger scale regional facility in the future.

Additionally, this community review process provided an opportunity to learn about the types of resources and assistance communities would need to learn about, evaluate, and implement the alternatives presented. Non-profit organizations that focus on water issues can provide assistance to conduct outreach and provide other resources and education to help communities through the process of evaluating and implementing solutions. There are resources available to disadvantaged communities, but in order to be utilized, the communities need to be aware of these resources and opportunities, and also understand their water system issues. These water related non-profit organizations (Self-Help Enterprises, Community Water Center, or others) can help guide communities, as can local counties and CDPH.

8.3.3 Recommended Future Action

If communities in the Porterville focus area decide to move forward with any of the potential projects identified for this region, additional work will be necessary to further define the project and proceed with implementation. Some of the tasks that will be required for future action include:

- Further Define the Problem and Impacts

- Further define the problem (water supply, water quality, wastewater, TMF capacity, etc.). These have been generally described in this section, but a more in depth analysis will be required.
- Evaluate the impact to the consumer (cost per connection) and communicate and engage with them within the decision-making process.
- Evaluate the impact to the water system (revenues versus expenses).
- Determine whether the solution will satisfy regulatory requirements. Many of the alternatives presented in this pilot study have the potential to improve operations and TMF capacity; however they may not improve water quality, water supply, or wastewater treatment or disposal. It is likely that a solution that includes a management and non-infrastructure alternative in conjunction with physical improvements as presented in the New Source Development or Technical Solutions pilot study may be a preferred option.
- Consider potential funding sources that may be available to implement a solution. Traditional funding sources do not cover many of the alternatives presented in this pilot study. However, there may be funding available if implemented in conjunction with a fundable project.

- Determine Timeline and Cost for the Selected Alternative
  - Outline the timeline for completion of the project. Generalized timelines are presented in **Table 6-1**. Timelines will need to be further evaluated and refined for the specific project and communities involved.
  - Determine need for additional consultant services.
  - Develop a cost estimate for the proposed project. Generalized costs are presented in **Table 6-1**. Costs will need to be further evaluated for the specific project and communities involved.
- Data Gathering Needs
  - Outline what data is needed for the project and how it will be collected. This will likely include, for each system involved: water quality data, water supply and demand data, TMF capacity evaluation, financial records, budgets and revenues, rates, age and condition of water system components (wells, pumps, tanks, pipelines, etc.), median household income, etc.
- Financial Analysis
  - Evaluate affordability of the proposed project
    - Estimated capital costs
    - Estimated Operation and Maintenance costs (this will depend on various factors and cannot be predicted until a project is defined)

        - Estimated Debt Service (dependent on funding source)
    - Evaluate revenue sources
    - Propose rate adjustments, if needed
- Community Leadership Development
    - Outline the tools / process that will be used to build leadership development in conjunction with the proposed project. This will enhance the sustainability of the project.
- Additional outreach to overcome obstacles or barriers as necessary

9 FUNDING OPPORTUNITIES

The Department of Water Resources, California Department of Public Health, State Water Resource Control Board, and United States Department of Agriculture have historically provided the bulk of public funds available for drinking water infrastructure improvements. Funding alternatives that may be available to DACs would generally include grants, loans, and rate adjustments to increase revenues. Specific sources of funding assistance may include:

- California Department of Public Health, Safe Drinking Water State Revolving Fund (SDWSRF)
- State of California Bond Measures such as Proposition 50 and Proposition 84
- Department of Water Resources, Integrated Regional Water Management Planning Program
- The Department of Housing and Urban Development (HUD) – Community Development Block Grant (CDBG) program
- United States Department of Agriculture (USDA) Rural Utilities
- State Water Resource Control Board, Clean Water State Revolving Fund (CWSRF) and Cleanup and Abatement Funding (CAA)

Each of the funding alternatives has qualifying requirements and specific application requirements. The community may qualify for the funding opportunity, or the community may need to coordinate the application through another entity such as a County or Integrated Regional Water Management Authority (IRWMA).

Additional information on the funding sources listed above may be found through the California Financing Coordinating Committee (CFCC) at www.cfcc.ca.gov. The CFCC has available a Common Funding Inquiry Form that may be completed and submitted for review by all CFCC member agencies. The community would then receive feedback regarding potential funding assistance opportunities for the community and the specific needs identified. The CFCC conducts Funding Fairs each year to provide education regarding the various funding assistance programs, and to provide interested parties an opportunity to meet with representatives of specific funding agencies.

It is noted that most of the management and non-infrastructure alternatives presented in this pilot study would not be fundable under the traditional funding programs that have been available, unless these alternatives are part of a larger capital infrastructure project that is fundable. However, there are some newer and emerging funding opportunities discussed below that can provide assistance with some of the alternatives presented herein.

9.1 Traditional State Drinking Water Funding Programs

CDPH currently administers and oversees several sources of funds to address drinking water quality issues. The sources of these funds are summarized below.

9.1.1 Safe Drinking Water State Revolving Fund (SDWSRF)

CDPH uses the resource of the SDWSRF for low interest loans or grants to enable water systems to fund necessary infrastructure improvements. CDPH manages SDWSRF resources to fund projects to ensure that public water systems are able to provide an adequate, reliable supply of safe drinking water that conforms to federal and state drinking water standards. The funds are provided from the federal government, with a 20 percent match from the State required. Interest and loan repayments are re-incorporated into the fund. The SRF currently provides ongoing allocations of approximately $80 to $130 million per year in California.

9.1.2 Proposition 84 Funding

California voters passed Proposition 84 – Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act, in 2006. Proposition 84 allocated approximately $250 million to CDPH for grants and loans to communities for drinking water planning and infrastructure. This $250 million allotment included 60 million dollars specifically earmarked for use as grants to reduce or prevent contamination of groundwater that serves as a source of drinking water. Proposition 84 also allocated funds to DWR for use in Integrated Regional Watershed Management planning and development. The CDPH component of Proposition 84 is fully allocated and **CDPH is no longer accepting applications for this funding source from projects that are not already in the Proposition 84 funding stream**.

9.1.3 DWR IRWM Program

In 2002, Senate Bill 1672 created the Integrated Regional Water Management Act to encourage local agencies to work cooperatively to manage local and imported water supplies and to improve water quality, quantity, and reliability.

DWR has a number of IRWM grant program funding opportunities. Current IRWM grant programs include: planning, implementation, and stormwater flood management. DWR's IRWM Grant Programs are managed within DWR's Division of IRWM by the Financial Assistance Branch with assistance from the Regional Planning Branch and regional offices. As of 2014, $472 million of the $1 billion dollars allocated to DWR for IRWM planning and implementation remain. Further, on March 1, 2014, Governor Brown signed AB103 to assist drought-affected communities and directed DWR to expedite the solicitation and award of $200 million (of the $472 million) in IRWM funding. The expedited funds need to support projects and programs that provide immediate regional drought preparedness, increase local water supply reliability and the delivery of safe drinking water. Applications are due in the summer of 2014.

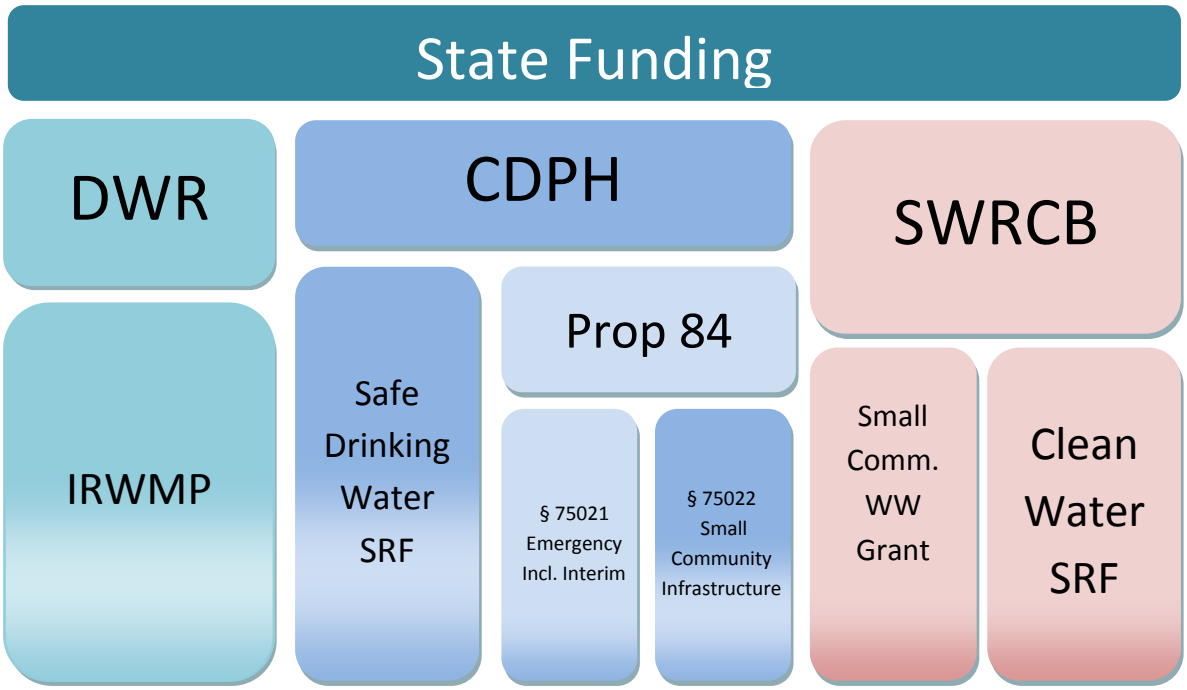
9.1.4 Clean Water State Revolving Fund (CWSRF)

The CWSRF Program operates pursuant to an agreement between the State Water Resource Control Board and the United States Environmental Protection Agency (U.S.

EPA) and has an annual grant of $75 to $100 million for projects. The CWSRF Program has funded a broad range of projects. About 76 percent of funds were used for wastewater treatment and water recycling facilities.

The CWSRF Small Community Grant Fund provides grants to small, disadvantaged communities for their wastewater projects through a fee, assessed in lieu of interest, on CWSRF financing agreements. This program can provide grants of up to $2,000,000 to cover planning, design and construction of wastewater infrastructure to serve disadvantaged communities. Demand for this funding is high and now always available. In general, a DAC must bring its sewer rates to at least 1.5% of the MHI for the community before grants can be issued.

[http://www.swrcb.ca.gov/water_issues/programs/grants_loans/]



9.2 Other State Funding

9.2.1 State Water Resources Control Board and Regional Board Clean Up and Abatement Account Program

The Cleanup and Abatement Account (CAA) was created to provide public agencies with grants for the cleanup or abatement of pollution. The CAA is supported by court judgments and administrative civil liabilities assessed by the SDWSRF and the Regional Water Quality Control Boards. Eligible entities that could apply for this funding include public agencies, as well as non-profit organizations and tribal governments that serve a disadvantaged community. CAA is not a permanent and consistent source of funding, and it fluctuates annually in terms of the number of projects that are funded. For

example, the program funded $12.5 million in projects in 2009, but only $1.8 million in 2013.

9.2.2 Central Valley Regional Water Quality Control Board Supplemental Environmental Projects (SEPs) Program

The State Water Resources Control Board and Regional Water Quality Control Boards may allow a discharger to satisfy part of the monetary assessment imposed in an administrative civil liability order for polluting, by completing or funding one or more Supplemental Environmental Projects (SEPs). These projects implement water quality monitoring programs; well rehabilitation or replacement; watershed assessment programs; wetland, water body, or riparian habitat conservation or protection programs; pollution prevention projects; and public awareness projects.

In March 2014 the Central Valley RWQCB adopted a program specifically geared towards funding SEPs that benefit disadvantaged communities in the Central Valley. Funding amounts available for this program will fluctuate year to year since they are based on assessed and collected fines. The Rose Foundation for Communities and the Environment was selected to act as a third-party oversight group to administer the SEP funds and select the projects with final authorization from the Central Valley RWQCB staff. Projects are selected through a competitive application process.

9.2.3 The Strategic Growth Council, Sustainable Communities Planning Grant

The Sustainable Communities Planning Grant and Incentives Program funded by Proposition 84, authorized $90 million for planning grants to, among other things, protect the environment and promote healthy, safe communities. This program also includes and Environmental Justice Set-Aside fund totaling twenty-five percent (25%) of the funding per funding cycle. This funding is for Environmental Justice communities, which are defined as those communities that receive the top ten percent (10%) of statewide scores using the latest published version of the California Environmental Protection Agency's (Cal/EPA) CalEnviroScreen tool. Eligible projects could include protects that protect drinking water from contamination or improve water infrastructure systems. The minimum grant award is $50,000. The maximum grant award is $500,000, unless the application is a joint proposal, in which case the maximum award is $1 million.

9.2.4 Proposition 84, Safe Drinking Water Emergency Funding ($10 Million)

In December 2012, CDPH revised the criteria for Proposition 84, Emergency Grants to expand the allowable uses of the funding to address an urgent need to provide interim water supplies to public water systems that serve severely disadvantaged communities and lack the technical and financial capability to deliver water that meets primary safe drinking water standards and are facing a health emergency. $10 million was made available to CDPH to provide alternate water supplies to existing water systems, necessary to prevent contamination, or provide other sources of safe drinking water

including bottled water. In this effort, shorter term emergency project funding such as bottle water supplies, were capped at $50,000 per project. A total of $2 million dollars was made available for emergency interim projects. This left $6 million for larger, longer term emergency responses such as establishing connections to an adjacent water system, design, purchase, installation and initial operation costs for water treatment equipment, and other water system construction projects. These projects are capped at $250,000 per project.

9.3 Federal Funding Programs

9.3.1 Community Development Block Grant Program

The Community Development Block Grant program is a flexible program that provides communities with resources to address a wide range of unique community development needs. The CDBG program is a federally funded program run by the Department of Housing and Urban Development (HUD). The CDBG program was created by the Housing and Community Development Act of 1974 and continues to provide funding. Grants through this program are only given to cities and counties. Community water systems can receive funding through their local county.

DACs can compete for CDBG funds to resolve water, wastewater and storm drain/flooding issues. The HUD CDBG program is broken into two primary components. Cities and counties with larger population centers such as Fresno and Kern Counties receive an annual formula-driven allotment of CDBG funds which is considered an entitlement. Smaller cities and counties including Kings and the non SMA portions of Tulare counties compete on an annual basis for CDBG discretionary “small cities program” funds administered by the State Department of Housing and Community Development. [http://hcd.ca.gov/fa/cdbg/index.html]

Under the entitlement program in Fresno and Kern Counties, communities compete for funding at the County level. An advisory committee makes recommendations to the Fresno County Board of Supervisors which makes the decisions on CDBG funding provided the proposed project meets HUD criteria. In the unincorporated portions of Kings and Tulare Counties, the local Board of Supervisors selects projects to compete for funding at the state level.

CDBG funding is one of the few sources available to cover project-related work on private property. Such work may include sewer and water connections and abandonment of old water wells and septic tanks.

Some entitlement counties and small cities have opted out of Fresno County’s entitlement program because there is the potential that a larger amount of funding could be secured through the competitive process through the Small Cities Program. On the flip side, the jurisdiction may receive no CDBG funding in an annual funding cycle if their application does not compete well. This is a highly competitive program and in order to compete, the City would need to emphasize health and/or safety issues related to water, wastewater or storm water needs that would be resolved by the proposed

project. To be competitive, the community would also need to have a very high percentage of low income households.

Under the discretionary small cities program, pre-design Feasibility Study costs can be applied for through CDBG's Planning and Technical Assistance grants for a maximum of $50,000.

9.3.2 USDA Rural Development, Rural Utility Service

United States Department of Agriculture (USDA) Rural Development provides program assistance funding through direct loans, guaranteed loans, and grants. USDA Rural Development provides direct loans and grants to develop water and waste disposal systems in rural areas and towns with a population not in excess of 10,000. These funds are available to public bodies, non-profit corporations, and Indian tribes. Additionally, USDA Rural Development provides loan guarantees for the construction or improvement of water and waste disposal projects serving the financially needy communities in rural areas. The water and waste disposal guarantee loans are to serve a population not in excess of 10,000 in rural areas.

- USDA Rural Utilities Service (RUS) has been the largest funding source for rural water and wastewater system improvements over the years. RUS funding is often quicker to secure than State funding but there is usually less grant available and the community normally takes on a higher percentage of loan. In recent years, RUS's loan interest rate has been lowered to rates competitive with State-operated SRF programs.

  [http://www.rurdev.usda.gov/UWEP_HomePage.html]

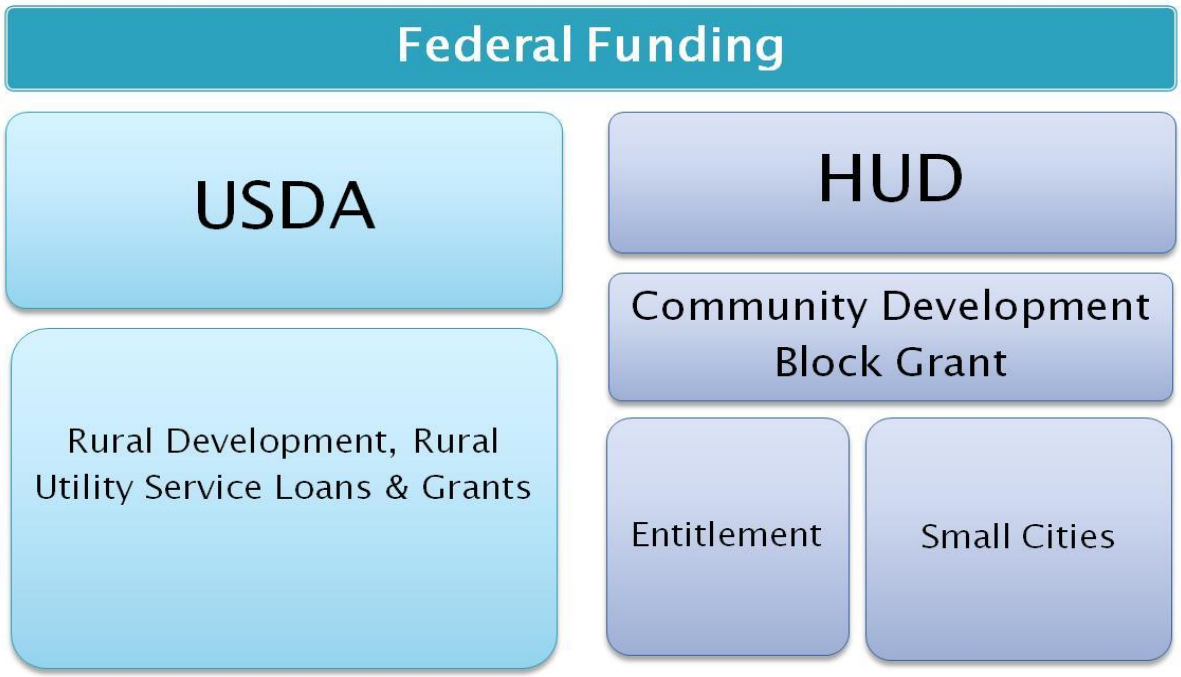
- RUS funding usually covers a broader definition of eligible project costs than many State operated programs. This simplifies the process when USDA is the sole source of project funding. When USDA funding complements other funding sources, USDA can often finance costs ineligible in other programs such as land purchase and contingencies (not eligible in SWRCB programs for example) or replacement of a water distribution system (often times ineligible in CDPH programs). In "unusual cases" (RUS Instruction 1780) USDA water and wastewater program funds can be used to fund water and sewer service connections on private property and the abandonment of old private wells and on-site septic systems.

- At the time of the preparation of this report, the State of California was suffering from one of the worst droughts in recorded time. In response to the drought, USDA has allowed eligible rural communities affected by the drought to apply for Emergency Community Water Assistance Grants for up to $500,000. Eligible rural communities are those with a population of less than 10,000 that are experiencing a significant decline in the quantity of water (or such a decline is imminent) that is attributable to the drought conditions and the proposed project is necessary to alleviate this problem. This funding source is a very streamlined process. Funds were obligated within 2 months

of submission of applications to 11 parched Tulare County (primarily disadvantaged) communities in July 2014. For the duration of the drought, it is likely more Emergency Community Water Assistance Grants funds will be made available.

- Individual loan applications may be submitted by income eligible property owners that reside on their property to USDA's 504 housing rehabilitation program. This program can cover the costs of water and sewer service connections and/or the abandonment of old water wells or on-site septic systems, though funding is often limited.

[http://www.usda-rural-development-direct-mortgage.com/504_repair_loan_and_grant.htm]



9.4 Newer and Emerging CDPH Funding Programs

9.4.1 Pre-Planning and Legal Entity Formation Assistance Program

The Pre-Planning and Legal Entity Formation Assistance Program (Pre-Planning) is designed to assist communities that do not have access to safe drinking water, and public water systems not eligible for SDWSRF funding due to the lack of an eligible entity. CDPH had grant funds available under a new local assistance set-aside for a pilot program to assist with the formation of a legal entity with the necessary authority to enable access to the SDWSRF project funding process for subsequent planning and construction funding. Funds through this program are to be used to explore formation of an eligible legal entity and to complete such formation where it is feasible and desired by the affected community. Possible project outcomes include the identification and/or

creation of a regional authority, identification of an existing authority which could extend service, or the creation of a new governing authority.

Pre-Planning applications were accepted through November 2013. This was a pilot program whose results will be reviewed to determine future funding availability.

Program Eligibility and Application Information:

Currently, communities of private well owners and state smalls[5] (systems between 5-14 connections) do not qualify for funding under the Safe Drinking Water State Revolving Loan Fund (SDWSRF), which grants millions of dollars a year to PWSs for water related projects. Under a new set-aside, communities of private wells or state smalls that want to create a new water system or be consolidated into existing PWSs are eligible to receive SDWRSRF funding. Entities that are eligible to submit an application on behalf of one or more affected communities include: public entities such as cities, counties, special districts, LAFCo; existing PWSs; public colleges; public universities; non-profit organizations; and joint powers authorities. Applicants are required to demonstrate their ability to carry out the activities identified in the work plan.

http://www.cdph.ca.gov/services/funding/Pages/Pre-Planning.aspx

9.4.2 Consolidation Incentive Program

The Consolidation Incentive Program is designed to promote consolidation as a cost-effective solution to water systems that do not meet safe drinking water standards. CDPH is providing an incentive to encourage larger systems to consolidate nearby noncompliant systems. Through the consolidation incentive process, lower ranked projects that do not usually receive SRF invitations can become eligible for funding. By agreeing to consolidate a neighboring noncompliant system, CDPH will re-rank a low-ranked project into a fundable category.

Consolidation Incentive Planning applications were accepted through March 2014. Consolidation Incentive Construction applications were accepted through June 2014.

Program Eligibility and Application Information:

In order to apply for a consolidation incentive project, systems must first submit a re-ranking request form for a project that was previously submitted but not funded. Once approved, CDPH will notify the system and invite the newly-ranked projects to submit full applications during the next round of invitations.

http://www.cdph.ca.gov/services/funding/Pages/ConsolidationIncentive.aspx

9.4.3 The Small Water Systems Program Plan (SWSPP)

In 2012, CDPH announced plans to concentrate funding and other resources on 177 specific small public water systems (PWSs)[1] in need of meeting drinking water

[5] State small system serves at least five, but not more than 14 service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year.

standards. Most of the water systems are in disadvantaged communities. This program outlines specific actions that CDPH intends to take that will incrementally reduce the number of small systems not meeting the State's water quality standards. CDPH staff have set a goal of bringing 63 of the 177 identified small systems into compliance by the end of 2014 and most of the remaining others within three years.

Specific Actions Taken by CDPH Staff:

CDPH and third-party providers will prioritize these small systems over other systems for receiving available technical and financial resources and work with stakeholders to identify opportunities for consolidation.

CDPH will track progress towards resolving problems and provide stakeholders an annual report on the status of all water systems still listed.

CDPH staff, working with counties, will prepare a one-page summary for each system on the list that identifies issues and barriers that keep water systems from executing permanent drinking water solutions.

CDPH will create a small system specific webpage, with technical information and updates.

Program Eligibility and Application Information:

Eligible communities are those with small systems with fewer than 1,000 service connections and a population up to 3,300. Communities that meet these criteria and are currently out of compliance, with one or more drinking water quality violations, will be contacted by CDPH with further details on how to participate in this program. CDPH intends to work closely with third party provider to fully implement this program. Communities in the Central Valley, that believe they qualify for this program, but aren't listed as one of the 177 identified communities should contact CDPH Drinking Water Program staff, the Community Water Center, or a respective regional third party provider (Rural Community Assistance Corporation (RCAC), California Rural Water Association (CRWA) and Self-Help Enterprises). ***San Joaquin Valley Contact List:*** CDPH Drinking Water Program (916) 552-9127, Marques.Pitts@cdph.ca.gov; Community Water Center (559) 733-0219 or (916) 706-3346; Self-Help Enterprises (559) 651-1000.

9.5 New Drinking Water Legislation

9.5.1 Assembly Bill 21 (Alejo): Small Community Safe Drinking Water Grant Fund

This bill would provide funds for disadvantaged communities without safe drinking water by authorizing the assessment of a charge in lieu of interest payments on loans and depositing the monies into a newly created grant fund. The new grant program would allow disadvantaged communities who are unable to repay interest-bearing loans to apply for grants to remedy their unsafe drinking water.

This bill was signed by Governor Brown on October 8, 2013.

9.5.2 Assembly Bill 30 (Perea): Small Community Grant Funds

The State Water Pollution Control Revolving Fund Small Community Grant Fund (SCG Fund) finances wastewater treatment projects in small disadvantaged communities. The SCG Fund is scheduled to sunset in 2014. This bill would extend the sunset date to 2019.

This bill was signed by Governor Brown on October 8, 2013.

9.5.3 Assembly Bill 115 (Perea): Small Community Consolidation

This bill would clarify applicant eligibility for state drinking water funding and encourage existing PWSs, and private well owners, primarily in disadvantaged communities with unsafe drinking water, to consolidate and form a new or revised PWS.

This bill was signed by Governor Brown on October 8, 2013.

9.5.4 Senate Bill 103: Public Water System Drought Emergency Response Program

Senate Bill 103 was amended in Assembly February 25, 2014 to revise items of appropriation and make other changes for the purpose of addressing drought conditions in the state. SB 103, as amended, directed that, of the amount appropriated in Schedule (7), $15,000,000 shall be available for encumbrance until June 30, 2016, for purposes consistent with subdivisions (a) and (c) of Section 75021 of the Public Resources Code for grants of up to $500,000 per project for public water systems to address drought-related drinking water emergencies or threatened emergencies. The State Department of Public Health shall develop new guidelines for the allocation and administration of these moneys, including guidelines that dictate the circumstances under which the per-project limit of $500,000 may be exceeded. The department shall make every effort to use other funds available to address drinking water emergencies, including federal funds made available for the drought, prior to using the funds specified in this provision.

9.5.5 Interim Replacement Drinking Water for Economically Disadvantaged Communities with Contaminated Water Supplies

On March 1, 2014, Governor Brown approved a $687.4-million emergency drought relief package to take effect immediately. As a result of the Governor's action, the State Water Resources Control Board (State Water Board) approved $4 million in funding from the Cleanup and Abatement Account (CAA) to provide interim replacement drinking water for economically disadvantaged communities with contaminated water supplies. Eligible entities that can apply for this funding include public agencies, as well as certain non-profit organizations and tribal governments that serve a disadvantaged community and that have the authority to clean up or abate the effects of a waste. Emergency water projects include bottled water, vending machine, point of use devices (water filters), hauled water, wellhead treatment, and planning activities

In an effort to distribute funds as quickly and efficiently as possible, the State Water Board will coordinate with the Regional Water Quality Control Boards, the California

Department of Public Health (CDPH) district offices, the Office of Emergency Services, and other stakeholders (e.g. environmental justice groups, community assistance groups, etc.) to identify those disadvantaged communities that are most at-risk and would benefit from financial assistance.

10 SUSTAINABILITY OF SOLUTIONS

This section discusses the steps that may be taken to ensure the long-term sustainability of the alternatives presented in this study, when they are implemented. A few of the key contributors to the sustainability of a project include:

- System Management
- Leadership Development
- Community Involvement
- Operations and Maintenance Impacts

10.1 System Management

The Rural and Small Systems Guidebook to Sustainable Utility Management (EPA and USDA, 2013) discusses ten key management areas of sustainability that can help rural and small water and wastewater system managers address many ongoing challenges and move toward sustainable management of both operations and infrastructure.

Rural and Small Systems Guidebook to Sustainable Utility Management (EPA, 2013)

The first step in identifying where a system should start making improvements in the ten management areas is completing a candid and comprehensive self assessment. The ten key areas of management sustainability identified in the Rural and Small Systems Guidebook to Sustainable Utility Management (Guidebook) are described below.

Product Quality: The system is in compliance with permit requirements and other regulatory or reliability requirements. It meets its community's expectations for the potable water or treated effluent and process residuals that it produces. The system reliably meets customer, public health, and ecologic needs.

Customer Satisfaction: The system is informed about what its customers expect in terms of service, water quality, and rates. It provides reliable, responsive, and affordable services, and requests and receives timely customer feedback to maintain responsiveness to customer needs and emergencies. Customers are satisfied with the services that the system provides.

Employee & Leadership Development: The system recruits and retains a workforce that is competent, motivated, and safe-working. Opportunities exist for employee skill development and career enhancement, and training programs are in place, or are available, to retain and improve their technical and other knowledge. Job descriptions and performance expectations are clearly established (in writing), and a code of conduct is in place and accepted by all employees.

Operational Optimization: The system ensures ongoing, timely, cost-effective, reliable, and sustainable performance in all aspects of its operations. The key operational aspects of the system (e.g., pressure, flow, quality) are documented and monitored. It minimizes resource use, loss, and impacts from day-to-day operations. It has assessed its current energy use and water loss and performed related audits.

Financial Viability: The system establishes and maintains an effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues. The rates that it charges are adequate to pay its bills, put some funds away for both future capital expenditures and unanticipated issues, and maintain, repair, and replace its equipment and infrastructure as needed. The system discusses rate requirements with its customers, decision making authorities, and other key stakeholders.

Infrastructure Stability: The system understands the condition and costs associated with its critical infrastructure assets. It has inventoried its system components, conditions, and costs, and has a plan in place to repair and replace these components. It maintains and enhances the condition of all assets over the long-term at the lowest possible life-cycle cost and acceptable level of risk.

Operational Resiliency: The system ensures that its leadership and staff members work together to anticipate and avoid problems. It proactively identifies legal, financial, non-compliance, environmental, safety, security, and natural threats to the system. It has conducted a vulnerability assessment for safety, natural disasters, and other environmental threats, and has prepared an emergency response plan for these hazards.

Community Sustainability & Economic Development: The system is active in its community and is aware of the impacts that its decisions have on current and long-term future community health and welfare. It seeks to support overall watershed, source

water protection, and community economic goals, where feasible. It is aware of, and participates in, local community and economic development plans.

Water Resource Adequacy: The systems ensure that water availability is consistent with current and future customer needs. It understands its role in water availability, and manages its operations to provide for long-term aquifer and surface water sustainability and replenishment. It has performed a long-term water supply and demand analysis, and is able to meet the water and sanitation needs of its customers now and for the reasonable future.

Stakeholder Understanding & Support: The system actively seeks understanding and support from decision making bodies, community members, and regulatory bodies related to service levels, operating budgets, capital improvement programs, and risk management decisions. It takes appropriate steps with these stakeholders to build support for its performance goals, resources, and the value of the services that it provides, performing active outreach and education to understand concerns and promote the value of clean, safe water and the services the utility provides, consistent with available resources.

The EPA Guidebook includes a self assessment designed to help rural and small systems identify their strengths and challenges to prioritize where efforts and resources should be focused. It can be completed by individuals within a utility (e.g., managers, staff, or operators), or as a team exercise amongst management, staff, and external stakeholders such as board members or customers (if appropriate). A Self Assessment Worksheet is included in the Rural and Small Systems Guidebook to Sustainable Utility Management, attached in **Appendix H**.

10.2 Leadership Development

Leadership development is critical to the sustainability of any system or program. It is important that the leaders of the community water or wastewater system continue to seek additional education and training. As mentioned previously, there are existing leadership development and other training programs available. Ultimately, continued education and training will enable water and wastewater system purveyors to be better leaders for their staff, help them to more efficiently run the system, and may inform them of potential funding opportunities that are available to make improvements to the system.

Long term planning is also critical to the success and sustainability of a system. Once the system is operated and managed by an entity (newly created or existing), then the decision makers can focus on long term planning and completing different tools for the effective management of the systems, as discussed in the previous section.

10.3 Community Involvement

Every community has unique characteristics that create challenges as well as opportunities. These unique characteristics must be identified and addressed for each of the communities involved.

Local decision makers must involve the community in the process, and invite assistance providers if necessary to explain the collaborative effort. Public meetings should be held about the management or non-infrastructure option being proposed. If multiple communities are involved, these meetings should be held within the different communities, since many will feel more comfortable in their 'home' setting. Rather than holding meetings at a "central" location, holding meetings at the various communities involved may encourage cooperation and get the communities engaged.

In addition to communicating with board members, decision makers, and council members, it is important to reach out to the community and get them involved. The community members (customers) typically care about quality of service, including reliable supply and water quality, and reasonable rates, and may bring a different perspective to the table. Often, community members are not aware of the water system needs that exist. The community members need to be educated on the deficiencies and needs of their water systems, and understand the water quality issues. By showing community members actual costs to operate and maintain a water system, they may begin to understand and appreciate the cost of the service to deliver water to the customer's tap.

10.4 Operations and Maintenance Impacts

Consideration of the operations and maintenance impacts can sometimes be difficult to convey to users. Sometimes the costs per connection may be higher when an alternative is first implemented, and the increased economy of scale does not begin to show strongly until after years of sound management. This may be because system maintenance has been neglected due to inadequate revenue, and so there may be capital improvement needs that must be completed. Once the system has been improved and “brought up to speed” as far as appropriate maintenance activities, they may have had to take on some debt and increased rates, but their infrastructure will be good, and the rates will stabilize. It would be difficult to state or show this generally in a way that would be meaningful to all communities. A cost benefit analysis would need to be completed for any potential project that is being considered.

For example, in the Porterville focus area that was studied as part of this pilot study, water rates ranged from less than $30 per connection to $80 per connection per month. The wide variation in water rates is due to many factors unique to each community. Factors that may impact the water rates for a given community include size of community, topography, depth to groundwater, water quality and whether treatment is required, age of system components, outstanding debt, level of volunteerism used to operate the system, quality of service, etc. For one community, implementation of a management solution may improve their cost per connection because they already

operate in a sustainable manner. Another community may see an increase in their water rates because there are system components or management issues that have been lacking and need to be addressed. These improvements would provide better quality of service, but may come at a price. These tradeoffs would need to be weighed when evaluating the feasibility of implementing any alternative. If a solution does require a rate increase, then the system would need to plan for that and provide residents an opportunity to learn about the proposed changes and protest if desired.

11 OBSTACLES AND BARRIERS

11.1 Potential Obstacles and Barriers

For many reasons, DACs often struggle to engage with each other, neighboring agencies, or the IRWM groups. Communities have identified and worked through some common obstacles to implementing management and non-infrastructure solutions. These obstacles are not present for all DACs in the region, and most of them can be overcome with some work. Some of the potential obstacles that have been identified include:

- Disadvantaged community systems lack the technical expertise, struggle to operate and maintain their systems, and often lack the resources to engage with other entities. Also, the difficulty DACs have with effectively operating and maintaining their systems can be viewed as a liability when attempting to develop interagency relationships.
- Consolidation may result in a loss of identity for a local community. However, it is recommended that community residents weigh the ability to sustain a clean, reliable, and affordable water supply against what may be only a perceived loss of independence or identity. There are other areas of the communities that have already been consolidated such as schools, senior citizens services, etc.
- Systems that merge or acquire other systems may absorb those acquired systems' debts. However, they have also acquired assets. The systems that have debts may have newer or up-to-date infrastructure, and so there is a balance between liabilities and assets. There may also be funding incentives to make improvements to the acquired system, if necessary, to make the consolidation more amenable to the remaining entity.
- The initial costs associated with holding meetings and discussing partnership solutions, soliciting community involvement, and other associated tasks may be a barrier. Substantial staff time investment may be required of participating systems or cities, with little chance of direct compensation for that time. There may be opportunities to receive assistance for this process, but a funding program to assist communities through this process would be beneficial.
- Local political barriers can be significant, but as mentioned above, it should be emphasized that cooperation and sharing of resources may allow the communities involved the ability to sustain a clean, reliable, and affordable water supply.
- Management goals of multiple systems may conflict. This will take additional efforts to coordinate and develop a management structure for a consolidated entity.
- Language barriers can make communications difficult, both within a system or with other systems. Many districts hire a translator for board meetings to

overcome this obstacle, and translators can be utilized for other communications as well.

- Participation from small, private systems is often difficult to attain. Based on experience from the community review process for this pilot study, as well as other local studies, small, private water systems generally do not have an interest in participating in discussions related to water systems, especially mobile home parks or apartments where the owner may not be local, or he may have an investment interest in keeping a water system with little care for the water quality. There are, however, some mobile home parks, such as Lacey Courts Mobile Home Park and Four Seasons Mobile Home Park in Kings County, who have a project in process to consolidate with the City of Hanford.

Due to these real or presumed views, efforts to work together are challenging and can make it difficult to forge new relationships. Discussing the barriers that are seen in this region is not meant to be discouraging, but is meant to be a first step toward a resolution. By identifying the obstacles and barriers, we can begin to work toward solutions to overcome those barriers.

Through the outreach efforts in the Porterville region community focus area, participants generally indicated that they would be willing to consider any of the alternatives presented, if it would provide them safe, reliable water service.

11.1.1 Education and Training Opportunities

Many obstacles and barriers to implementing a shared solution, and also to more effectively operating the existing system, stem back to a lack of education or training. Operator training could help improve system operations and service. Management or board training could help give the board a better knowledge of what job duties they are responsible for, what work is really needed and what is not, improve budget and more appropriately manage a system. Specific training on roles and duties of the board members would be very helpful in educating board members as to the roles of the manager, the board, the operator, the engineer, community members, etc., so that the system can be more efficiently managed, and resources are not wasted by having the inappropriate person performing a task. More education and training will also garner more interest and participation.

11.2 Overcoming Obstacles and Barriers

Communities who are interested in pursuing management and non-infrastructure solutions should conduct an in-depth shared services study, including all potential communities that may be involved. Through the shared services study, the communities would have the opportunity to learn about each other, find out what and how they can gain by partnering with each other, determine the level of sharing that is appropriate, and then decide whether or not to participate in a management and non-infrastructure solution. This process would be facilitated in a manner that would work towards eliminating or overcoming the obstacles present for that particular community or region.

It is important to have a good project team to help facilitate this process. The project team should include facilitators, community outreach leaders, and technical assistance providers that can do the various types of analysis needed to help move the process forward. This may include non-profit organizations such as Self-Help Enterprises, Community Water Center, or RCAC, as well as Engineers and attorneys where appropriate. Some of the items of focus during this process are discussed in this section.

11.2.1 Focus on Common Needs versus Common Goals

In order to get past some of the obstacles and barriers that may be preventing communities from working together to find a common solution, it is important that there is a facilitator to assist in the process, and that the facilitator of the partnership focuses on the common need that each community is trying to resolve. The goal is to find a way to work together to meet the common needs of the region. It should be emphasized that the long term health and wellbeing of the residents within the region should be the primary goal, and should outweigh the other obstacles and barriers that may be inhibiting the communities from working together.

The facilitator must encourage communities to focus on the future. A regional partnership may be the solution needed to supply sufficient potable water to the communities involved, without interruption, for years to come. Focusing on the future and the health of the local residents and the property value may encourage communities to begin to look beyond any history between the communities and think about 10 years from now, and the benefit they can provide for their children and grandchildren. A property without water has no value for future generations. The focus should be centered on the long term goal of providing a safe, healthy, and sufficient water supply, not the politics or rivalries that may exist.

11.2.2 The Economy of Scale: Dividing the Cost by Many Helps Everyone

Another solution to overcoming some of the obstacles mentioned is to make the project about the numbers as much as possible. Presenting the numbers can help to deal with things more concretely. For a specific region or group of communities proposed, the adjustments in rates and revenues (if any) can be presented based on actual demonstrable cost. It should be noted that a reduction in system costs will not likely mean rates will be reduced, but that rates will not require as much of an increase as would be required to bring each individual system into compliance. Focusing on the numbers helps to take the distrust out of the equation.

11.2.2.1 Infrastructure Solutions

The intent of a regional solution is to provide a win for all parties involved. If the solution is not projected to be beneficial, it will not be recommended as a solution. In regionalizing and working together, whether it includes informal cooperation with a neighboring system to full consolidation, communities are able to provide additional redundancy and resilience, and also provide improved economy of scale, which in most

cases will bring individual costs down. An idea that tends to hit home with people is the idea of resiliency through redundancy. A regional water system can build redundancy into the system, making the system resilient to failures within the system. Additionally, if a member no longer has to treat their water, or there is a regional treatment facility, that enables them to concentrate on the distribution system and make that more efficient.

While a regional system or physical consolidation is not the focus of this pilot study, the alternatives presented herein may be a first step in collaborating with neighboring systems, which may lead to a physical consolidation or regional system in the future. More discussion on these types of alternatives as well as other infrastructure solutions is provided in the Technical Solutions pilot study and New Source Development pilot study.

11.2.2.2 Funding is a Big Benefit

A regional project may also have more immediate political benefits, in that funding agencies and state legislatures may applaud the move towards regionalization. A regional approach may give the project an advantage in finding funding because the funding agencies will recognize and appreciate partnerships. A regional project will provide a unified voice for funding that each individual entity probably does not currently enjoy on its own. Again, this potential funding benefit is not likely to be realized when implementing a strictly non-infrastructure solution, but may be beneficial when implemented in conjunction with an infrastructure solution, such as those presented in the New Source Development or Technical Solutions pilot studies.

11.2.2.3 Technical Assistance

Regulatory agencies can also be partners in the process to help with messaging and providing technical information to the communities. As technical experts, CDPH could help educate the community about the state of the water system and the implications related to public health. CDPH could participate in public meetings, explaining what the regulations are, and explaining what non-compliance means for the system. CDPH can explain the effect of poor water quality on public health. It may be beneficial for both sides to have CDPH available to educate and help promote a water system partnership effort, rather than interacting with the system in an enforcement action. In communicating in this manner, it may help develop more of a relationship between the water systems and the regulatory agency, and make cooperation better in an ongoing basis.

11.2.3 Putting Aside Historic Rivalries

Some obstacles may be rooted in historic rivalries or political barriers between communities, which could completely stop a partnership from getting off the ground. These rivalries can be rooted in school traditions, or other social or political rivalries. The effect of these challenges cannot be minimized or forgotten when approaching a group of communities. It is important to communicate and discuss these barriers when they are recognized, and encourage the communities involved to look past those

differences for the common good of all involved. The ability to sustain a clean, reliable, and affordable water supply will hopefully outweigh any barriers between the communities. It is the same rationalization for communities who fear the loss of perceived independence or identity. That being said, if a community (or group of communities) is not ready to partner with a neighboring system, it should not be forced upon them. The communities identified as being candidates for a shared solution should be educated as to the benefits of such an approach, but the decision to move forward should still lay with each individual community.

Due to the community identity and rivalry type issues that may be faced, transparency is critical. The partnership development process should be documented and available to the public.

11.2.4 Learning About Each Other

The facilitator(s) of any partnership should be sensitive to the fact that each entity involved is bringing different assets and different challenges to the table. Due to these differences, one community or system may feel like a neighboring community benefits more, which could lead to the feeling that partnership is somehow unfair or skewed. This sense of unfairness can create a barrier to forming partnerships. However, respect and sensitivity to the various issues may invite cooperation.

Providing the space for communities to learn about each other, introduce them to the idea of thinking beyond their own community, educate them on the various types of collaboration models available, and using real case studies to show how the types of collaboration can be successful can be very beneficial in this process. It is important to help people understand that it is impossible for everyone to be equal. Not everyone will benefit exactly the same way or in the exact same amount from a partnership solution. However, it should be emphasized that each entity will benefit well enough to justify their participation. However, it may be that there is a larger community involved that may be included to provide a solution for the other communities, and may not be in need of the partnership itself. However, the deal must be beneficial in some way to that community. Perhaps, in exchange for annexing one or more small, neighboring systems into their system, they may receive funding for a new well or improvements to their water or wastewater treatment facility.

11.2.5 Building Trust and Commitment

Another concern or barrier that these communities may feel is loss of control if their system is being merged into another entity. This is a real concern, but it could be that, although they may be losing control on some level with one part of their system, they may have the ability to stay informed and involved in their system. Developing this comfort level is a large reason why it can be beneficial to start small, with informal agreements. Then as trust is gained, the communities can (but do not have to) progress toward contractual agreements and potentially full consolidation. There are situations when full consolidation is the first and only way to a solution, but some communities

may prefer to hold out until they develop a certain level of comfort with the other community.

11.2.6 Visionary Leaders and Communities

The broader community should be invited to engage in decisions about a partnership. When an entity becomes part of a regional system, there is a possibility that the entity can actually gain control over larger or critical issues that have been put off within its own system. If an entity, for example, decides to contract with an operator service, it can free the manager up to really manage the system (not just operate the plant) and focus on issues that would not only benefit the community now but will benefit future generations.

One thing to note is that a system's customers, the people who are drinking the water, generally do not have as much concern about loss of control as long as there is quality of service and reasonable rates. It is the system managers, decision makers, and elected officials that are most concerned about the loss of control. It is usually a "me" issue rather than a community benefit issue that the leadership works through once they understand the greater benefits and feel trust and confidence in the process.

If the decision about a partnership is brought to the broad community, they may understand the benefits with less concern regarding the obstacles discussed herein. For that reason, it may be beneficial for the facilitator of a partnership to reach out and get closer to the community by holding meetings at churches, schools, or the local volunteer fire department.

In general, obstacles and barriers to implementing a shared solution or other management and non-infrastructure alternative can be overcome with the right focus. People want safe, reliable, and affordable water service.

12 CONCLUSIONS AND RECOMMENDATIONS

12.1 Summary of Findings

This pilot study presents various alternatives that provide the potential of addressing some of the priority issues identified for the Tulare Lake Basin Study Area. The two main priority issues this pilot study aimed to address were:

1. Lack of funding to offset increasingly expensive operations and maintenance costs, in large part due to lack of economies of scale; and
2. Lack of Technical, Managerial, and Financial capacity by water and wastewater providers.

Many of the alternatives presented, including internal changes, informal cooperation, contractual assistance, formation of a joint powers authority, ownership transfer, or formation of a legal entity (other than a JPA) can be implemented to improve the technical, managerial, and financial capacity of a water or wastewater system provider. These alternatives may provide increased resources, communication and collaboration, opportunity for training and education, and sharing of services that can improve various capabilities of the water or wastewater serving entity.

While these alternatives can provide many benefits, most of the management and non-infrastructure alternatives presented are not likely to provide a significant reduction in operations and maintenance costs. An exception is formation of a legal entity, which would allow a community system to apply for funding for system improvements, where it would not otherwise have been able to. Sharing resources on an informal or contractual basis will provide some financial benefit to the system, but will be negligible when considering the per connection cost savings. Ownership transfer will allow for improved economy of scale, required insurance, permits, and staffing for only one system instead of two or more, and other savings with sharing of resources. This will provide a benefit. However, it is when physical interconnection is involved that greater savings can be achieved.

12.2 Recommendations for Future Action

Several recommendations were developed through this pilot study, as described in this section. A complete list and description of recommendations developed through the TLB Study are provided in the Final Report. The complete list of recommendations can also be found in **Appendix J** of this pilot study.

12.2.1 Consumer

The service provider should take into consideration the perspective of the consumer when considering changes to the system that may impact users. It is recommended that residents make an effort to learn about the challenges faced by the water or wastewater system so that they can provide a voice to the service provider. Residents can attend

board meetings to learn about what is happening with their water and/or wastewater system and learn more about what they can do to be an active advocate for their fellow residents.

12.2.2 Service Provider

Several recommendations for future action were developed from observations during this pilot study and specific comments from participants. Recommendations for disadvantaged community water and/or sewer providers include:

- Continue to educate themselves on funding opportunities and training programs
- Attend training programs, and encourage other staff and board members to attend training programs
- Attend Integrated Regional Water Management Planning group meetings
- Become an “Interested Party” or “Member” of an IRWMP group
- Consider pursuing projects based on the “decision trees” developed in this and other pilot studies

Various implementation steps are recommended to be done by any specific group of communities that choose to consider one of the management and non-infrastructure alternatives presented in this pilot study. When evaluating these alternatives, it is recommended that communities work on the following tasks:

- Define issues that potential alternatives will aim to resolve
- Seek funding to conduct a feasibility study to evaluate alternatives and engage the broader community served in the alternatives evaluation process
- Conduct a community survey of the customers, owners, and elected officials to understand their interests and needs
- Share data on budget, finances, etc., within and between communities involved
- Prepare a Self Assessment of all communities involved (see **Appendix H**)
- Prepare a Technical, Managerial, and Financial Assessment of all communities involved (see **Appendix I**)
- Retain legal counsel to evaluate the available forms of governance and how a different form of governance may change the responsibilities of an agency (if governance structure will be changed)
- Retain an accounting professional to evaluate the financial health of each entity and the feasibility of consolidating finances (if applicable)
- If full consolidation or ownership transfer is not the selected path, consider developing a shared services agreement (contractual assistance) for professional services (legal, engineering, accounting)

- Include funding and possibly consultant support for the feasibility study process to conduct public education and outreach
    - Public education is critical, particularly for the local government officials who are involved in key decisions in relation to the restructuring of existing water systems. Public outreach is also critical to the general public. The general public needs to acquire full understanding of the steps, potential associated costs, impacts and benefits. Open discussions on issues that will impact and change the lifestyle of community residents is a key element in the successful completion of a regional project.
- Consider the impact to consumers (cost per connection) and communicate and engage with them during the decision-making process
- Consider the impact to water system (revenues versus expenses)
- Confirm that the solution will satisfy regulatory requirements

12.2.3 Regulatory Agencies

Regulatory agencies at various levels can and do provide resources, funding opportunities, and policies that encourage development of solutions and assist communities toward the goal of achieving safe, reliable, and affordable water supply and wastewater treatment and disposal. The recommendations provided in this section are items that could be considered by the various agencies to help disadvantaged communities through existing barrier to safe and reliable water, as well as to help minimize the presence of barriers to providing such service.

Local (County Level) Agencies

Some considerations that local counties could evaluate include the following:

- Create a single local point of contact for local service providers and private well owners to obtain information and access resources to provide guidance related to water and wastewater challenges.
- Consider providing regular Special District Board training opportunities, including leadership and ethics training.
- Consider establishing local DAC coordinator(s) for the Tulare Lake Basin to support DAC outreach, help link communities to funding sources, and help integrate DACs into planning processes, including IRWMPs.
- Identify areas where new growth should be directed based on the existence of public water and sewer governance and infrastructure. Counties shall only zone for residential development where there is safe and reliable water, except in situations where there are viable plans to provide safe and reliable drinking water, and additional growth will create more economy of scale and bring a greater rate payer base that will allow for a system to be sustained.

State Agencies

Considerations that state agencies such as CDPH, DWR, or the SWRCB could evaluate include the following:

- Improve Groundwater Management Planning to address declining water levels and increased water quality contaminant levels, and evaluate ways the two trends may be exacerbating each other.
- Even outside of larger infrastructure project development processes, alternatives such as sharing common resources, forming joint governmental agencies, or other forms of consolidation should be evaluated to determine if O&M costs could be reduced or TMF capacity improved.
- Provide funding opportunities to encourage and promote the development of regional cooperation, partnerships, and consolidation of services, where appropriate.
- Continue the Pre-Planning and Legal Entity Formation Assistance Program.
- Continue the Consolidation Incentive Program.
- Target existing technical assistance training programs to specific communities who have shown a need and interest, to focus on their needs and provide locally available and specialized training programs.
- Consider ways to expedite the funding process, so that communities applying for funding do not spend several years drinking water that does not meet primary drinking water standards, and/or relying on insufficient water supply.

Federal Agencies

Considerations that federal agencies such as EPA or USDA could evaluate include the following:

- Consider ways to expedite the funding process, so that communities applying for funding do not spend several years drinking water that does not meet primary drinking water standards, and/or relying on insufficient water supply.

12.2.4 Legislature

It is recommended that the State Legislature consider the following:

- Support the evaluation and development of a regional entity or entities to provide regional operations, management, or other services in regions that are interested in exploring such services.
- Require and actively support investment in bringing existing systems into compliance and developing long-term sustainable and affordable solutions before allowing growth and as part of permitting growth in communities where the existing water system cannot accommodate growth due to inadequate drinking or wastewater infrastructure.

12.2.5 Other

Some other considerations that counties, Integrated Regional Water Management Authorities, DWR, or other entities such as non-profit organizations or community college districts may want to consider implementing as appropriate include:

- Continue to convene a DAC focused stakeholder group for the Tulare Lake Basin, and expand outreach and engagement to further enhance DAC, County, IRWM, and other local stakeholder engagement and participation.
- Consider developing operator training programs at local community colleges to address the lack of licensed water and wastewater operators.
- Establish local DAC coordinator(s) for the Tulare Lake Basin to support DAC outreach, collect updated information on DAC water and wastewater needs, help link communities to funding sources and technical assistance resources, and help integrate DACs into planning processes, including IRWMPs.
- Continue to provide, expand, and better publicize technical assistance training on developing rate studies and establishing rate policies, which should also include guidance on conducting a Prop 218 hearing

12.3 Plan Recommendations

Tulare County and the project team were tasked with preparing a plan to address the drinking water and wastewater needs of rural, disadvantaged communities in the Tulare Lake Basin Study Area. Through the SOAC process and in consultation with the database developed through this Study, several priority issues were identified as the major challenges faced by rural disadvantaged communities in the Study Area. Four pilot projects were selected which sought out to identify solutions to those priority issues, funding opportunities that are available to implement the recommended solutions, steps to insure long-term sustainability of an implemented solution, and identification of obstacles and barriers to implementation of a recommended solution, and a proposal for how to eliminate those obstacles or barriers. Those recommendations related to funding opportunities, long-term sustainability, and overcoming obstacles and barriers that are in the way of implementing solutions to the priority issues that have been identified, are the basis for the plan to address the drinking water and wastewater needs of DACs in the Study Area. Implementation of the recommendations presented herein will set the stage to resolve the priority issues that are faced by DACs in the Tulare Lake Basin Study Area.

A complete set of recommendations is provided in the Final Report. This section contains those plan recommendations that are specific to this Management and Non-Infrastructure pilot study.

Various state, federal, and local agencies are involved directly in the provision of drinking water and wastewater services, or provide regulatory oversight of drinking water and wastewater systems. This plan describes various recommendations on how

the appropriate agencies at various levels can help the communities in the region address their water and wastewater challenges.

Several recommendations for future action were developed from observations witnessed during the Tulare Lake Basin Disadvantaged Community Water Study efforts, specific comments from participants, and questions discussed during the development of the pilot studies. These recommendations have been developed to carry the objectives of this project forward beyond this Study.

Recommendations are made to various types of entities, including the service provider, local county agencies, IRWMP groups, State agencies, federal agencies, and the legislature. These recommendations are made to address a specific priority issue or set of priority issues that were identified by the SOAC prior to developing the pilot studies. These recommendations are intended to serve as a plan to address the drinking water and wastewater needs of rural, disadvantaged communities in the Tulare Lake Basin. A handout document of the recommendations provided in this section is included in **Appendix J**.

[**Plan Recommendation 13.1.1.C**] Conduct a review of fiscal resources annually and determine the necessary levels of reserves for replacement and maintenance of all infrastructure. Determine an appropriate time frame and funding plan to achieve the necessary levels of reserves.

- *Who: Water or wastewater system owner*
- *Why: The owner of the water or wastewater system has the responsibility to operate and maintain the facilities. Operation and maintenance responsibilities include payment for power, chemicals, labor, insurance, communications, maintenance equipment, regular maintenance of the facilities, response to failures or damage of the facilities, and replacement of facilities that have reached the end of their respective useful life. Reserves are necessary to be able to respond to catastrophic failures or emergencies (i.e. failure of a well pump). If the fiscal resources are not sufficient to satisfy the basic demands of sustaining the facilities, adjustments to the monthly rates are necessary.*
- *How: Public water and sewer systems are subject to annual audits of fiscal resources and procedures. In addition, the owners of water and sewer systems should define an operations budget for all required expenditures and necessary savings for replacement/repair of infrastructure. Private water and sewer systems should also define an operations budget for all required expenditures.*
- *When: Review and adjustments to fiscal resources should be an on-going activity. However, the owner of the facilities should define a budget annually. Typical fiscal year cycles for public systems begin on July 1 of each year. The activity of preparing the budget for the next fiscal year would typically include a review of the fiscal performance of the previous year so that appropriate adjustments may be included in the upcoming budget.*

- *Funding: Review of fiscal resources and performance of the water or sewer system is funded through the operations funds of the owner of the facilities.*

[**Plan Recommendation 13.1.2.A**] Attend training programs and encourage or require staff and board members to attend training programs.

- *Who: Water or wastewater system owner*
- *Why: Training is appropriate for everyone involved in the management of a water or wastewater system, regardless of size. Especially in small or isolated communities, boards and staff may get stuck in ruts or patterns of management that persist over many years. Minimal outside intervention and a limited pool of board/staff candidates combine to create an insular environment that may be resistant to change. Training brings in new perspectives and new approaches and can revitalize institutions that lack forward motion.*
- *How: The water or wastewater system owner or manager should convey the importance of attending trainings and what it can mean for the community.*
    - *Attend trainings provided by Rural Community Assistance Corporation (RCAC) in coordination with CDPH. RCAC provides free statewide training throughout the year at locations around California under a contract with CDPH. Local CDPH District Offices can request specific training topics be offered in their area, if information is available indicating an interest in that topic. CDPH encourages local water providers and assistance organizations to review the RCAC training topics and provide input to the local CDPH District Office on desired local training. The RCAC training program can be viewed at http://www.rcac.org/event/1114.*
    - *Operator training – Participate in existing local entities such as California Water Environment Association (CWEA) and California Rural Water Association (CRWA).*
    - *Board and leadership training – Participate in board training opportunities such as leadership training and ethics training. CDPH in coordination with Rural Community Assistance Corporation (RCAC) and Self-Help Enterprises (SHE) will be providing targeted board training for several communities in the Study Area; there is potential for this program to be expanded and continued to other communities.*
    - *Network with other communities, share resources and information, and provide informal training to one another.*
    - *Utilize web portals from state agencies and counties, as well as funding fairs, to access information on training programs, funding opportunities, and other available resources.*
- *When: Managers, board members, and operators should attend appropriate training programs annually, at minimum.*

- *Funding: The source of funding is the water or sewer fund of the local service provider. Technical assistance funding from CDPH or through the State Water Board may be available to supplement these costs in some cases (i.e. operator certification reimbursement programs) or bring specific trainings to local areas.*

[**Plan Recommendation 13.1.2.B**] Create a single local point of contact for local service providers and private well owners to obtain information and access resources to provide guidance related to water and wastewater challenges.

- *Who: Counties and/or district offices of CDPH/SWRCB could develop a single point of contact. Local service providers and private well and septic system owners can utilize existing resources at the county and State levels.*
- *Why: Currently, it is difficult for individuals and small DACs to navigate existing requirements, resources, and opportunities. A single point of contact would allow communities or private well owners to obtain information and access resources to provide guidance related to water and wastewater challenges more efficiently. Additionally, a single point of contact could help coordinate more effective access for other public, private and non-profit agencies (such as LAFCo, private water companies or contractors, and assistance providers) trying to provide support to address these issues. Some counties, and the CDPH, SWRCB, RWQCB, and other agency websites provide forms of an information clearinghouse that are good resources for information on many water and wastewater related programs, requirements, and resources. A point of contact at the local level would help water and wastewater service providers or private well owners navigate and identify existing resources to get information related to their system issues.*
- *How: Designating a staff person as the primary single point of contact in each local county or each district office of CDPH/SWRCB would enable local water and wastewater providers or private well owners to identify appropriate websites, resources, and other information from the County Environmental Health, CDPH Drinking Water Program, SWRCB, RWQCB, or other websites to access information, answer questions, obtain necessary forms, learn about training and funding opportunities, and stay aware of new regulations. The point of contact could also have recommendations on more specific contact persons on any particular topic or program that could help provide more detailed information and assistance.*
- *When: Ongoing.*
- *Funding: Creation of a single point of contact would likely need to be included in county or state agency staff/operating budgets. Some funding may be able to be targeted to support this through capacity building or technical assistance set asides of the SRFs. Funding for this resource could also be developed through permit fees for local water systems, domestic well owners, septic owners, and wastewater systems as part of the support services for administration of the drinking water and/or wastewater regulatory permitting programs.*

[**Plan Recommendation 13.1.2.C**] Consider providing regular Special District Board training opportunities, including leadership and ethics training. General legal topics may be covered, but the local service provider should seek specific legal advice from its own legal counsel.

- *Who: Counties*
- *Why: Boards, in particular, may develop habits over time that may or may not be compatible with special district law. Periodic training on ethics and legal issues, as well as a place to go to ask basic questions, can help boards avoid inadvertent missteps. However, special district law can be complex and difficult for communities to comprehend, and therefore specific legal advice should be provided by an attorney hired by the water or wastewater system provider.*
- *How: Holding periodic trainings in the physical context of government buildings can remind participants of the larger system in which they function as local government representatives. Tulare County has sponsored a series of ongoing "Government 101" trainings that have been successful. They are held on a weekday evening at the County administrative building, and dinner is provided.*
- *When: Trainings should be held one to two times per year. Weekday evenings may work best.*
- *Funding: Local water or wastewater service providers, and counties.*

[**Plan Recommendation 13.1.2.E**] Target existing technical assistance training programs to specific communities who have shown a need and interest, to focus on their needs and provide locally available and specialized training programs.

- *Who: CDPH and technical assistance providers (RCAC, SHE, etc.)*
- *Why: Local, targeted trainings are more effective because they are more accessible to rural communities, and can be tailored to meet the unique needs identified by water and wastewater system representatives. There is an additional benefit to bringing local water and wastewater system representatives together so they can network and learn from each other.*
- *How: CDPH in coordination with Rural Community Assistance Corporation (RCAC) and Self-Help Enterprises (SHE) will be providing targeted board training for several communities in the Study Area. This initial effort can inform how a program can be expanded, improved and continued to other targeted groups of communities. CDPH staff and technical assistance providers should work together to identify target communities. A local venue would be identified and invitations extended to water system representatives, including board, staff and operators.*

- *When: Quarterly or biannually, in different locations. Follow-up trainings could be scheduled as needed, depending on response.*
- *Funding: CDPH/SWRCB technical assistance funding through the SRF set aside, or current or future bond funding.*

[**Plan Recommendation 13.1.3.A**] Even outside of larger infrastructure project development processes, alternatives such as sharing common resources, forming joint governmental agencies, or other forms of consolidation should be evaluated to determine if O&M costs could be reduced or TMF capacity improved.

- *Who: Local water and wastewater providers and entities developing applications for improvements to disadvantaged community water and wastewater systems should examine these alternatives. Also, state and federal funding agencies should support examination of these alternatives within the scope of work of public funding agreements.*
- *Why: For some areas, a sustainable and affordable solution could be made possible through some form of regional or shared solution that would allow communities to share ownership and operation of water infrastructure as well as create a sizable enough funding base of rate payers to have a sufficient economy of scale for operations and maintenance. Local agencies should examine the full range of alternatives and evaluate how costs may be able to be reduced through shared solutions in order to address immediate and long-term operations and maintenance funding and TMF capacity challenges.*
- *How: Water and wastewater providers should ask local district engineers to examine these alternatives, and should seek out contractors and engineers that have experience with this kind of analysis and have proven experience in successfully developing these kinds of solutions.*

  A third party entity, such as a county, non-profit or other group could also develop an analysis of alternatives with a number of communities jointly. However, in all cases analysis should be transparent and community-driven, allowing the community to understand and provide input into the pros and cons and real O&M costs of alternatives.
- *When: It is easiest to do this as part of funding applications for feasibility studies when solutions are being developed because there are funding sources available to cover the costs of providing these types of analysis. However, similar analysis should be discussed with local district engineers outside of larger capital project development as well.*
- *Funding: The primary source of funding is the water or sewer fund of the local service provider. The source of revenues is the water or sewer charge for service. Sources of external funding for this may include the new pre-planning entity formation set aside as part of the SDWSRF. However, all feasibility study planning funding from the state or federal funding sources should include this*

kind of analysis. In addition, IRWM funding could support this, as well as sustainable community planning funding grants.

[**Plan Recommendation 13.1.3.B**] Establish local DAC coordinator(s) for the Tulare Lake Basin to support DAC outreach, collect updated information on DAC water and wastewater needs, help link communities to funding sources and technical assistance resources, and help integrate DACs into planning processes, including IRWMPs. Specific responsibilities could include some or all of the following:

- Provide outreach, communication, and capacity development with local disadvantaged communities in unincorporated areas.
- Collect updated information on DAC water and wastewater needs and collect new information to close data gaps (i.e., TMF capacity needs, source of water where unknown in database, water supply needs, etc.).
- Provide technical assistance to DAC water and wastewater entities who are trying to integrate their needs within IRWM and other local and regional planning efforts.
- Work with individual DACs to determine appropriate funding programs.
- Provide information to DACs on available training and technical assistance providers and resources, including fundraising, grant writing, fiscal management, and project management assistance.
- Link local DACs to experts (including NGOs and private contractors) that can effectively facilitate and support locally-developed, voluntary consolidation or other forms of shared solutions and regional planning efforts by providing expertise for studies or analysis, stakeholder facilitation, as well as legal and LAFCo process assistance, with the goal of advancing the most sustainable and affordable solutions.

- *Who: Existing local non-profits organizations or technical assistance providers could provide DAC coordination and outreach activities. State agencies, local counties, and IRWMs could also provide support for this position.*
- *Why: In order to effectively and efficiently plan and implement water and wastewater solutions in the Tulare Lake Basin, where there are a large number of disadvantaged communities in unincorporated areas without safe drinking water and wastewater services, targeted assistance is needed to support coordination of DACs. Without this kind of coordination, disadvantaged communities in unincorporated areas will likely remain isolated, disjointed, and often unorganized without structural capacity and an ability to implement cost effective drinking water and wastewater solutions and effectively participate in planning or regional project development processes.*
- *How: Given the hundreds of DACs in the TLB, ideally coordinators could be funded for each county and/or for each watershed within the TLB. Efforts to*

coordinate DACs locally could be organized through local DAC associations or tasks forces, although a DAC coordinator would likely be (at least initially) housed within an existing local non-profit organization. State and federal funding agencies could consider setting aside specific funding for local DAC coordinators as part of state funding program outreach and technical assistance budgets. It is noted that this would be a voluntary program for those communities interested in utilizing the services of a DAC coordinator for the potential services described above.

Counties, local IRWMs and local non-profit organizations should also consider ways to provide these services or support these efforts. Local counties and IRWM groups could support this through official recognition of DAC coordinators within planning and project development processes, providing DAC update items within relevant meeting agendas, and deliberate coordination with staff and decision-making bodies with explicit intent to integrate DAC issues and support effective DAC outreach and engagement.

- *When: Ongoing.*
- *Funding: State funding could be targeted through existing technical assistance set-asides, such as the SRF, through existing funding program outreach and assistance budgets, or through new bonds or funding sources. For DACs directly represented by a coordinator, the local water or wastewater provider could provide funding to support this position. Additionally, non-profit organizations could seek private sources of funding to support these activities, at least to get processes started.*

[**Plan Recommendation 13.1.3.C**] Support the evaluation and development of a regional entity or entities to provide regional operations, management, or other services in regions that are interested in exploring such services. Efforts should begin with a small region or group of interested communities to show interest and success before considering scaling-up to any type of larger regional entity. Regional DAC operations or management services may include some or all of the following: 1) provide the organization, structure, and capacity needed to support development and funding of sustainable and affordable shared solutions, particularly for communities not currently served by centralized water and wastewater providers, 2) provide direct management and operations of existing DAC water systems when needed or requested, and 3) directly represent participating DACs in IRWM groups or other forums, when appropriate.

- *Who: Counties, non-profit organizations, or other regional entity (including one or more special districts). If a special district structure is used, LAFCos would need to support consolidation or creation of the new regional special district serving areas that may or may not be physically connected. This may also necessitate legislative action.*

- *Why: Many disadvantage communities lack sufficient organization, capacity, and representation structure required to develop, implement and maintain drinking water and wastewater systems. This is particularly true of DACs without an existing centralized public water system or wastewater system, as well as systems that go into receivership, or are just not sustainable due to inadequate technical, managerial, and financial capabilities. Some DACs within smaller regions of a county have started to consider options to create different forms of unified regional entities to provide water and/or wastewater services (e.g. Northern Tulare County, Alpaugh-Allensworth area, and communities in western Fresno County). While counties and other existing water and wastewater agencies are able to support some of these functions on a case by case basis, counties and existing providers are often reluctant to take on additional responsibilities for troubled DAC systems. There is a need and interest in some areas for an entity or entities that can have the focused capacity to regionally or jointly operate systems when needed (e.g., receivership) and/or requested. Additionally, where regional entities are established, they can directly represent those DACs within local IRWMs and facilitate enabling more in-depth integration of DAC needs and projects within planning efforts and regional project development.*

- *How: It is most feasible to begin with a smaller group of DACs voluntarily working together to establish a regional operating entity that can perform some of these functions to test such a model, show success, and build the framework and trust in such an entity. Additionally, rather than taking on all planning, project development, operation and representation functions at once, an entity could start by taking on one or two of these functions, such as operating existing entities as a receiver or taking on operations of zones of benefits from a county that no longer wants to directly provide that role. Areas to begin initial efforts, where DACs have already expressed interest in exploring a regional operation model, include the South Tulare County forum or the Northern Tulare County regional water system study efforts.*

  Such an entity or organization could be housed in an existing agency or local government or non-profit organization, or be a new independent entity. LAFCos must be involved in development of these concepts and should support consideration for allowing regional entities that may or may not by geographically contiguous or physically connected.

- *When: Some regions are already pursuing these models and further development should be supported following the completion of this Study.*

- *Funding: The funding to start up a new entity to provide regional operations services may take some support by state funding sources. However, the funding to maintain this type of entity and fund the operations and maintenance of the entity beyond a start-up phase would need to rely entirely on funding from local rate payers and other revenues generated by the local provider. Therefore, it is*

important that any start up phase include developing the ability to collect fees and a sufficient economy of scale to fully sustain these services.

State funding sources to support piloting small regional entities could include the Clean Up and Abatement Account, SRF Pre-Planning and Legal Entity, and IRWM funding. Future bonds or budget allocations may be able to provide funding for these activities. Additionally, pilot project funding could be pursued from private foundation sources, USEPA, or USDA for purposes tailored to meet the criteria of those funding sources. In other parts of the country, local governments, states and the federal government have funded part or all of start-up and implementation of regional water entities.

[**Plan Recommendation 13.2.3.B**] Continue to provide, expand, and better publicize technical assistance training on developing rate studies and establishing rate policies, which should also include guidance on conducting a Prop 218 hearing. This type of assistance is currently available for disadvantaged communities from CDPH technical assistance providers.

- *Who: CDPH, Technical Assistance providers*
- *Why: The Prop 218 process in California is complicated and nuanced. Many legal questions remain unanswered, even after almost twenty years. Many questions arise during a Prop 218 process, and can therefore become very expensive due to extensive legal consultation. The more training that Boards and staff receive before embarking on a Prop 218 rate change, the more adept they will be at navigating the process and avoiding pitfalls. The availability of CDPH or other technical service providers for assistance during the process would be very useful to many small districts who do not retain regular counsel, however this does not dismiss the need for legal counsel. The local entity should hire an attorney for specific guidance through this process.*
- *How: Holding periodic trainings in the physical context of government buildings can remind participants of the larger system in which they function as local government representatives. On the other hand, it might be most impactful to hold a training related to developing a rate study and conducting a Prop 218 hearing in particular communities, scheduled to precede a planned rate change.*
- *When: Trainings should be held one to two times per year. Weekday evenings may work best.*
- *Funding: Local funding, state agencies, or technical assistance funds already available could be used for this purpose.*

[**Plan Recommendation 13.3.2.A**] Provide funding opportunities to encourage the development of regional cooperation, partnerships, and consolidation of services, where appropriate.

- *Who: State agencies*
- *Why: To encourage swifter implementation of appropriate shared or regional solutions, both "carrot" and "stick" approaches should be used in collaboration as appropriate towards that goal. Many local entities are otherwise uninterested and unwilling to even consider sharing services with neighboring systems and need further motivation.*
- *How: State agencies should not issue permits to new water or wastewater systems within a municipality or within ½ mile radius of an existing entity providing water or sewer service without showing of a good faith attempt to obtain service from an existing provider and help bring them into compliance, if needed. For existing public water systems that are struggling to meet compliance or have a history of non-compliance, regulatory agencies should promote or enforce action towards consolidation or shared solutions, as appropriate.*
- *When: These requirements should be used as part of the permit application approval process, funding application review process, and MCL enforcement and annual system inspection process.*
- *Funding: State agencies would not need extra funding to utilize this oversight power. However, state funding sources should be made available to support development and implementation of these solutions in conjunction with any enforcement or regulatory action, as appropriate.*

[**Plan Recommendation 13.4.1.B**] Continue the Pre-Planning and Legal Entity Formation Assistance Program. Consider creation of similar programs for wastewater for areas currently on septic.

- *Who: State Drinking Water SRF and the State Water Board.*
- *Why: There is a need for more flexible pre-planning funding to enable evaluation of appropriate governance alternatives to develop shared and regional solutions and to support solutions for areas not currently served by a public water system. The first round of applications for this indicated there was a large demand and unmet need, and additional rounds should be extended. This will both enable California to use its SRF effectively, and help communities most in need of developing solutions be able to do the analysis it needs to develop the best solution, and address eligibility barriers by developing appropriate entities for construction and full project implementation. Historically the evaluation and development of regional solutions has not been able to score high or pass through eligibility barriers and this funding pot was created specifically to help address those challenges and allow these sorts of projects to be developed when they address disadvantaged community safe drinking water needs.*

  Similarly, creation of a similar program should be evaluated for areas on septic or with unaffordable wastewater services to evaluate development of shared or regional wastewater solutions.

- *How: Implement this through the Intended Use Plans of the SRF programs.*
- *When: The IUPs are developed annually. Additionally, applications should be accepted throughout the year.*
- *Funding: This is primarily aimed at utilizing funding through the SRF programs.*

[**Plan Recommendation 13.4.1.C**] Continue the Consolidation Incentive Program, however, modify the system so that large systems do not obtain benefits that are significantly out of proportion to the benefits provided by consolidation. Also consider expanding the consolidation incentive program and make it available to larger systems seeking to assist communities of private well owners impacted by the drought and/or facing water quality challenges.

- *Who: CDPH*
- *Why: There does not appear to be any limitation on the benefits received by the entity willing to allow the consolidation of a smaller system. If the larger entity (Incentive System) can receive funding assistance drastically beyond the scale of the cost of improvements to receive a consolidation then the use of public funds consistent with the Priority Categories may be in question.*
- *How: Consider placing a limit on the allowed value of Incentive System projects that may be re-ranked to a higher Priority Category by virtue of a consolidation project. Also, consider allowing extension of services to those on State Small Systems and private wells that are contaminated or going dry, to be considered eligible for appropriate consolidation incentives.*
- *When: Now.*
- *Funding: Unknown.*

[**Plan Recommendation 13.4.1.D**] Consider ways to expedite the funding process, so that communities applying for funding do not spend several years drinking water that does not meet primary drinking water standards, and/or relying on insufficient water supply.

- *Who: All funding agencies (CDPH, US EPA, SWRCB, USDA, DWR)*
- *Why: Currently, communities cannot apply for funding until an actual water quality violation is documented. Often, though, it is apparent that a problem is emerging as contaminant levels slowly climb. Allowing systems to apply for funding based on documented contamination levels that are projected to exceed an MCL in the coming two to five years, for example, would give communities a big head start on fixing problems. This could significantly reduce the time that people spend drinking unsafe water.*

Another consideration would be to streamline the funding process so that it does not take five plus years from the time of initial application to implementation of a project.

- *How: Consider amending funding regulations and intended use plans to allow application by water systems that can demonstrate a documented increase in a regulated contaminant that is projected to exceed the MCL in two to five years.*

  Also, consider methods to speed up the funding process, including amending planning contracts by adding design and construction phases.

- *When: This is a change to regulations that could be made immediately. It is anticipated that the Drinking Water Program transition from CDPH to SWRCB may help the Drinking Water Program funding process.*
- *Funding: The Safe Drinking Water State Revolving Fund would be the most obvious, and possibly this change could be implemented through a change to the Intended Use Plan. DWR IRWMP funding could also be a good source for funding to avert future problems. In both cases, planning funding could be expanded to allow for studies that monitor, assess and project contamination that could exceed a health standard.*

[**Plan Recommendation 13.4.2.A**] Local service providers should attend existing grant application workshops, including CFCC Funding Fairs, and participate in other training opportunities provided through CDPH, CWEA, CRWA, RCAC, and other resources.

- *Who: The water or wastewater system owner.*
- *Why: Preparing funding applications is complex and challenging, and can often be expensive due to printing costs, the need for studies, and the time invested. Developing a better understanding of the application process, and learning about resources available to help, will help communities through this process.*
- *How: Visit the CFCC Funding Fairs website for more information on funding fairs. http://www.cfcc.ca.gov/funding_fairs.htm*
- *When: Annually.*
- *Funding: The CFCC funding fairs are no cost. Other training opportunities should be paid for through the water or wastewater system user fees.*

[**Plan Recommendation 13.4.2.B**] Participate in Integrated Regional Water Management Planning group meetings and consider becoming an “Interested Party” or “Member” of an IRWMP group.

- *Who: Water or wastewater system owner or manager*
- *Why: Participation in local IRWM groups allow systems to understand the regional water management efforts being developed, inform those efforts with the*

needs of their local community, and develop joint projects to improve water quality, water supply, storm water management and flood control in each sub-basin. Disadvantaged community impacts and needs may not be adequately addressed in local management plans or understood by water management and other local agencies if local disadvantaged communities do not participate. Additionally, disadvantaged communities need to participate in order to ensure specific projects are developed and funded that address their critical needs.

- *How: Each IRWM group has its own unique governance structure and meeting process. Community representatives should contact the group in their region to get on the email list and ask how to become members or interested parties of the group. In general, becoming a member allows you to vote on decisions made by the group. Membership may be limited to public agencies in some cases. In some cases, fees are required, although DWR states that IRWM groups cannot require payment for local stakeholders to participate. Becoming an interested party may be a good way of getting started. That formal status means that an entity has adopted and is supportive of the regional plan and its goals and objectives, and means it is a formal part of the planning group and generally invited to be part of any Advisory Board or stakeholder group meetings. Some IRWM groups only allow for formal submittal of projects by members, so interested parties can only propose projects that are formally sponsored by members.*
- *When: Entities can join IRWM groups at any time. Contact the appropriate IRWM group to find out when the next meeting is and what the process is for becoming part of the group. It is best to join soon so that communities are able to be part of the process by the time the next funding and planning update takes place.*
- *Funding: Each IRWM has different membership fee requirements, although all have an option for some form of formal participation that is free for disadvantaged communities. Communities should ask for technical assistance to support their ability to effectively participate in planning and project development from local IRWM groups, the Department of Water Resources (DWR), and local technical assistance providers. IRWM groups can include projects in regional applications that fund planning and project development and construction for disadvantaged communities. Under DWR's current funding guidelines for funding available to IRWMs, projects that advance critical needs in disadvantaged communities qualify for extra points and are not required to meet the same funding match and project readiness requirements as other projects. Additionally, DWR has set a goal for at least 10% of DWR's IRWM funding to fund disadvantaged community projects so local IRWMs may include DAC projects in regional applications to increase the competiveness of funding applications.*

[**Plan Recommendation 13.4.2.C**] IRWM groups should consider organizing pre-application and grant application workshops or training opportunities for DACs that are

"Interested Parties" or "Members" of the IRWM group, as well as prepare and distribute outreach and educational materials to those DACs as funding from DWR is made available.

- *Who: IRWM groups*
- *Why: Local IRWM groups benefit from engagement of DACs within IRWMs and development of DAC projects as part of integrated regional water management planning and project development applications. 10% of IRWM funding is aimed to be used for DAC projects. Additionally, IRWM applications receive additional points in scoring and cost waivers if projects to address critical water needs in DACs are included.*

  Additionally, IRWM plans were created to address priority water needs in the region, which include disadvantaged community needs, particularly in the Tulare Lake Basin. If these plans and the projects to implement the plans are not addressing disadvantaged community needs, they are not accomplishing their goals and not adequately accomplishing the mission of IRWMs and the funding source. Because of that, each region should proactively encourage and facilitate effective inclusion of DAC needs and projects within IRWM planning and project application processes.

  Local IRWMs in the region have already taken many steps to do this, and this recommendation is to continue as well as expand these efforts to do more formal, extensive and timely outreach, training, workshops and technical assistance with each funding round.
- *How: IRWM groups can organize formal and timely workshops and trainings specifically aimed at providing information and answering questions and supporting integration of DAC needs and projects for each round of DWR funding and plan updates. It would be most useful to invite the local DWR IRWM representative to also be present for these meetings in order to be able to answer any questions that may arise. Outreach and facilitation of these meetings would be done more effectively in partnership with local community-based nonprofits and technical assistance providers. The database of DACs and outreach contact lists developed for this TLB DAC Study should be integrated into each IRWM group's database and used for planning, communication and outreach efforts.*
- *When: This should be conducted enough in advance to allow for preparation and submission of projects within the IRWM application timeline, as well as any regular plan updates.*
- *Funding: The costs of hosting meetings and outreach could be funded as part of administrative staff costs of IRWM groups, and could also be included in any applications for planning and technical assistance grants through State agencies.*

[**Plan Recommendation 13.6.1.A**] County planning departments should require any new development near an existing system (within 3-5 miles) to consider connecting to the existing system, rather than permit the creation of a new system, whenever possible.

- *Who: County Planning Departments, LAFCos, and State Agencies*
- *Why: Permitting development of a new water system where there is the potential to connect to an existing neighboring system perpetuates the priority issues that this Study and the recommendations herein aim to resolve. It is creating a new small system that will likely struggle to maintain sufficient TMF capacity, primarily due to lack of economy of scale, and where there are water quality issues known, this creates another system for which water quality issues will need to be resolved. On the other hand, if the new development connects with an existing system, it can help to bring that system into compliance rather than constructing a new system, it can provide improved economy of scale and additional rate payer base, it may allow access to additional resources, and it will allow for increase reliability for the system.*
- *How: Address policy issues and permitting requirements for new systems to more actively require new development to connect with existing water and wastewater systems where feasible. County Planning Departments may not necessarily have the legal authority to require the existing system to make the connection. However, they can and should recommend that the property to be developed be annexed. LAFCos should also consider this within the LAFCo approval processes.*
- *When: Any time new development is proposed.*
- *Funding: County, CDPH, SWRCB*

[**Plan Recommendation 13.6.2.A**] All counties shall identify areas where new growth should be directed based on the existence of public water and sewer governance and infrastructure. Counties shall only zone for residential development where there is safe and reliable water, except in situations where there are viable plans to provide safe and reliable drinking water, and additional growth will create more economy of scale and bring a greater rate payer base that will allow for a solution to be sustained.

*Note: this recommendation is **not** intended to limit the ability to create infrastructure in existing communities that currently rely on private wells or septic systems; rather, this recommendation is intended to limit growth in areas that do not have sufficient governance and infrastructure to accommodate such growth.*

- *Who: County Planning Department and LAFCos*
- *Why: The proliferation of small water systems that lack economy of scale and proper technical, managerial, and financial capacity is a large part of the problem faced by communities in the Study Area. By encouraging growth around existing*

public water and sewer systems and discouraging growth in other areas, this problem can be minimized in the future. However, it is important to confirm the capacity of the existing systems prior to zoning for residential development that would rely on those systems. Implying the potential for growth in areas that do not have proven safe and reliable water supply sources is not exercising due diligence in land use planning.

- *How: Planning documents should account for existing infrastructure and governance structures that are available when zoning for residential land use. When growth is encouraged near (within 3-5 miles) existing public systems through planning documents, those systems potentially impacted should be notified. Counties should require proof of the existence or reasonable capability to provide safe and reliable water supply to an area prior to defining land uses or zoning for potential land uses in areas within the county. LAFCos should also consider this within LAFCo approval processes. Where this would require re-zoning of areas, legal counsel should be consulted to make sure property rights of owners are not infringed upon.*
- *When: Now and any time planning documents are reviewed and updated.*
- *Funding: County Planning Department.*

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11. US Department of Commerce, United States Census, American Fact Finder, http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml
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15. Tulare County LAFCo
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APPENDICES