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Californians Without Safe Water and Sanitation Update 2013

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1. Executive Summary

PLACEHOLDER – To be developed later

2. Introduction

The “Californian’s Without Safe Water and Sanitation” report was first completed in 2005 by the Department of Water Resources (DWR), and this is the first update since the report was initially completed. This report is intended to serve as a technical reference for the CWP, Update 2013. It was prepared using a number of recently completed reports and plans, and helps to integrate the findings and recommendations from these documents to provide a statewide and regional perspective. In addition, the report is consistent with Assembly Bill No. 685 (AB 685) that Governor signed in 2012, which established state policy that every person has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes (California Water Code section 106.3).

While most Californians already enjoy access to clean, safe water, some residents especially those in small communities do not always have access to clean, safe water due to pollution, changes in drinking water standards or inadequate septic systems. Therefore, this report focuses on statewide drinking water and sanitation challenges faced by many small communities and includes an action plan to help achieve safe drinking water and sanitation. Throughout the report, there is an emphasis on small disadvantaged communities (DACs) and on tribal communities, since these communities often lack the economies of scale to build, operate, and maintain adequate drinking water and wastewater systems due to their small rate base. Also many small DACs and tribal communities are typically located in rural, sparsely-populated areas that require greater pipeline and pumping infrastructure, which increases the cost to construct such facilities. Small and especially small rural communities generally face higher per capita capital and operations and maintenance (O&M) costs, which results in higher, sometimes prohibitive drinking water and sewer rates.

In this report, a small community drinking water system is defined as a community water system that serves a population of less than 3,300 (or less than 1,000 service connections) which is consistent with the California Department of Public Health (CDPH) Small Water System Program Plan. A small community wastewater system is defined as a community with a population of less than 20,000 (based on reported daily flow and an assumed average flow of 100 gallons per capita per day) that is served by a centralized wastewater treatment facility as described in the State Water Resources Control Board (SWRCB) Small Community Wastewater Strategy.

Disadvantaged Community Definition

The California Health and Safety Code sections 116275 and 116760.20 and Public Resources Code section 75005(g) define what is considered a DAC and a severely DAC. A DAC is considered to be a community in which the median household income (MHI) is less than 80 percent of the statewide MHI. A severely DAC is considered to be a community in which the MHI is less than 60 percent of the statewide MHI. For 2011, the US Census Bureau's American Community Survey estimated the Statewide MHI to be \$57,287. Therefore, a community is considered disadvantaged if their 2011 MHI incomes was less than \$45,830, or considered severely disadvantaged if their MHI incomes was less than \$34,372.

State agencies, such as DWR, SWRCB, and CDPH all administer funding programs for water and wastewater capital improvement projects and use these definitions to evaluate if a community is

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considered disadvantaged. However amongst these agencies, the information on a community's household income can vary for different reasons such as the year the MHI was determined or using MHI information from US Census Block Group versus MHI information from an income survey.

The DWR Integrated Regional Water Management (IRWM) grant program recently released a DAC Mapping Tool to identify DACs statewide. The maps and GIS files are derived from the US Census Bureau's American Community Survey and are compiled for the 5-year period 2006-2010. The mapping tool is available at the following link: <http://www.water.ca.gov/irwm/grants/resourceslinks.cfm>

PLACEHOLDER Box XX-X Possible Side Box

[Possibly include a side box comparing “Median Household Income” to “Median Family Income”]

3. The Need

A number of small communities are unable to provide safe, clean, affordable, and accessible water with most of these small communities relying on groundwater as their primary drinking water source which is usually deemed safe for consumption without treatment if the groundwater well was properly sited and constructed. However, the spread of groundwater pollution and increasingly health protective maximum contaminant levels for naturally occurring groundwater contaminants requires treatment that is unaffordable for many small communities. There are also a number of small communities that rely on failing septic systems or have old and undersized centralized wastewater treatment systems that cannot meet current water quality standards. Such systems can cause significant health and safety problems and endanger surface water and groundwater supplies.

In addition, many small communities lack the resources and in-house expertise necessary to apply for government funding that would help make drinking water and wastewater projects more feasible. Even if communities are able to secure financial assistance, they often do not have access to technical expertise to determine the best project alternative or to appropriately plan for long-term funding of O&M needs.

Small Communities without Safe Drinking Water

There are estimated 2,267 small community water systems in the state that supply drinking water to approximately 926,000 people, see **Table 1**. These small systems serve between 25 and 3,300 people and are regulated either by the state or by a local county who has been delegated as the local primacy agency. Currently, 168 of these systems serving nearly 55,000 people violate one or more health-based primary drinking water standard. In effort to focus attention on these small systems, CDPH has developed a “Small Water System Program Plan” with a goal of increasing the compliance rate amongst these systems. Details on the “Small Water System Program Plan” are available at the following website: <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Smallwatersystems.aspx>

PLACEHOLDER Table 1: Number of Small Water Systems by Hydrologic Region

PLACEHOLDER Table 2: Small Water Systems that Violate a Primary Drinking Water Standard by Hydrologic Region

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In addition to the small water systems noted above, there are an estimated 2 million Californians that rely on either a private domestic well or other groundwater-reliant system for their drinking water. The state does not regulate these well owners or require them to test their water quality, so many of these people are unaware of the quality of their drinking water (SWRCB 2013). There is no statewide estimate on the number of people that rely on a groundwater well that does not meet drinking water quality standards.

Small Communities without Adequate Sanitation

According to the SWRCB Small Community Wastewater Strategy from 2008, there is an estimated 1,291 small community wastewater facilities in the state with 653 of these facilities located in disadvantaged communities and/or rural counties. Of the 1,291 facilities, 144 facilities discharge to surface water and are regulated under National Pollutant Discharge Elimination System (NPDES). The remaining 1,147 facilities discharge to land and are regulated under Waste Discharge Requirements (WDRs). The SWRCB has compiled a list of the small community facilities with the most enforcement violations, identifying the top 20 facilities found within each of the nine Regional Water Quality Control Boards (RWQCBs). From this list, RWQCB staff prepared a total of 74 small community case studies, summarizing information about each facility, operating agency, operator staff, type of treatment and discharge, population and number of connections served, monthly sewer fees, and violation history.

In addition to the small centralized wastewater treatment plants, the SWRCB estimates that there are 1.2 million septic systems or onsite wastewater treatment systems in the state with the majority of these systems functioning properly (SWRCB 2012). There is no statewide estimate on the number of failing septic systems or number of small communities that use onsite wastewater treatment systems in lieu of centralized wastewater treatment systems.

Tribal Communities without Safe Water and Sanitation

Tribal communities continue to experience a significant disparity in access to safe drinking water and basic sanitation services. Although progress has been made, the Indian Health Services (IHS) estimates that 7.5% of Indian homes lack safe water and sanitation compared to 1% of the U.S. general population that lacks safe water and sanitation.

The IHS Sanitation Facilities Construction Program reviews requests from tribes regarding their water and sanitation system problems. In 2012, IHS estimated that in California 1,207 Indian homes had no potable water, and 3,660 Indian homes lack safe water and/or an adequate sewage disposal system receiving an IHS deficiency level of 4 and 5. An additional 8,931 Indian homes had an IHS deficiency level of 3 indicating that these homes have an inadequate or partial water supply and sewage disposal facility that does not meet water supply and pollution control standards.

4. Challenges Faced by Small Disadvantaged Communities

Small communities face many challenges to ensure its customers have safe, clean, affordable, and accessible water. Some challenges are common between drinking water and wastewater systems, some are unique to either drinking water or wastewater systems, and others are interconnected where action or inaction by the drinking water or wastewater system may affect the other system.

4.1 Common Challenges

Small communities face common challenges related to both their drinking water and wastewater systems. Many small communities are located in rural areas, struggle to ensure financial capacity of the system, and must overcome challenges with aging infrastructure and more stringent water quality standards in

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order to ensure access to safe water and sanitation. These common challenges are further compounded when a small community is also considered disadvantaged.

Rural Areas

Small communities are commonly located in rural, sparsely-populated areas that require greater pipeline and pumping infrastructure. Contributing to the problem are poor land use planning decisions that formed these communities more than 30 years ago before the development of general plans. In addition, some newer subdivisions and developments are also inappropriately sited without adequate infrastructure or beneficial economics to sustain their water infrastructure.

For example, many rural communities residing in foothill or mountain areas may only have access to drinking water through the drilling of “hard rock” wells. These wells are drilled through rock such as granite, greenstone, or basalt with the intent of intersecting fractures in the rock that contain groundwater. Newly drilled “hard rock” wells may provide a suitable initial supply, but often begin to decline in production due to insufficient recharge rates. Many “hard rock” wells also decline in production from the wet season (Winter and Spring) to the dry season (Summer and Fall) as recharge rates decline. These small water systems may be too far away from a more economical source of safe drinking water or may not have the technical or managerial capacity to seek out a better water source.

Aging Infrastructure and More Stringent Water Quality Standards

Another common challenge faced by both water and wastewater systems is aging infrastructure and changes to regulatory requirements to better protect public health and the environment. Water system infrastructure that was installed 20 to 30 years ago or longer may not be adequate to meet current water quality standards. This aging infrastructure is also more prone to failure that poses risks to public health and the environment.

For drinking water systems, arsenic regulations were enacted that lowered the drinking water maximum contaminant level (MCL) from 50 parts per billion (ppb) to 10 ppb. This meant that many small systems whose groundwater wells had arsenic between 10 – 50 ppb needed to either install an arsenic treatment system that is expensive to operate and maintain or find an alternate water supply. Currently there are an estimated 100 small water systems that do not meet the new arsenic standard. Most of these systems are pursuing government funding to develop and construct a long term affordable solution. A similar situation may occur once a new MCL for Hexavalent Chromium (Chromium-6) is developed, where small water systems that currently meet the Total Chromium MCL do not meet the future Chromium-6 MCL, [see Box XX for additional information.](#)

Ultimately, small communities will need to replace or install new infrastructure to address challenges with aging infrastructure and more protective water quality standards.

PLACEHOLDER Box XX-X Possible Case Study: _____

[Discuss potential impacts of a new Chrome-6 MCL on small community water systems]

Financial Capacity and Affordability

In order to provide safe water and sanitation all communities must at a minimum be able to collect sufficient revenue from its customers to fund daily operation and maintenance activities. These O&M expenses typically include costs for power, replacement parts, operator salaries, treatment chemicals, water quality monitoring, replacement of filter media, and disposal of treatment residuals. Small, and especially small rural, communities generally face higher per capita capital and O&M costs due to the smaller rate payer base, which results in higher, sometimes prohibitive, water and sewer rates. In addition,

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small communities are more likely to qualify as disadvantaged or severely disadvantaged. This combination of higher per capita water and sewer rates combine with low household income means that residents of small disadvantaged communities often pay a more substantial percentage of their income for water and sewer service (Water Boards 2008). In some small communities, systems are forced to only collect enough revenue to fund daily operation and maintenance costs to keep rates affordable. This leaves no readily available funds to cover the cost for emergencies or future infrastructure improvement projects.

PLACEHOLDER Box XX-X Possible Case Study: _____

[Example of typical O&M costs associated with a small system]

Government Funding

Since small communities are often unable to finance infrastructure improvements to ensure their customers have access to safe water and sanitation, government funding programs are available that provide grants and loans to install new or replace existing water and wastewater infrastructure to address a community's problem. However these programs only provide funding for capital improvements and do not provide funding for O&M activities because of the philosophy that successful water projects must be sustained by their communities. Some of the government agencies that provide funding include: SWRCB, CDPH, DWR, US Department of Agriculture (USDA), and US Department of Housing and Urban Development (HUD).

Small communities must address a number of items prior to receiving government funding for construction of their project. These items may include:

- Meeting technical, managerial, and financial (TMF) requirements, such as showing how the small community can afford the additional (new) O&M costs associated with the project.
- Hiring a civil engineer.
- Evaluating and determining the most feasible alternative.
- Overcoming obstacles associated with consolidation and interconnection of drinking water systems
- Overcoming obstacles associated with installing a sewer system for a community that was previously using individual septic systems.
- Addressing Proposition 218 challenges on increasing water rates.
- Hiring an attorney to address all legal issues that may arise, such as ownership, service boundaries, lack of legal entity, lack of adequate water rights, etc.

Since some of these items can take a significant amount of time and small systems are often managed by local volunteers who are well intentioned but lack the time and expertise to address these and other funding related items, government agencies often fund technical assistance providers such as California Rural Water Association (CRWA), Rural Community Assistance Corporation (RCAC), and Self Help Enterprises to assist these small communities. These technical assistance providers are familiar with the various government funding programs and can help address many of the funding related items.

One of the major challenges to obtain government funding is to meet technical, managerial, and financial (TMF) capacity. Satisfying these TMF elements is intended to ensure that small systems have long term sustainability and are able to maintain compliance with all applicable laws and regulations. Project funding may be delayed, when a small system has difficulty to satisfy one or more of TMF elements. At CDPH, the four mandatory TMF elements include ownership documentation, water rights documentation, evaluation of consolidation options, and development of a balanced 5-year budget projection that includes all expenses and revenues (CDPH 2012d).

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PLACEHOLDER Box XX-X Possible Case Study: Small Water System Financial Assessment

[Possibly include a small water system financial assessment to highlight typical O&M costs and additional O&M costs associated with new infrastructure such as a treatment plant that may make the additional O&M costs unaffordable]

4.2 Drinking Water Challenges

In order to for small communities to provide safe drinking water, they must overcome challenges that address groundwater and surface water contaminants, and adequate groundwater and surface water supplies.

Groundwater Contaminants

Many small communities utilize groundwater as a source of drinking water which typically requires no treatment outside of adding chlorine to ensure that the drinking water remains safe within water distribution system. However some small systems are affected by groundwater contaminants that are naturally occurring and/or due to contamination. In order to provide safe water these systems must install expensive treatment systems to remove these contaminants or locate an alternate water supply.

A review of CDPH's "Small Water System Program Plan" found that groundwater contaminants affect an estimated 160 of the 168 small communities that are currently unable to provide safe drinking water. The primary groundwater contaminants are arsenic and nitrate. Statewide, there are an estimated 100 small water systems that exceed the arsenic MCL, and an estimated 55 small water systems that exceed the nitrate MCL. All ten hydrologic regions in the state currently have at least one small water system that exceeds either the arsenic or nitrate drinking water MCL. The majority of the small systems that exceed the arsenic MCL are located in the Tulare Lake Basin, San Joaquin River, South Lahontan, Sacramento River, Central Coast, and North Coast hydrologic regions. The majority of the small systems that exceed the nitrate MCL are located in the Tulare Lake Basin, Central Coast, San Joaquin River, and South Coast hydrologic regions. The source of arsenic in groundwater is primarily due to naturally occurring sources, while the source of nitrate in groundwater is primarily due to anthropogenic or human caused sources of contamination.

Rural communities with shallow wells are at higher risk for nitrate contamination of drinking water because of the application of agricultural fertilizers and manure to nearby farmland and the local use of septic systems. Shallow wells are particularly susceptible because of the relatively short travel time from nitrate contamination sources to the well. One solution is to drill a deeper well to avoid the nitrate contamination, however some systems have found naturally occurring contaminants such as arsenic when drilling a deeper well.

Chromium-6 is another groundwater contaminant that is expected to affect many community water systems when a state MCL is adopted. In 2011, the State Office of Environmental Health Hazard Assessment set a public health goal for Chromium-6 at 0.02 ppb. CDPH is required to set an MCL for Chromium-6 as close as possible to the public health goal, taking into account technical feasibility and costs. Chromium-6 is found to occur naturally in the environmental at low levels, and there are also areas of contamination in the state due to historic industrial use such as manufacturing of textile dyes, wood preservation, leather tanning, and anti-corrosion coatings (CDPH 2012a). The SWRCB's "Communities that Rely on a Contaminated Groundwater Source for Drinking Water" report indicated that 1,378 of the

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8,396 active community water system wells had two or more detections for Chromium-6 above 1 ppb. When the Chromium-6 MCL is implemented, it is expected to affect many California water systems.

As previously stated, there are an estimated 2 million Californians that rely on either a private domestic well or other groundwater-reliant system for their drinking water. The state does not regulate these well owners or require them to test their water quality, so many of these people are unaware of the quality of their drinking water. Often, these well owners have shallow groundwater wells, which are the most susceptible to contamination from stormwater, sewage, fertilizers, and pesticides. The SWRCB's Groundwater Ambient Monitoring and Assessment (GAMA) Domestic Well Project was developed in order to address the lack of domestic well water quality data. To date, the GAMA Domestic Well Project has sampled only a small percentage of the estimated 200,000 to 400,000 private domestic wells in the state (SWRCB 2013). Since 2002, the Domestic Well Project has sampled 1,146 private domestic wells in the following six counties: El Dorado, Monterey, San Diego Tehama, Tulare, and Yuba. In these counties, the range of nitrate detections above the drinking water MCL ranged from less than one percent of the samples in Tehama County to forty percent of the samples in Tulare County. Additional water quality results for these six counties are available at the following website:

http://www.waterboards.ca.gov/gama/domestic_well.shtml

Inadequate Surface Water Treatment

Communities that use surface water supplies are required to treat their water to meet all surface water treatment requirements. These treatment requirements ensure a safe drinking water supply by removing or inactivating microbial contaminants such as giardia, cryptosporidium, viruses, and bacteria that may be present in surface water supplies, and if left untreated would contribute to a higher incidence of waterborne disease. Currently there are 8 small water systems statewide that inadequately treat their surface water supply and are unable to provide safe drinking water for their communities (CDPH 2013). These 8 small water systems are located in the Central Coast, Tulare Lake Basin, and Sacramento River hydrologic regions.

Maintaining Adequate Water Supply and Pressure

All water systems must maintain adequate water supply and pressure to ensure that safe drinking water is delivered to their customers. When a water system fails to maintain adequate water pressure, drinking water quality may be jeopardized due to microbial contaminants entering the drinking water distribution system through a cracked or leaking pipe.

For small water systems maintaining adequate water supply and pressure can be a challenge, especially since some small communities only have a single groundwater well with no backup supply and other small communities are located in foothill and mountain areas that rely on "hard rock" wells which often decline in production from the Winter/Spring months to the Summer/Fall months. These systems are also more vulnerable to water supply issues when there is a drought.

4.3 Sanitation Challenges

Small communities face specific challenges related to their wastewater systems. Some small communities currently use failing septic systems or use outdated/undersized centralized wastewater treatment systems that no longer meet current water quality standards. These systems pose a threat to both public health and local water supplies.

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Failing Septic Systems

Many rural small communities use septic systems or onsite wastewater treatment systems, and the SWRCB estimates the number of active septic systems in the state is 1.2 million. Septic systems are useful and necessary structures that allow habitation at locations that are removed from centralized wastewater treatment systems. When properly sited, designed, operated, and maintained, septic systems treat domestic wastewater to reduce its polluting impact on the environment and most importantly protect public health. The vast majority of these are functioning in a satisfactory manner and meeting their intended purpose.

However there have been occasions in the state where septic systems did not satisfactorily protect either water quality or public health. Some instances of these failures are related to the septic system not being able to adequately treat and dispose of waste as a result of poor design or improper site conditions. Others have occurred where the systems are operating as designed but their densities are such that the combined effluent resulting from multiple systems is more than can be assimilated into the environment.

As California's population continues to grow, and we see both increased rural housing densities and the building of residences and other structures in more varied terrain than we ever have before, we increase the risks of causing environmental damage and creating public health risks from the use of septic systems. What may have been effective in the past may not continue to be as conditions and circumstances surrounding particular locations change. So necessarily more scrutiny of our installation of septic systems is demanded of all those involved, while maintaining an appropriate balance of only the necessary requirements so that the use of septic systems remains viable (SWRCB 2012).

Outdated/Undersized Centralized Wastewater Treatment Systems

There are estimated 1,291 small community centralized wastewater treatment systems in the state with approximately ten percent of these facilities discharging treated wastewater to a surface water body and the remaining facilities discharging to land (SWRCB 2008). As changes to wastewater discharge requirements occur, many of these wastewater treatment systems are becoming outdated, undersized and unable to meet the new water quality requirements. In order to upgrade these wastewater treatment facilities, small communities must at minimum have financial capacity to cover the new O&M costs associated with the upgrades.

PLACEHOLDER Box XX-X Possible Case Study: _____

[Possibly include a case study on a community using either failing septic systems or outdated/undersized centralized wastewater treatment system]

4.4 Interconnected Challenges between Drinking Water and Sanitation

As discussed in the earlier subsections, small communities must overcome a number of common and specific challenges in order to provide safe water and sanitation. The following challenges are ones that are interconnected between drinking water and sanitation. For example, small communities that install drinking water treatment systems to remove groundwater contaminants may impact the wastewater facilities, and small communities using individual septic systems may impact drinking water supplies.

Disposal of Drinking Water Treatment Residuals

Due to the lowering of the arsenic drinking water MCL and nitrate contamination in the Tulare Lake Basin and Salinas Valley, small water systems that previously did not need to install a water treatment system are now installing these systems to provide safe water to their customers. These treatment

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systems use filter media that may need to be periodically backwashed and/or rinsed generating wastewater that must be appropriately disposed of. If a centralized wastewater treatment system is available, this backwash and rinse water may be sent to this facility which could impact the operation of the wastewater treatment system and may require the wastewater system to be upgraded.

Contamination of Drinking Water Supplies by Septic Systems

As previously mentioned, rural small communities often rely on groundwater for their drinking water supply. These communities also often use individual septic systems to dispose of wastewater and are therefore vulnerable to contamination of their groundwater supply if the individual septic systems fail due to poor design, improper site conditions, or a high density of septic systems.

PLACEHOLDER Box XX-X Possible Case Study: _____

[Possibly include a case study on challenges facing the Community of Beaumont both drinking water and wastewater challenges]

5. A Focus on California's Native American Population

Understanding tribal sovereignty is essential in appreciating the complex framework that interplay between tribes and states with water rights and management in Indian country. Tribes are sovereign entities much like foreign nations. Control over natural resources is especially important since it is one of the fundamental attributes of sovereignty that has endured. Tribes exercise their sovereignty and retain control over their natural resources and manage them in such a way as to not harm neighboring sovereigns.

Because water is inextricably linked to tribal economies, culture and traditions, the potential impact of state water regulations on tribal sovereignty is great. Likewise, the impacts of tribal water regulations and policies on non-Indian water users are often a great concern of the state. However, providing access to safe drinking water and sanitation services is an uncontroversial priority for both tribes and state. Thus, the following discussion focuses on tribal drinking water and sanitation challenges, not the political issue.

American Indian tribal communities are vulnerable to housing deficiencies, which includes access to safe water and sanitation. The lack of infrastructure on tribal lands can be a result of low socio-economic conditions of the tribe or of the terrain the homes occupy. These deficiencies are of concern to the federal IHS program, whose objective is to protect the health of American Indians.

Most American Indian households on tribal lands have access to untreated drinking water supplies, but some may lack access to safe drinking water and sanitation. Some American Indian households still lack the needed infrastructure to have basic water service available in their homes or domiciles. As with other rural California residents, the households may use buckets to retrieve surface water from springs or creeks, which is then hauled back to their homes. Others may use a pipeline that they lay into a creek, and the untreated water is then gravity-fed back to their house or trailer. Still others may use a community spigot or well, but still need to bring the water into their dwelling by means of a bucket. Many communities have failing septic systems that allow raw sewage to seep to the surface, which creates a public health threat and eventually degrades surrounding surface water and groundwater quality.

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Tribal Water Management, Programs, and Oversight

California has the second largest number of federally recognized tribes and, according to the 2010 U.S. Census, the largest Native American population in the United States. In California, there are 109 tribes that are recognized by the federal government. There are also indigenous communities which, although they existed prior to the formation of the United States, are not currently recognized as sovereigns by the federal government. All California Indian Tribes, whether officially recognized by the federal government or not, may have environmental, economic, and public health concerns that are different from the concerns of other Tribes or from the general public. These differences may exist due to subsistence lifestyles, unique cultural beliefs and traditions, and/or specific connections to areas of California that are their ancestral homelands based on the diversity of the tribal communities.

In order to ensure that safe water is provided, many Tribal communities operate a “public water system” (PWS), which must comply with the Federal Safe Drinking Water Act (SDWA). The Federal SDWA authorizes the United States Environmental Protection Agency (USEPA) to regulate a PWS and the quality of their source water. Tribal PWSs are responsible for ensuring that all required water samples are collected and analyzed, and that the required reports are submitted to the USEPA. More specifically, the systems have to meet certain requirements for water quality, treatment techniques, operator certification, recordkeeping, and reporting.

Tribal systems may also have codes and ordinances to establish general rules and regulations for the provision of water service and extension of such water service from the Tribal water system, and to promote the public health, safety, and general welfare of the users of the Tribal water system, in accordance with standards established by the Tribe and the Federal government.

The SDWA authorizes the USEPA to “treat tribes in the same manner as states” (TAS) for purposes of approving a federally recognized tribe to implement and enforce drinking water regulations. The approval of a primacy program requires a tribe to have the jurisdiction and capacity to assume the primacy program authority, and be consistent with the USEPA’s standards and regulations. Currently, no tribes within California have obtained SDWA primacy program approval.

Drinking Water and Sanitation Challenges

There are 125 tribal public water systems in California that are regulated by USEPA in accordance with the requirements of the SDWA. Two-thirds of these systems are very small, serving 500 people or less and 30% serve 100 people or less. The majority of these water systems rely on groundwater with 83% of the systems using groundwater and 17% of the systems using surface water. An increasing number of tribal systems have installed drinking water treatment plants in order to comply with requirements of the SDWA.

Based on percentage of population, tribal water systems in California are more likely to be issued a drinking water violation (health based and monitoring & reporting), than non-tribal systems in the State. The percentage of population served by tribal water systems in California that received a violation in the past 3 year period ending March 31, 2012, is twice that of non-tribal systems in California (27% vs. 13%). The percentage of population for tribal water systems in California that received a health based violation is 12% as compared to 8% of non-tribal systems in California.

Most residential homes or domiciles on tribal land continue to rely on septic systems or onsite waste disposal systems for their wastewater treatment. As indicated earlier in this report, a large amount of these systems fail due to the lack of appropriate maintenance. There are many environmental responsibilities that require the capability and significant resources, among other things for Tribes to provide industry standard treatment and collection systems. Based upon a variety of factors, often including costs, assistance, maintenance, and availability of technical expertise, tribal governments may

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focus on certain high-priority activities, which may not include industry standard waste collection and treatment facilities. Building infrastructure to treat and convey wastewater can be a huge financial burden on tribal communities. In most cases, tribal communities are spread over a large area, thus reducing the ability to not only afford a system, but may be impractical from an engineering standpoint. If a tribal community did however build and operate a waste treatment facility it would be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit which may include discharge limits based on tribal water quality standards that are established under the Clean Water Act (CWA), and which are designed to protect designated uses of surface waters, such as supporting aquatic life or recreation. These standards, unlike the permit technology-based standards, generally do not take into account technological feasibility or costs which may be key to the implementation of treatment facilities. Currently six tribes in California have wastewater treatment facilities with USEPA NPDES permits.

Funding and Affordability Challenges

Funding for new infrastructure, as well as for repairs, rehabilitation and upgrades to existing infrastructure is provided by several federal agencies including USEPA, IHS, USDA-Rural Development and HUD. Recent increases to the USEPA CWA and SDWA Tribal Set Asides to 2%, along with the 2009 American Reinvestment and Recovery Act funding, contributed to increased access in Indian Country, but significantly more is needed.

The Indian Health Service's Sanitation Facilities Construction program provides the largest annual level of funding for tribal water infrastructure; however, the amount of funding was cut by 17% in the 2012 fiscal year and the reduction is retained in the President's 2013 fiscal year budget. Similarly, the President's 2013 fiscal year budget for the USEPA contains a 20% cut to the Clean Water State Revolving Fund (SRF) and a 7.4% cut to the Safe Drinking Water SRF. These SRF cuts disproportionately affect Tribes because they do not have loan repayments to offset the cuts like states do. To ensure an adequate level of USEPA funds is provided for tribal water infrastructure, tribes are advocating for a tribal SRF funding floor at 2010 fiscal year levels with adjustments for inflation.

The State of California recently awarded its first SRF loan to a tribe. However, significant legislative barriers exist for tribes interested in applying for California SRF funds, because the State requires that only State regulated facilities are eligible for funding. Tribal drinking water systems, which are regulated by USEPA, are thus not eligible for California SRF funds. Similarly, the few tribal wastewater systems regulated by USEPA under a NPDES permit are not eligible for funding, and tribes are not subject to the California waste discharge requirements.

Operation and maintenance funding is also critical to ensure delivery of safe drinking water and the sanitary operation of wastewater disposal facilities, as well as to protect the federal investment in infrastructure over long term. Before Tribal communities receive funding for infrastructure projects, they must have the ability to operate and maintain these facilities risk losing funding for critical projects. For many Tribal communities, it is not possible to cover O&M costs through rate structures due to small system size, high poverty levels and lack of income sources; however, there continues to be no federal funding to support O&M for tribal facilities. This represents a significant gap in resources necessary to address this critical public health and safety issue.

In addition, tribal homes not connected to public water systems have drinking water needs that are not well understood due to a lack of information about water quality and quantity. Homes not connected to public water systems are ineligible for USEPA Drinking Water Tribal Set-Aside funds, unless the project will connect these homes to a public water system. Also, due to funding limitations, IHS does not normally fund individual domestic wells.

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PLACEHOLDER Box XX-X Case Study: _____

[Possibly include a case study on affordability issues facing a Tribal Community.]

6. Progress and Accomplishments Over the Past Ten Years

The following chapter takes a look at what progress has been made in the past ten years to assist small disadvantaged communities and tribal communities ensure they can provide safe drinking water and sanitation. Without this progress and these accomplishments many more residents in the state would lack safe water and sanitation.

6.1 Progress to Provide Safe Drinking Water

Changes to Funding Programs to Benefit Small Disadvantaged Communities

On the drinking water side a number of changes have been made to the funding programs administered by CDPH to benefit small disadvantaged communities. CDPH has prepared a “Small Water System Program Plan” with a goal of increasing the compliance rate amongst small water systems from 92% to 95% by the end of 2014. The current compliance rate amongst large water systems is 95%. In the DWSRF program the maximum grant funding amount for disadvantaged communities has increased from \$1 million to \$3 million per project, and the grant funding percentage has increased so disadvantaged communities may receive up to 100% grant funding (previously was capped at 80%). These funding programs have also expanded on the scope of a planning or feasibility study to include all project related activities undertaken prior to construction which includes activities such as treatment plant pilot studies, drilling test wells, plans and specifications, and environmental documents. Previously, these activities were reimbursed later after a construction contract was issued which meant that a small water system would have to find other short term funding to cover these activities until a construction contract could be awarded. In addition, these funding programs now provide incentives to large water systems that consolidate a small water system. For example, the Proposition 84 funding program provides funding for distribution system improvements within the small water system so the distribution system meets the same standard as the large water system. In the DWSRF program, a large water system that consolidates a small water system could have its own project (with a lower ranking) re-ranked to the same level as the small water system ranking. Since the DWSRF does not have sufficient funding for all projects, this higher ranking should allow the larger water system project to be selected for funding and be evaluated for possible grant funding.

Adoption of Point-of-Use and Point-of-Entry Regulations to Benefit Small, Rural Disadvantaged Communities

Point-of-use (POU) or point-of-entry (POE) treatment may provide an affordable solution for small, rural disadvantaged communities to meet drinking water standards. As required by Health and Safety Code section 116380, CDPH adopted emergency regulations governing the permitted use of POU and POE treatment by public water systems in lieu of centralized treatment. Water systems serving fewer than 200 connections and demonstrating that centralized treatment is not economically feasible are eligible to apply to CDPH for project approval. CDPH will begin the process to develop permanent POU and POE regulations, and recently released an advisory document on POU compliance to assist small water systems that are considering POU treatment. Additional details on POU compliance are available at the following website: <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/POU/CaPOUCompliance-Final-03-2013.pdf>

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PLACEHOLDER Box XX-X Possible Case Study: Successful Consolidation Project

[Possibly include a case study on a successful consolidation project with description of what actions enabled this project to be successful.]

6.2 Progress to Provide Adequate Sanitation

On the wastewater and sanitation side, the SWRCB has prepared a “Small Community Wastewater Strategy” to promote strategies to assist small and/or disadvantaged communities with wastewater needs. The SWRCB provides annual updates on their efforts to implement this strategy which includes making improvements to the CWSRF program, hiring contractors to provide wastewater technical assistance, providing financial incentives to encourage larger entity support, and evaluating opportunities for reducing the cost of compliance. In 2012, the SWRCB adopted the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS, also referred to as septic systems). The policy uses a tiered, risk-based management approach based on the potential of OWTS to impact surface water, and it allows continued management of OWTS by local agencies and relies on their knowledge and expertise to ensure that water quality and public health are protected. Additional information is available at:

http://www.swrcb.ca.gov/water_issues/programs/owts/index.shtml

PLACEHOLDER Box XX-X Case Study: Enchanted Heights Sewer Project

[Case study on the Enchanted Heights Sewer Project in Riverside County. This is a sewer collection system project for a small disadvantaged community whose residents were previously using failing septic systems. Funding was provided by multiple government agencies.]

6.3 Progress to Provide Safe Water and Sanitation to Tribal Communities

Tribes in California have had difficulty hiring state certified wastewater treatment plant operators since the State did not previously recognize the experience of operators working at tribal wastewater facilities towards State operator certification. This changed on April 1, 2013, when revised operator certification regulations from the SWRCB became effective. California now recognizes in its wastewater operator certification program, the experience obtained at tribal wastewater treatment facilities.

Through the USEPA Region 9 Tribal Operations Committee (RTOC), California Tribes are active participants in numerous efforts to address drinking water and wastewater issues. Key past activities and accomplishments include:

- Advocacy with supporting briefings led to reinvigoration of national level multi-agency task force to address Tribal drinking water and sanitation needs.
- Participation by RTOC Representatives on the National Infrastructure Task Force ensured Tribal priorities and interests were included in its work, including its report of barriers and recommendations to overcome them.
- Facilitation and support for development and completion of Region 9 Tribal Baseline Needs Assessment.
- Advocacy regarding Tribal O&M needs led to the development of criteria for funding O&M pilot projects under GAP.

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- Advocacy to address deficiencies in California criteria for certifying wastewater operators ensured that time spent working at Tribal utilities is included as eligible experience under new state regulations (currently in public review and comment period).
- Facilitation and hosting of Regional Multi-Agency Workgroup, which has resulted in creation of a drinking water and wastewater resource matrix.
- Support for collaborative projects to address Tribal operational and maintenance needs.

The United States committed at the Johannesburg Summit on Sustainable Development to reduce by 2015 the population that lack access to safe drinking water and basic sanitation by one-half (Access Goal). This Goal is incorporated into USEPA's Strategic Plan as a specific commitment in Indian Country, and represents one step toward Congressional policy of ensuring all Tribal homes have access to safe drinking water and basic sanitation as soon as possible (25 USC §1632(a)(5)). USEPA's National Water Program Guidance, which supports the Agency's Strategic Plan, contains the following measures:

- Increase number of American Indian and Alaskan Native homes provided access to safe drinking water in coordination with other federal agencies to 119,000 (SDW-18.N11).
- Increase percent of population in Indian country served by community water systems that meet receive drinking water meeting all applicable health-based drinking water standards (SDW-SP3.N11).
- Increase number of American Indian and Alaskan Native homes provided access to basic sanitation, in coordination with other federal agencies to 67,600 (WQ-24.N11).

7. Implementation Challenges

PLACEHOLDER – Under Development

8. An Action Plan to Achieve Safe Drinking Water and Sanitation

PLACEHOLDER – Under Development

[This chapter will discuss the current state of access to safe water and the opportunities and challenges described earlier in the report. The Chapter will define state goals, objectives, and a timeline for meeting them to improve access to safe water. The chapter will identify actions and activities already being undertaken by individual Tribes, State Agencies, Federal Agencies, and Regions. Using the Integrated Regional Water Management approach, this chapter will focus strategy development around cross-agency and tribal/federal/state/regional/local partnerships that can maximize the impact of existing activities. The chapter will also provide recommendations for future research needs and changes in laws and regulations that would enhance access to safe water.]

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9. Conclusions/Findings

PLACEHOLDER – Under Development

List of Possible Findings

Median Household information used to evaluate if a community is disadvantaged is often independently determined by each State Agency that administers a Funding Program.

168 small water systems serving nearly 55,000 people, currently violate one or more health-based primary drinking water standards.

There are an estimated 2 million Californians that rely on either a private domestic well or other groundwater-reliant system for their drinking water (SWRCB 2013). The state does not regulate these well owners or require them to test their water quality, so many of these people are unaware of the quality of their drinking water. There is no statewide estimate on the number of people that rely on a private domestic well that does not meet drinking water quality standards.

In 2012, IHS estimated that in California 1,207 Indian homes had no potable water, and 3,660 Indian homes lack safe water and/or an adequate sewage disposal system receiving an IHS deficiency level of 4 and 5.

There is no estimate on the statewide number of small communities that rely on individual septic systems.

There is no estimate on the statewide number of small communities with failing individual septic systems.

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11. Appendix A – List of Possible Recommendations

The following is a list of recommendations to consider as part of the Action Plan. These recommendations and actions are from the following sources:

- Governor’s Drinking Water Stakeholder Group
- Recommendations Addressing Nitrate in Groundwater. State Water Resources Control Board’s Report to the Legislature.
- Water Boards Small Community Wastewater Strategy
- Region 9 Tribal Operations Committee – Draft Strategic Plan

Recommendations & Actions from the Governor’s Drinking Water Stakeholder Group

1. It is important to comprehensively and uniformly identify drinking water needs of disadvantaged communities and small systems between 2-14 connections in unincorporated areas to improve data collection and management.

The scope and magnitude of the drinking water problems for disadvantaged communities and small systems in unincorporated areas is not fully understood, due to limits in or a lack of current and ongoing assessment of conditions. Additional efforts are necessary to collect and manage information to inform planning and implementation of solutions.

Recommended Actions:

- A. Continue to establish, maintain, integrate, and improve data collection tools to help inform planning, prioritization and implementation of interim and long-term solutions.

2. There is a need to incentivize and promote sustainable safe drinking water solutions within unincorporated disadvantaged communities.

Efforts are necessary to actively foster more sustainable, effective, and affordable drinking water solutions and decrease drinking water system vulnerability for very small disadvantaged communities in unincorporated areas lacking sufficient resources or scale to “stand alone,” through a variety of locally-driven solutions, including (but not limited to) efficient, effective shared services and facilities, technical support and outreach and education. The exact model will be different for different communities, but may include a wide variety of technical and/or management/institutional options. (For the purposes of this Report, the term “shared services” is used to describe solutions/strategies between and across communities that facilitate increased economies of scale.)

Recommended Actions:

- A. Identify water supply needs and potential opportunities for promoting and incentivizing sustainable local drinking water solutions for disadvantaged communities in unincorporated areas
- B. Directly target funding for IRWMs (or other entity where appropriate) to develop an inventory of need and a plan for local solutions (including shared solutions) for disadvantaged communities in

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unincorporated areas in each hydrologic region of the state as is being used in the Tulare Lake Basin Disadvantaged Community Water Study (SBX2 1 (Perata, 2008)).

- i. Begin with the Salinas Valley.
 - ii. Coordinate these efforts with local health departments, local NGOs, academic institutions and local agencies.
- C. Support and fund project planning to foster local, sustainable solutions (including, but not limited to, shared solutions, inter-community planning facilitation, engineering, legal, financial or managerial analysis, environmental documentation, and other project development activities).
- i. Directly augment funding to regional planning agencies (e.g. IRWMPs or other appropriate entity) to develop community-driven shared solutions where practical for unincorporated disadvantaged communities. (Model this after work begun in IRWM DAC pilots)
 - ii. Drinking water regulatory agencies at local and State levels should more actively identify and address technical, managerial, and financial (TMF) capacity issues.
- D. Improve accessibility of funding pathways for shared services/facilities projects in communities with highest public health priority as identified by regulatory agencies, including but not limited to:
- i. Carve out a set-aside of existing drinking water funding.
 - ii. Provide strong incentives for shared solutions among local systems and provide funding for NGOs/local agencies/universities for increased outreach and education.
 - iii. Promote and incentivize more robust investigation of shared solutions as part of feasibility or planning studies.

3. It is essential to ensure that all disadvantaged communities in unincorporated areas have access to immediate, interim sources of safe drinking water.

Currently many of California's poorest small disadvantaged communities in unincorporated areas are left without access to safe drinking water for years as they wait to secure financing to develop a long-term safe drinking water source. These communities are often left paying twice for water, as they continue to pay for unsafe water service and have to buy alternative water sources on top of those costs. It is vital that communities have an affordable option to access safe drinking water in their community through an interim source as they are developing a sustainable long-term solution.

Recommended Actions:

- A. Direct rapid, easily accessible funding to support immediate, interim sources of safe drinking water for disadvantaged communities in unincorporated areas.
- B. Create a renewable funding source for immediate interim solution funding.
- C. Clarify types of solutions eligible for funding including (but not limited to): point of use treatment, point of entry treatment, central high-volume vending machine point, water hauling, etc. Once projects are deemed eligible, develop integrated permitting process to allow for expedited project permitting.

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4. Increase access to existing funding sources for disadvantaged communities in unincorporated areas for both long-term and interim safe drinking water solutions.

CDPH, SWRCB and DWR each administer funds to support, develop, and/or implement drinking water solutions. Limits and restrictions, in state and federal law, regulation and guidelines, affect the availability and access to these funds. Processes to access these funds can be difficult and cumbersome, demanding resources and expertise lacking at the local disadvantaged community level. Simplified and expedited processes and additional technical support can increase access to safe drinking water solutions.

Attention to disadvantaged communities in unincorporated areas without a public water system (less than 15 connections) to improve their access to safe drinking water is required. Many disadvantaged communities in unincorporated areas are not served by a public water system but rely on contaminated private wells or unregulated very small systems. In many cases, these communities lack sufficient information on drinking water quality, and wells are often more vulnerable to contamination due to shallow depth and/or construction. However, most existing funding sources are not available for improvements for private wells or infrastructure that is not part of a public water system.

Recommended Actions:

- A. Help small disadvantaged communities in unincorporated areas better navigate funding opportunities across agencies
 - i. Create an interagency ‘team’ (or ”one-stop shop”) of existing staff from all State agencies with a role in the funding, regulation, and/or planning of safe drinking water systems in disadvantaged communities in unincorporated areas. This ‘one stop’ center for DACs will provide technical assistance, professional services, and general guidance to small communities trying to navigate the maze of State agencies and funding/application requirements.
 - ii. Create a single point of entry for communities needing assistance.
- B. Create expedited requirements for funding applications for small disadvantaged communities in unincorporated areas.
- C. Improve, support and add access to technical assistance programs, including but not limited to: an ombudsmen program housed in a state agency or the Governor’s Office; technical assistance from UCs/ CSUs; local government assistance.
- D. Create fund specifically for project planning for disadvantaged communities in unincorporated areas that is easily accessible and less restricted in who must be actual legal applicant.
 - i. Utilize local set aside in SRF for local planning and grant directly to IRWMPs to develop solutions for disadvantaged communities without safe drinking water within their boundaries.
- E. Utilize existing technical assistance and set-aside programs to fund non-profits or public agencies to do low-income assistance programs. (e.g. Self Help Enterprises well rehabilitation funding program)
- F. Expand eligibility for funding and assistance programs for disadvantaged communities in unincorporated areas without a public water system (less than 15 connections).

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- G. Fund non-profit or county programs that support monitoring, planning, maintenance, and improvements for low-income private well owners or systems less than 15 connections in unincorporated areas.

5. Reduce costs for disadvantaged communities in unincorporated areas to secure and sustain affordable drinking water solutions.

The high cost of specific elements of operation and maintenance and other ongoing costs (e.g., financing costs, the cost of administrative requirements, financial audits, and certain regulatory requirements) impact the ability to achieve sustainable and affordable solutions in certain communities.

Recommended Actions:

- A. Reduce high-cost regulatory and administrative requirements for small systems.
 - i. Ease burdens of data reporting and streamline application submission process.
 - ii. Reduce level of audit requirements for small systems
- B. Address cash flow problems for small systems (for example, advancing electronic reimbursements or advance payments).
- C. Address reserve fund burden by creating or supporting a pooled reserve fund for small disadvantaged communities in unincorporated areas.

6. There is a need for continued engagement between a diverse stakeholder group and appropriate State agencies (CDPH, SWRCB, DWR, CalEPA) to develop programs to support sustainable solutions to the drinking water challenges in disadvantaged communities in unincorporated areas of California.

Development and implementation of solutions will require ongoing and coordinated effort between local stakeholders and appropriate state agencies. Additional discussion to expand concepts contained in this report is warranted.

Recommended Actions:

- A. Support the continuation of this Stakeholder Group as the forum to continue this work, resolve 'open' issues and work to advance the interests of all stakeholders.

Recommendations to Address Nitrate in Groundwater from the Water Boards

Providing Safe Drinking Water

An impediment to providing safe drinking water to small Disadvantaged Communities (DACs) impacted by nitrate contamination is the lack of a stable, long-term funding source. A stable funding source integrated with institutional changes is critical in providing long-term safe drinking water infrastructure and interim solutions for the small DACs impacted by nitrate contamination.

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1. The most critical recommendation in this report is that a new funding source be established to ensure that **all** Californians, including those in DACs, have access to safe drinking water, consistent with AB 685. The Legislature should provide a stable, long-term funding source for provision of safe drinking water for small DACs. Funding sources include a point-of-sale fee¹ on agricultural commodities, a fee on nitrogen fertilizing materials, or a water use fee. In addition, the Legislature also should authorize CDPH to assess a fee in lieu of interest on Safe Drinking Water State Revolving Fund loans, or to assess other fees associated with these loans, to generate funds for expanded assistance to water systems.
2. The Water Boards will use their authority under the Porter-Cologne Water Quality Control Act (Porter-Cologne) (Water Code, §13000 et seq.) to order parties responsible for nitrate contamination to provide replacement water to impacted communities, as appropriate.
3. The Legislature should enact legislation to establish a framework of statutory authorities for CDPH, regional organizations, and county agencies to have the regulatory responsibility to assess alternatives for providing safe drinking water and to develop, design, implement, operate, and manage these systems for small DACs impacted by nitrate.
4. State funding agencies should continue to increase access to safe drinking water funding sources for small DACs by streamlining funding applications, providing planning grants, and providing technical assistance.
5. DWR should give preference in the Proposition 84 Integrated Regional Water Management (IRWM) Grant Program to proposals with IRWM Plans that include an evaluation of nitrate impacts, including the access of safe drinking water to small DACs, for areas that have been identified as nitrate high-risk areas.

Monitoring, Assessment, and Notification

A groundwater monitoring and assessment program is a critical element in effectively managing groundwater quality.

6. The Water Boards will define and identify nitrate high-risk areas in order to prioritize regulatory oversight and assistance efforts in these areas.
7. The Legislature should enact legislation that establishes a framework of statutory authority for the Water Boards, in coordination with other state and local agencies, to improve the coordination and cost effectiveness of groundwater quality monitoring and assessment, enhance the integration of monitoring data across departments and agencies, and increase public accessibility to monitoring data and assessment information.
8. The Legislature should enact legislation that establishes a funding source for the State Water Board's Groundwater Ambient Monitoring and Assessment (GAMA) program.
9. The Legislature should require state and local agencies to notify groundwater users in nitrate high-risk areas and recommend that the well owners test their wells to evaluate drinking water quality. The Water Boards, CDPH, and local public health agencies will coordinate in identifying private domestic wells and small, unregulated water systems in nitrate high-risk areas.
10. The Legislature should require property owners with private domestic wells or other unregulated groundwater systems (2 to 14 service connections) to sample their well as part of a point of sale inspection before property title transfer or purchase.

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Nitrogen Tracking and Reporting

According to the UC Davis Nitrate Report, fertilizing material application is the main source of nitrate in groundwater. A system to track the application of fertilizing materials is a critical element in managing groundwater quality.

11. CDFA, in coordination with the Water Boards, should convene a Task Force to identify intended outcomes and expected benefits of a nitrogen mass balance tracking system in nitrate high-risk areas. The Task Force should identify appropriate nitrogen tracking and reporting systems, and potential alternatives, that would provide meaningful and high quality data to help better protect groundwater quality.

Protecting Groundwater

Contaminated groundwater results in treatment, well closures, or new well construction, which increases costs for consumers and the public. Regulating groundwater is essential in maintaining a safe drinking water supply.

12. Water Boards should continue to provide technical assistance for CDFA's ongoing work with University of California Cooperative Extension (UCCE) and other experts in establishing a nitrogen management training and certification program that recognizes the importance of water quality protection.

13. CDFA should maintain the mill fee on fertilizing materials at its fully authorized amount to support and develop crop-specific nutrient application rates, Best Management Practices (BMPs), and nutrient management programs via the Fertilizer Research and Education Program (FREP). The information should continue to be made available on-line.

14. The Water Boards will convene a panel of experts to assess existing agricultural nitrate control programs and develop recommendations, as needed, to ensure that ongoing efforts are protective of groundwater quality. The Water Boards and CDFA will use the findings to inform ongoing regulatory and non-regulatory efforts.

15. The Water Boards will evaluate all existing Waste Discharge Requirements to determine whether existing regulatory permitting is sufficiently protective of groundwater quality at these sites. The Water Boards will use the findings to improve permitting activities related to nitrate.

Recommended Actions from the Water Boards Small Community Wastewater Strategy

Financial Assistance

1. Increased coordination with other agencies and non-profits.
2. Determine how to evaluate affordability for small community wastewater systems.
3. Making the Clean Water State Revolving Fund program appealing to small and/or disadvantaged communities.
4. Revising the Small Community Wastewater Grant Program Guidelines.
5. Pursuing new or supplemental sources of funding for small and/or disadvantaged communities.

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Technical and Compliance Assistance

1. If feasible funding mechanisms are identified, some or all of the following assistance measures could be implemented:
 - a. Contract funds to support non-profits.
 - b. Outreach and assistance with financial assistance applications
 - c. Review of asset management and O&M cost analyses by Water Boards staff.
 - d. Targeted compliance assistance inspections by Water Boards staff.

Regulation and Enforcement

1. Establishing requirements for proper operations and maintenance.
2. Improving County support of small and/or disadvantaged communities.
3. Evaluating small and/or disadvantaged community compliance and enforcement.

Recommendations from Region 9 Tribal Operations Committee – Draft Strategic Plan

In its draft Strategic Plan, the Region 9 Tribal Operations Committee identified the following activities to help address tribal needs.

- A. Protect and enhance infrastructure funding
- B. Identify / facilitate the establishment of funding to support asset protection (O&M)
- C. Increase tribal technical, financial & managerial capacity to operate and maintain drinking water and wastewater facilities
- D. Maintain/increase funding to support technical assistance providers (such as RCAC) to ensure all Tribes in Region 9 have access to technical assistance for both drinking water and wastewater-related needs

Short-Term Activities (Within 1-3 Years)

- Support proposed revised regulations for the California Wastewater Operator Certification program
- Continue to participate in the National Infrastructure Task Force and O&M Study Workgroup
- Monitor, perform outreach, and coordination, and provide input on anticipated revisions to the Clean Water and Drinking Water Tribal Set-Aside guidance documents
- Identify tribes in Region 9 that do not have access to technical assistance to address their utilities' needs
- Host Resource Fair for Nevada tribes
- Host Regional Inter-Agency Workgroup meeting

Long-Term Activities (Within 3-5 Years)

- Continue to advocate for adequate infrastructure funding
- Continue to advocate for sources of O&M funding
- Advocate to ensure technical assistance is available for all tribal drinking water and wastewater utilities

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12. Appendix B – Drinking Water Funding Sources

Community Development Block Grant (CDBG) Program (yearly since 1974)

The U.S. Department of Housing and Urban Development runs the Community Development Block Grant (CDBG) program, which funds projects principally benefiting low income households. No less than 70 percent of CDBG funds must be used for activities that benefit low- and moderate-income persons. The income limits for program eligibility are: Extremely Low (30% of area median income), Very Low (50%), and Low (80%). Funding is available for project feasibility studies, grant administration costs, final plans and specifications, site acquisition, and construction. For low income families: one-time assessment fees, installation of private laterals, and hookup fees are also eligible for program funding. California sets aside up to 10% of their State CDBG funds for use in Colonias, usually expended on water and sewer and housing assistance. \$500,000 is the typical funding award limit.

Infrastructure State Revolving Fund (yearly since 1994)

California's Infrastructure and Economic Development Bank (I-Bank) runs the Infrastructure State Revolving Fund program that provides direct long-term low-cost financing to public agencies for local governmental public infrastructure. Per project funding ranges from \$250,000 to \$10 million per fiscal year. \$20 million is the annual maximum per jurisdiction per fiscal year. Interest rates are subsidized (67% of Thompson's Municipal Market Index for "A" rated security) and financing is available for up to 30 years. Eligible projects include construction or repair of publicly owned water supply, treatment, and distribution systems.

Proposition 13 (2001)

Proposition 13 is now fully allocated, but it awarded more than \$56 million for 22 feasibility studies and 20 construction projects. Funds were provided to disadvantaged communities to fix or replace failing water distribution systems that threaten the health, safety, and economy of the communities.

Proposition 50 (2002)

Proposition 50 stipulated \$50 million for appropriation by CDPH for water security projects to protect drinking water systems from deliberate acts of destruction or degradation, including emergency interties and contamination treatment facilities.

\$435 million was made available to CDPH for allocation as grants and loans for infrastructure improvements and related actions to meet safe drinking water, including small community water system facilities (\$14 million), contaminant treatment and removal (\$14 million), upgrades to monitoring infrastructure (\$14 million), drinking water source protection (\$14 million), disinfection byproduct treatment facilities (\$14 million), UV and ozone disinfection (\$25 million), and SRF loans (CDPH 2002). 25% of funds were set aside for disadvantaged communities and no match was required for disadvantaged community or small water system projects.

Table 1 shows the grant requests to CDPH (Project Priority List, or PPL) by disadvantaged communities for each eligible project type from 2004 to 2009. Total yearly requests increased over this period from \$143 million to \$219 million.

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Table 1. Proposition 50 Project Priority List Grant Requests to CDPH by Disadvantaged Communities.

Prop 50 PPL	Round 1 (2004-2005)		Round 2 (2006-2007)		Round 3 (2008-2009)	
	Grant Requests	# of systems	Grant Requests	# of systems	Grant Requests	# of systems
Ch 3 (water security)	\$ 61,226,507	83	\$ 65,563,707	93	\$ 69,060,591	100
Ch 4a1 (small community water system facilities)	\$ 74,239,021	96	\$ 73,381,748	100	\$ 131,397,663	162
Ch 4a2 (contaminant treatment and removal)	\$ 707,300	1	\$ -	0	\$ -	0
Ch 4a3 (community water system monitoring facilities)	\$ 192,000	5	\$ 112,000	2	\$ -	0
Ch 4a4 (drinking water source protection)	\$ 2,050,000	10	\$ 10,563,450	11	\$ 14,993,250	15
Ch 4a5 (disinfection byproduct treatment facilities)	\$ 4,876,800	7	\$ 6,860,800	7	\$ 3,653,000	2
Ch 6 (UV and ozone treatment)	\$ -	0	\$ 625,000	1	\$ -	0
TOTAL	\$ 143,291,628		\$ 157,106,705		\$ 219,104,504	

The State Water Resources Control Board received \$100 million for appropriation as grants for the following projects: water pollution prevention, water reclamation, water quality improvement, water quality blending and exchange, and drinking water source protection.

The Department of Water Resources was awarded \$500,000 for IWRM planning. Allowable projects include: contaminant and salt removal through reclamation, desalting, and other treatment technologies; non-point source pollution reduction and monitoring; programs for water supply reliability; and others.

CDPH is no longer accepting applications for Prop 50 funding, but DWR has funding available for drinking water projects related to new technologies for specific contaminant removal and for projects using UV or Ozone to disinfect drinking water.

Proposition 84 (2006)

\$180 million was made available to CDPH through Proposition 84 in 2006 specifically for small community infrastructure improvements for chemical and nitrate contaminants. Priority was given to disadvantaged and severely disadvantaged communities. The first round project priority list in 2008 included only: schools (\$5.8 million), disadvantaged communities (\$18.3 million), and severely disadvantaged communities (\$28.2 million). Only five of the 122 systems on Rounds 1-3 of the active project list are not disadvantaged communities or schools. These three rounds of active project lists for chemical and nitrate contaminants show that \$81 million has been requested for disadvantaged community or school projects and approximately \$25 million has already been funded. In total, 71 projects are active (applications are being processed), and 51 are considered “funded” (with executed funding agreements). As of May 2012, eleven feasibility and construction projects, totaling \$3 million in Prop 84 funds have been fully completed.

Other Prop 84 funding administered by CDPH: \$50 million for the state’s share of the SRF, \$60 million to prevent or reduce contamination of groundwater that served as a source of drinking water, and \$10 million for emergency safe drinking water supply program (includes projects to provide alternative water supplies or bottled water where necessary to protect public health). CDPH is no longer accepting applications for Prop 84 funding and has finalized their project priority list.

The Department of Water Resources also received funding through Prop 84. \$1 billion was allocated for IRWM planning and implementation. This money was used to extend the IRWM grant program created under Prop 50 and among other uses, includes some funding for projects and programs to improve water supply reliability and to improve and protect water quality. DWR is continuing to accept applications for

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various IRWM activities over the next two years. As of January 2012, \$482 million has not been committed (CA Natural Resources 2012). IRWM funds tend to be less rigid than funding from the SRF.

USDA Rural Utilities Service – Water and Environmental Programs (yearly)

USDA's Rural Utilities Service leads the Water and Environmental Program that provides loans (direct and guaranteed) and grants to develop and rehabilitate community water systems serving less than 10,000 people. Eligible projects include: emergency community water assistance, predevelopment planning, technical assistance and training, solid waste management, household well water. A Colonias grant program is available specifically for needy communities within 150 miles of the Mexico Border. Rural areas with populations of less than 10,000 are eligible for water and waste revolving fund grants of up to \$100,000 for 10 years.

For FY 2011, \$29 million in loans and \$17 million in grants was allocated in California. Not much has changed since FY 2000, when the equivalent of \$28 million (in 2011 dollars) in loans and \$20 million (in 2011 dollars) in grants were provided. In 2011, California did not receive any guaranteed water and waste loans, but did receive \$3 million for Colonias grants and almost \$1 million for Native American grants. Additional smaller grants for solid waste management, technical assistance and training, and individually-owned water well systems were made in California.

Safe Drinking Water State Revolving Fund (yearly)

\$83.9 million is available to CDPH for the FY 2012 from the SRF federal capitalization grant. This amount has dropped by four percent *every* year for the last four years. The FY 2013 Interior, Environment, and Related Agencies Appropriations Bill, released by the House Appropriations Committee plans to allocate \$89 million less (\$829 total) for the national Drinking Water State Revolving Fund (Goree 2012). This will likely negatively impact the amount of funding that the State of California receives for the CA State Revolving Fund.

CDPH uses the yearly federal capitalization grant plus a state match of 20%, funds available from prior years, principal repayments, and interest on loans from prior years. For fiscal year 2001-2012, \$465 million in loan funds were available for project funding. This is a decrease in \$133 million from the previous year.