

# **ASSEMBLY COMMITTEE ON WATER, PARKS AND WILDLIFE**

**Thursday, April 17, 2014, 4-6 p.m.  
Modesto Junior College West Campus  
Mary Stuart Rodgers Student Learning Center  
2201 Blue Gum Avenue, Modesto, CA**

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## **INFORMATIONAL HEARING SERIES: THE NEED FOR A 2014 WATER BOND: LOCAL PERSPECTIVES**

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### **BACKGROUND**

The purpose of this hearing series is to explore the need for a general obligation bond in 2014 to help fund water-related projects and programs and to hear local perspectives on the potential public benefits to communities throughout the state from such a water bond. As the Governor's recent declaration of a drought state of emergency demonstrates, urgent investments are needed to better enable Californians to prepare for future water scarcity.

Today's hearing will focus on the San Joaquin River Hydrologic Region. A "hydrologic region" is the most basic planning unit that the California Department of Water Resources (DWR) uses for the California Water Plan. There are ten hydrologic regions in the State and the map for each one matches the contours of a major watershed, which is an area of land where all of the water that falls on it or flows under it drains to a common set of locations. These locations can be visible, such as streams and rivers, or hidden in groundwater basins. However, both types of local water supplies are generally interconnected. The portfolio of water resources in many areas of California can also include raw water that is imported from other watersheds via canals or tunnels as well as local supplies that are created by recycling wastewater or desalinating brackish water or sea water.

The San Joaquin River Region lies below the Sacramento River Region and above the Tulare Lake Region, which are all part of the Great Central Valley. The Central Valley is about 400 miles long, 20 to 70 miles wide, and covers more than 20,000 square miles. The San Joaquin River Region relies on surface water, groundwater, and water imported from the federal Central Valley Project (CVP), operated by the U.S. Bureau of Reclamation (Reclamation), and the State Water Project (SWP), operated by the California Department of Water Resources (DWR). The San Joaquin Region also exports, on average, over 1 million acre-feet of surface water. Flows from the headwaters of the San Joaquin River are stored behind the CVP's Friant Dam, near Fresno, and then conveyed into the neighboring Tulare Lake Region via the Friant-Kern Canal.

#### Short History of the 2009 Water Bond

In 2009, former Governor Schwarzenegger convened the Legislature in extraordinary session to take up issues related to protecting and restoring the Delta ecosystem and improving water

reliability and management, including addressing water conveyance, storage, conservation and groundwater, and considering a general obligation bond. Subsequently, a historic five-bill package of water legislation was passed and signed, including SB 2 (Cogdill), Chapter 3, Statutes of the 2009-10 Seventh Extraordinary Session (SBX7 2).

SBX7 2 called for a bond to be placed on the November 2010 ballot that, if approved by the voters, would authorize the issuance of \$11.14 billion in general obligation bonds for a wide range of water projects and programs including water conservation and efficiency, groundwater protection and cleanup, integrated regional water management, ecosystem and watershed protection and restoration, water recycling, and water storage (Water Bond).

### *Delay and Anomaly*

However, in 2010 and again in 2012, supporters of the Water Bond recognized that a sluggish economy coupled with the state's need to focus on its dire budget shortfall meant that delaying the bond vote could increase its chances of success. AB 1265 (Caballero) moved the Water Bond to the 2012 general election and deleted a provision allowing for-profit entities to be members of joint powers authorities for bond-funded surface water storage projects. AB 1422 (Perea) moved the Water Bond to the November 4, 2014 statewide general election but otherwise left the text unchanged. While changing the text of an initiative measure requires a 2/3rds vote of each house, changing the date of an election can be done with only a majority vote. As a result, the Water Bond currently on the ballot is still titled the "Safe, Clean, and Reliable Drinking Water Supply Act of 2012."

### *Efforts to Reduce and Refocus the Bond*

Both houses of the Legislature have engaged in substantial efforts to reanalyze and right-size a bond so that voters can be confident that it addresses California's most pressing water infrastructure and program needs and is accountable.

In the Assembly, Speaker John A. Pérez convened a Water Bond Working Group comprised of members with diverse regional and statewide perspectives and chaired by Assemblymember Anthony Rendon. With a historic level of new members in the Assembly and a high degree of interest in the bond, the Working Group members conducted an extensive series of workshops and meetings among themselves and with their Assembly peers covering the background and composition of the current Water Bond, shifts in priorities that have occurred since it was passed in 2009, and the need to reduce its size and increase its accountability.

The 2013 Assembly Water Bond Working Group process included:

- 5 public hearings (3 in the Assembly; 2 in the Senate)
- 6 legislator briefings on water policy and funding
- Establishment of *Principles* that set priorities and emphasized accountability to the voters

- 3 rounds of public comments, and
- Publishing the *Water Bond Framework* & posting summaries of public comments on the Water, Parks & Wildlife Committee website at <http://awpw.assembly.ca.gov/waterbond>

Those efforts resulted in a public hearing in July of 2013 to present and receive comment on a set of Water Bond "principles" and another public hearing in August of 2013 to present and receive comment on a more specific "framework" for a revised water bond language. The Framework was then incorporated into AB 1331 (Rendon). Beginning in October 2013 Assemblymember Rendon, Chair of the Water, Parks & Wildlife Committee, started this series of nine Informational Hearings to gain local perspectives from different areas of the State on the need for a water bond in 2014 and the best way to make such a bond effective and accountable.

AB 1331, the *Clean, Safe and Reliable Drinking Water Act of 2014*, repeals the existing bond and places an \$8 billion measure on the November 4, 2014 ballot that is better tailored to current water management challenges.<sup>1</sup> Specifically, AB 1331 includes:

- \$1 Billion for maintaining and improving Drinking Water Quality
- \$1.5 Billion for protecting Rivers & Watersheds
- \$2 Billion to fund integrated regional water management that will improve water delivery and help regions reduce the impact of climate change on water supply
- \$1 Billion for protecting the California Delta that is a key ecological resource and also critical to the state water supply system
- \$2.5 Billion for Water Storage projects that will also reduce the impact of climate change on clean, reliable and affordable water supply<sup>2</sup>

Meanwhile, the Senate has also actively sought to educate members of the Legislature and the public on a need to refocus and reduce the Water Bond by holding a series of four informational hearings during 2013.<sup>3</sup> Currently, the primary Senate Water Bond vehicle is SB 848, the *Safe Drinking Water, Water Quality, and Flood Protection Act of 2014*. SB 848 repeals the existing bond and placed an entirely new \$6.925 billion measure on the November 2014 ballot.

In addition to AB 1331 and SB 848, six other substantive water bond proposals and three water bond "intent" bills have been introduced. AB 1445 (Logue) is a \$5.8 billion proposal that dedicates \$4.8 billion to water storage projects and \$1 billion to water quality. AB 2043 (Bigelow) is a \$7.953 billion proposal modeled on the 2009 bond that funds water storage at

<sup>1</sup> Specific bills, including AB 1331 and SB 848, may be reviewed and tracked through the California Legislative Information web site maintained by the Office of Legislative Counsel at: <http://leginfo.legislature.ca.gov/>.

<sup>2</sup> Information on the Assembly water bond process, including links to comment letters on the Assembly Working Group Framework, can be found at: <http://awpw.assembly.ca.gov/waterbond> .

<sup>3</sup> Information on the Senate Water Bond Oversight Hearings can be found at: <http://sntr.senate.ca.gov/informationaloversighthearings> .

\$3 billion, eliminates \$1.785 billion for conservation and watershed protection, and reduces the various other chapters of the 2009 bond by anywhere from 15-33%. AB 2686 (Perea) is a bond of at least \$9.25 billion that includes placeholders for additional sums for water recycling and groundwater sustainability. AB 2686 was initially modeled on AB 1331 but included \$2.25 billion for Delta sustainability and \$3 billion for water storage (i.e. the same levels for those chapters as found in the 2009 Water Bond). AB 2554 (Rendon) is a \$8.5 billion bond measure that contains the same language as AB 1331 prior to its April 8, 2014 amendments in the Senate Natural Resources and Water Committee, except that AB 2554 increases the water storage chapter to \$3 billion, continuously appropriated.

In the Senate, SB 927 (Canella) reduces the 2009 Water Bond to \$9.217 by also eliminating the entire \$1.785 billion chapter for conservation and watershed protection and deleting several other specific allocations in other chapters. SB 1370 (Galgiani) is a \$6.26 billion general obligation bond for the exclusive purpose of funding four surface storage projects: Sites Reservoir in the Sacramento Valley; Temperance Flat Reservoir in the San Joaquin Valley; an expansion of San Luis Reservoir, jointly owned by the CVP and SWP; and, raising Shasta Dam which, as it would affect the free-flowing condition of the McCloud River, is an action that State law currently prohibits any department or agency of the state from assisting or cooperating with, whether by loan, grant, license, or otherwise. The one exception is that DWR may participate in studies involving the technical and economic feasibility of enlarging Shasta Dam.<sup>4</sup>

### San Joaquin River Region

The San Joaquin River Region, as defined by the California Water Plan, is in California's Great Central Valley and is generally the northern portion of the San Joaquin Valley. The region includes approximately half of the Sacramento-San Joaquin River Delta (the Delta)—those areas that are in Contra Costa, Alameda, and San Joaquin counties. The region also contains portions of the following counties: Alpine, Amador, Benito, El Dorado, Fresno, Sacramento, and San Joaquin; and all of Calaveras, Madera, Mariposa, Merced, Stanislaus, and Tuolumne counties. The hydrologic region is bordered on the east by the Sierra Nevada and on the west by the coastal mountains of the Diablo Range. The region is hydrologically separated from the Tulare Lake Region by a low broad ridge that extends across the San Joaquin Valley between the San Joaquin and Kings rivers. The San Joaquin Valley, according to the U.S. Geological Survey (USGS) receives, on average, less than 5 inches of rainfall in the southernmost portion and up to 15 inches in the north. Although an arid to semi-arid climate, the Region includes one of California's top three agricultural counties – Fresno – as well as Merced, San Joaquin and Stanislaus Counties which are all in the top 10. Leading commodities in the Region include, but are not limited to, almonds, cattle, cherries, grapes, milk, potatoes, poultry, tomatoes and walnuts.

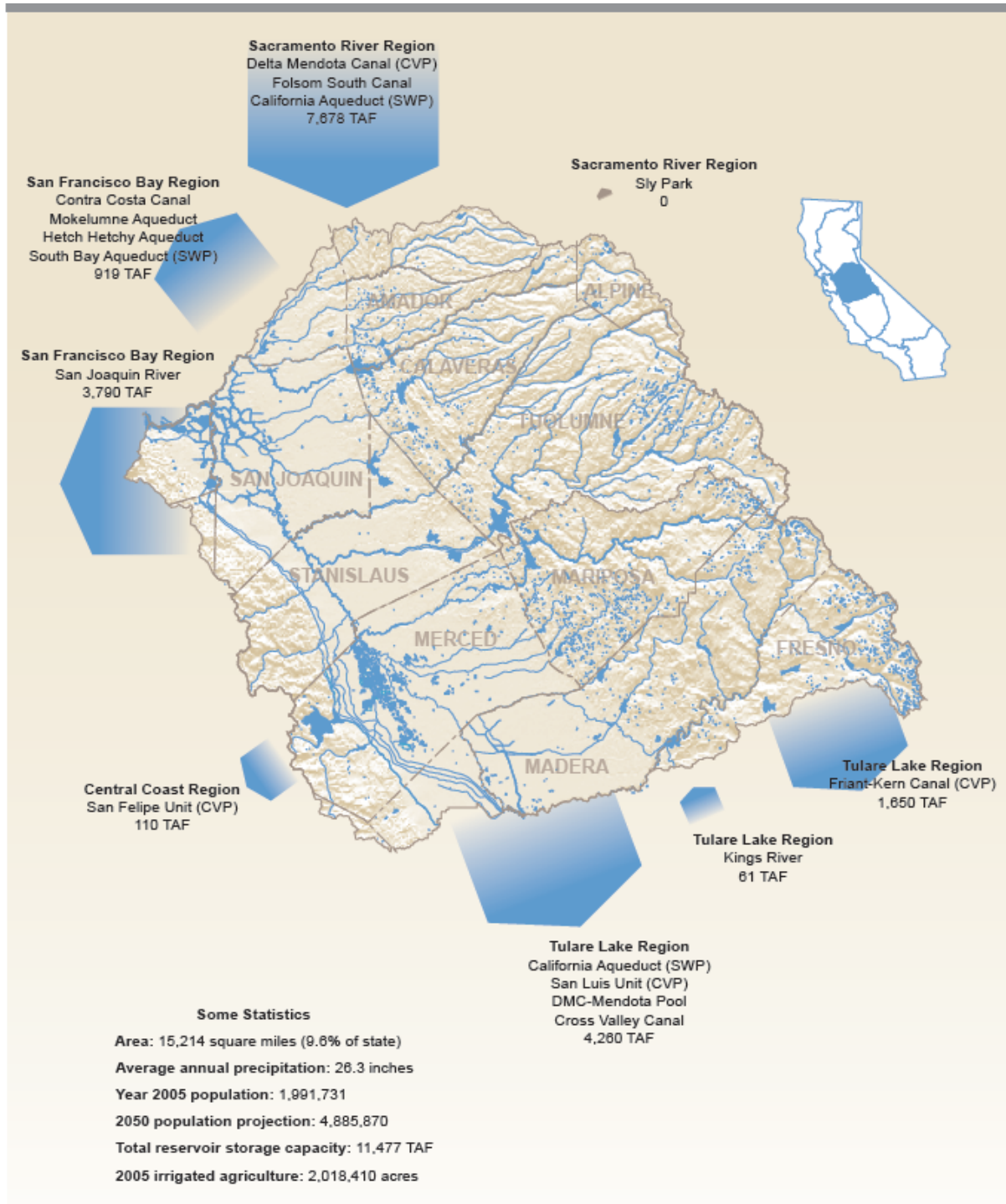
A distinguishing feature of the San Joaquin Region is the San Joaquin River which, at roughly 300 miles long, is one of the state's longest rivers. The headwaters of the San Joaquin River begin near the 14,000-foot crest of the Sierra Nevada and then flow down the western slope of

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<sup>4</sup> Public Resources Code § 5093.542

the Sierra Nevada and turn northwestward on the San Joaquin Valley floor toward the Delta. Once those flows reach the Delta, the San Joaquin and Sacramento Rivers converge and flow westward towards the San Francisco Bay where, among other benefits, the water acts a hydraulic barrier to the incoming tidal push of saline water from the ocean.

**Map courtesy of the California Water Plan (DWR Bulletin 160-09)**



According to the California Water Plan, the San Joaquin River has an average annual unimpaired runoff of about 1.8 million acre-feet, and its eight major tributaries drain about 32,000 square miles of watershed. However a majority of water from the headwaters of the San Joaquin River does not flow into the San Joaquin River Region. It is impounded behind Friant Dam in Lake Millerton and then sent to the Friant Water Users Authority in the Tulare Lake Hydrologic Region. Partially to compensate for this exported supply, Delta waters are brought into the region along the west side of the valley by the SWP California Aqueduct, and the federal CVP San Luis Unit Project and Delta-Mendota Canal.

## Regional Issues

### *San Joaquin River Restoration*

One of the major activities within this region is the restoration of the San Joaquin River. Fish and Game Code section 5937 requires that there must be sufficient water for fish existing below dams. However, at times, sections of the San Joaquin River have run completely dry due to the operation of the Friant Unit. As a result, a federal judge found in 2004 that Reclamation had violated the requirements of section 5937. This prompted the involved parties, including the State of California, to end 18-years of litigation and enter into a settlement agreement, resulting in the San Joaquin River Restoration Program.

According to the Restoration Program, there are two settlement goals: 1) restoring and maintaining fish populations in "good condition" in the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish; and 2) reducing or avoiding adverse water supply impacts to all of the Friant Division long-term contractors that may result from the interim flows and restoration flows provided for in the Settlement.<sup>5</sup>

Chapter 6 of AB 1331, *Protecting Rivers, Lakes, Streams, Coastal Waters and Watersheds*, includes \$1.5 billion for expenditures and grants for multibenefit ecosystem and watershed protection and restoration. Chapter 6 includes five hundred million dollars (\$500,000,000) to fulfill the existing obligations of the State of California. AB 1331 specifies that the San Joaquin River Restoration Settlement would be eligible to apply for these funds.

### *Potential for Storage*

A major surface storage facility has been considered in the San Joaquin Region at Temperance Flat since at least 1930 when Hyde Forbes, an engineering geologist, issued a geological report on three potential dam sites on the San Joaquin River for the Department of Public Works. Those sites included the present location of Friant Dam; Fort Miller just downstream of the confluence of Fine Gold Creek with the San Joaquin River; and, Temperance Flat, a small bowl-shaped basin on the San Joaquin River above the present location of Millerton Lake (approximately 13 miles upstream of Friant Dam). Interestingly, the Temperance Flat location was considered superior to the Friant Dam location but lost out because it would have required additional canal construction.

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<sup>5</sup> More information on the San Joaquin Restoration Program can be found at: <http://www.restoresjr.net/>

Between 1987-1992, California's water "wars" came to a head when a six-year drought slowed water deliveries, water quality deteriorated and two fish species unique to the Delta – the Delta smelt and winter-run Chinook salmon – were pushed to the brink of extinction. Two years after the drought ended, the State and Federal governments signed an agreement to coordinate activities in the Delta and initiate the CALFED Bay-Delta Program, a long-term planning process to improve the Delta and increase the reliability of California's water supply. The CALFED Record of Decision (CALFED ROD), issued in 2000, anticipated, among other actions, operational changes for the CVP and SWP, investments in water use efficiency and integrated water management, ecosystem restoration, and additional investigation of five potential surface storage locations statewide.

The Upper San Joaquin River Basin Storage Investigation was one of the five. It focused on a Millerton Lake Enlargement or equivalent action. That Investigation proposed to expand water storage capacity; improve water supply reliability and flexibility for agricultural, urban, and environmental uses; and, enhance San Joaquin River water temperature and flow conditions to support anadromous fish restoration efforts.

Chapter 9 of AB 1331 provides \$2.5 billion to fund the public benefits of water storage projects. Temperance Flat could receive consideration as AB 1331 includes among its eligibility criteria those surface storage projects identified in the CALFED ROD, with the exception of a raise of Shasta Dam.

### *Groundwater Overdraft*

According to the U.S. Geological Survey (USGS) report, *San Joaquin Valley California: Largest human alteration of the earth's surface*, mining ground water for agriculture has enabled the San Joaquin Valley of California to become one of the world's most productive agricultural regions, while simultaneously contributing to one of the single largest alterations of the land surface attributed to humankind. The San Joaquin Valley is the backbone of California's modern and highly technological agricultural industry producing about 25 percent of the nation's table food on only 1 percent of the country's farmland. But its groundwater basins are in trouble. The USGS states that as far back as 1970, when the previous set of comprehensive surveys of land subsidence were made, subsidence in excess of 1 foot had affected more than 5,200 square miles of irrigable land—one-half the entire San Joaquin Valley and that the maximum subsidence, near Mendota, was more than 28 feet. Since that time, things have worsened.

As previously noted, Governor Brown declared a drought state of emergency in California on January 17, 2014. The Governor's declaration comes on the heels of three dry years in a row and is the second time in five years that a California Governor has declared a drought state of emergency. In December 2009, following the state's last prolonged drought, data from the National Aeronautics and Space Administration (NASA)/German Aerospace Center Gravity Recovery and Climate Experiment (Grace) satellites revealed that between 2003 and 2009 the aquifers for the Central Valley and its major mountain water source, the Sierra Nevadas, had lost almost 26 million acre-feet of water<sup>6</sup> – which is nearly enough water combined to fill Lake

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<sup>6</sup> An acre-foot is a standard measurement of water volume. It is enough water to cover an acre of land a foot deep or about 325,900 gallons.

Mead, America's largest reservoir. The findings reflected the effects of California's extended drought and the resulting increased rates of groundwater being pumped for human uses, such as irrigation.

In a more recent USGS report issued last November, *Land Subsidence along the Delta-Mendota Canal in the Northern Part of the San Joaquin Valley*, it was estimated that the center of the worst "subsidence bowl" was near El Nido in Merced County where more than 21 inches of subsidence was recorded between the two years. As the report states, the rate of subsidence in this area – nearly 1 foot a year – is among the highest ever measured in the San Joaquin Valley. The same report concludes that groundwater pumping that results in renewed compaction and land subsidence could cause serious operational, maintenance, and construction-design problems for the SWP's California Aqueduct, the CVP's San Luis and Delta-Mendota Canals, and other water-delivery and flood-control canals in the San Joaquin Valley. It states that "subsidence has reduced the flow capacity of several canals that deliver irrigation water to farmers and transport floodwater out of the valley" and that "several canals managed by the San Luis and Delta-Mendota Water Authority and the Central California Irrigation District have had reduced freeboard and structural damages that have already required millions of dollars' worth of repairs, and more repairs are expected in the future."

Overdraft in California today is estimated to occur in parts of the Central Valley, but also in some coastal and southern California basins with limited surface water supplies and intensive agriculture. While some overdraft reverses temporarily during wet periods, DWR estimates that California is overdrafting its groundwater at a rate of 1.5 million acre-feet per year. However, NASA estimates groundwater overdraft in California may be close to 4.4 million acre-feet per year statewide.

Chapters 7 and 9 of AB 1331, *Climate Change Preparedness for Regional Water Security* (\$2 billion) and *Water Storage for Climate Change* (\$2.5 billion), respectively, include among their eligible projects and programs those that advance aquifer cleanup, groundwater recharge, groundwater storage, and conjunctive use of surface and groundwater facilities.

### *Groundwater Contamination*

Nitrogen in groundwater can occur as dissolved nitrate, nitrite, or ammonia. Nitrate pollution can pose serious health risks to pregnant women and infants if consumed at concentrations above the Maximum Contaminant Level (MCL) of 45 milligrams per liter set by the California Department of Public Health. Nitrate contaminated groundwater is a particularly significant problem in the Tulare Lake Basin and Salinas Valley areas, where about 2.6 million people, including many of the poorest communities in California, rely on groundwater for their drinking water. Many other areas of the State, however, also have nitrate contaminated groundwater making it the most frequently detected anthropogenic chemical above an MCL in drinking water sources.

In their 2011 report the *Human Costs of Nitrate-contaminated Drinking Water in the San Joaquin Valley*, the Pacific Institute found that Nitrate contamination of California's groundwater presents a preventable threat to human health and economic wellbeing that is not



being addressed at the scale needed to meet current or expected future levels and that the San Joaquin Valley is "the epicenter of the nitrate challenge." The report's investigations found that 75% of the nitrate exceedances in 2007 occurred in water systems located in the San Joaquin Valley, which includes both the San Joaquin River Hydrologic Region and the Tulare Lake Hydrologic Region.

The report acknowledges that despite the health effects of nitrate contamination, "some communities in the state have been waiting for more than a decade for measures to restore the safety of their drinking water." This means that many of these households – who are already low-income, Latino, and rural – must replace contaminated tap water, if they are able, by purchasing expensive alternatives such as bottled water or by purchasing point-of-use filters at their own expense – despite the fact that they are already paying for water supplies. The problem is exacerbated by that fact that "among community water systems, small ones with less than 200 connections comprise the majority of systems with persistent nitrate violations, and it is widely recognized that these systems cannot afford to independently finance the projects necessary to reduce nitrates and deliver safe drinking water."<sup>7</sup>

On February 20, 2013 the State Water Board submitted a report to the Legislature entitled *Recommendations Addressing Nitrate in Groundwater*. The report was required by SB 1 (Perata) from the Second Extraordinary Session of 2008 (SBX2 1). SBX2 1 directed the State Water Board to develop pilot projects focusing on nitrate in groundwater in two of California's worst-affected areas, the Tulare Lake Basin and Salinas Valley, and to submit a report to the Legislature on the scope and findings of the pilot projects, including recommendations, within two years of receiving funding. The purpose of the pilot projects was to improve understanding of the causes of groundwater contamination, identify potential remediation solutions and funding sources to recover state costs to clean up or treat groundwater, and ensure the provision of safe drinking water to all communities in California, not just those in the pilot study areas.

One of the State Water Board's first steps in the development of the pilot projects was to contract with the University of California, Davis (UC Davis) in 2010 to conduct an independent study. Some of the findings of the UC Davis Nitrate Report were:

- Nitrate problems will likely worsen for decades. For more than half a century, nitrate from fertilizer and animal waste has infiltrated into Tulare Lake Basin and Salinas Valley aquifers. Most nitrate detected in drinking water wells today was originally applied to the surface decades ago.
- Agricultural fertilizers and animal wastes applied to cropland are by far the largest regional sources of nitrate in groundwater. Other sources can be locally important.
- Nitrate loading reductions are possible, some at modest cost. Large reductions of nitrate loads to groundwater can have substantial economic cost.

The State Water Board/UC Davis reports raise many issues, including the need to adequately fund projects and programs to address the needs of communities with nitrate-contaminated

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<sup>7</sup> The full report can be accessed here: <http://pacinst.org/publication/human-costs-of-nitrate-contaminated-drinking-water-in-the-san-joaquin-valley/>

groundwater, many of which are economically disadvantaged or severely economically disadvantaged.<sup>8</sup>

Chapter 5 of AB 1331, *Clean and Safe Drinking Water*, contains \$1 billion dollars to help address the challenges facing communities without access to safe drinking water. AB 1331 recognizes that there are critical and immediate needs in disadvantaged, severely disadvantaged, rural, or small communities that suffer from contaminated drinking water supplies, including, but not limited to projects that will address public health emergencies. AB 1331 envisions that such projects could include providing interim water supplies, installing interim water treatment equipment and systems and, as a more long-term solution, cleaning up groundwater where appropriate and cost-effective.

### Governor's Water Action Plan

On Monday, January 27, 2014 the California Natural Resources Agency, the California Department of Food and Agriculture, and the California Environmental Protection Agency, jointly released a final draft of the California Water Action Plan (Action Plan).

The Action Plan identifies multiple water-related challenges that the State currently faces including drought, flood, declining groundwater basins, poor water quality, and loss of fish and wildlife habitat. The Action Plan states that it is "based on three broad objectives: more reliable water supplies, the restoration of important species and habitat, and a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades."

The Action Plan sets out an ambitious set of strategies to be implemented in the next five years including, but not limited to:

- Making conservation a way of life;
- Investing in integrated water management and increasing regional self-reliance;
- Protecting and restoring important ecosystems, including in the Delta;
- Managing and preparing for dry periods;
- Expanding water storage capacity, including groundwater storage capacity through better groundwater management; and,
- Providing safe drinking water

All of these essential actions would be critically advanced by the funding provided in AB 1331 – the *Clean, Safe, and Reliable Drinking Water Act of 2014*.

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<sup>8</sup> The full State Water Board Report, which includes the UC Davis Report as an appendix, can be found at: [http://www.waterboards.ca.gov/water\\_issues/programs/nitrate\\_project/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/nitrate_project/index.shtml)