

E-mailed from the

ASSEMBLY COMMITTEE ON
ENVIRONMENTAL SAFETY AND TOXIC MATERIALS

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To: Members of the Assembly Committee on Environmental Safety & Toxic Materials

From: Assemblymember Luis Alejo, Chair

Subject: Oversight Hearing on Contaminated Drinking Water in California's Disadvantaged Communities

The Assembly Environmental Safety and Toxic Materials Committee (ESTM) is holding an oversight hearing on Wednesday, November 14, 2012, to review the status of California's Drinking Water Program. At the hearing, the Committee will examine the actions that State agencies have taken to address contaminated drinking water, especially serving disadvantaged communities. The California Department of Public Health (CDPH), a governmental body within the California Health and Human Services Agency (HHS), is responsible for California's Drinking Water Program.

State law recognizes that all people have a right to safe and accessible drinking water¹. However, approximately two million Californians live in communities that rely on contaminated groundwater as their primary source of drinking water.² CDPH's Drinking Water Program faces the difficult challenge of ensuring that all Californians receive clean and affordable drinking water.

This ESTM hearing will gather information and take testimony on a range of policy issues related to the State's Drinking Water Program, including:

- How does California's Drinking Water Program provide for safe and accessible drinking water for all Californians, especially for those in small, disadvantaged communities?
- What is the status of CDPH's small water system program?
- What is CDPH doing to expedite the disbursement of state and federal funds to small, disadvantaged communities for drinking water remediation?
- How can the State promote sustainable drinking water programs in small, disadvantaged communities? How can the State ensure that small, disadvantaged communities are able to sustain the operation and maintenance costs of drinking water treatment?

¹ California Health and Safety Code § 116270 and California Water Code § 106.3.

² State Water Resources Control Board. *Communities that Rely on Contaminated Groundwater Draft Report to the Legislature*. (February 2012).

- What is the State, including CDPH, doing to support regional solutions for disadvantaged communities in need of safe and accessible drinking water? What is happening at the local level to promote regional drinking water solutions?
- What, if any, statutory or resource restrictions does CDPH face in its efforts to improve disadvantaged communities' access to safe and accessible drinking water?
- What are HHS and its departments doing to address the lack of safe and accessible drinking water in disadvantaged communities in California?

Introduction

In 1989, the California Legislature passed and Governor Deukmejian signed Assembly Bill (AB) 21 (Sher), which established in Health and Safety Code § 116270 the legislative finding that, “Every citizen of California has the right to pure and safe drinking water.” This year, the Legislature and Governor Brown further recognized the principle that all people have a right to safe and accessible drinking water by enacting AB 685 (Eng).³ This state policy declares that every human being has the right to clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.

In California, the vast majority of residents receive drinking water that meets public health standards. However, recent studies have shed light on the fact that many disadvantaged and rural communities have not had access to safe, accessible and affordable drinking water for years. The fact that more than two million Californians don't have access to clean drinking water questions the effectiveness of the State's Drinking Water Program, and calls for a comprehensive plan to address the public health threat of contaminated drinking water.

California's Drinking Water

California's water supply is drawn from surface water and groundwater. Surface water lies on top of the ground, in lakes, rivers, streams, reservoirs and collection tanks. All groundwater at one point starts as surface water, and then percolates into the ground, where it comes to rest in sand or gravel aquifers, or collects in large rock formations, creating underground rivers and lakes.

In California, groundwater is essential for agricultural, industrial, urban and drinking water uses. California has over 8,000 public water systems (PWS)⁴, and, according to CDPH, 85 percent of those water systems rely on groundwater. In addition, approximately 2 million Californians rely on groundwater from either a private domestic well or a smaller groundwater-reliant system that is not regulated by the State⁵. In a typical year, groundwater supplies one-third of the water used in California and in drought years it supplies as much as half.⁶

³ California Water Code § 106.3.

⁴ Defined in California Health and Safety Code § 116275.

⁵ State Water Resources Control Board. *Communities that Rely on Contaminated Groundwater Draft Report to the Legislature*. (February 2012).

⁶ California Department of Water Resources, 2003. Bulletin 118: California's Groundwater.

Large portions of groundwater basins throughout California are contaminated with either naturally occurring or anthropogenic (man-made) pollutants or both. Since some coastal basins, cities and rural areas are entirely dependent on groundwater for their drinking supply, contamination of this source can have serious consequences for those communities.

Sources of Drinking Water Contamination in California

Groundwater naturally contains minerals and compounds that slowly dissolve from soil particles, sediments and rocks as groundwater travels through the soil pore spaces and the fractures of rock formations.⁷ The effects of these natural sources of contamination on groundwater quality depend on the type of contaminant and its concentrations.

Many of the main sources of groundwater contamination are anthropogenic, however. Human groundwater contamination can be traced to agricultural activities, urban runoff, mining, industrial operations, leaking underground storage tanks and septic systems. In a recent study of California’s contaminated groundwater⁸, the State Water Resources Control Board (SWRCB) identified the ten most common contaminants in California’s groundwater (Table 1).

Contaminant	Naturally occurring/ man-made
Arsenic	Naturally Occurring
Nitrate	Man-made (For concentration above drinking water standards; fertilizer)
Gross alpha radioactivity	Naturally Occurring
Perchlorate	Man-made (For concentration above drinking water standards; industrial/military)
Tetrachloroethylene (PCE)	Man-made (solvent)
Trichloroethylene (TCE)	Man-made (solvent)
Uranium	Naturally Occurring
1,2-Dibromo-3-chloropropane (DBCP)	Man-made (pesticide)
Fluoride	Naturally Occurring
Carbon Tetrachloride	Man-made (solvent)

Table 1. Ten most common contaminants in California’s groundwater.

Nitrate, a byproduct of nitrogen-based farm fertilizer and animal manure, is one of the most common groundwater contaminants in California. Many groundwater contaminants cause harm only after relatively long term exposure. However, consuming water with high levels of nitrate can have almost immediate effects on a person. The most common health effects from nitrate exposure are skin rashes, hair loss, birth defects and “blue baby syndrome,” a potentially fatal blood disorder in infants. Additionally, a recent study done by the National Institute of Health linked increased risk of thyroid cancer with high nitrate levels in public water supplies.⁹

⁷ Harter, Thomas. Groundwater Quality and Groundwater Pollution. Agricultural and Natural Resources, UC Davis. Publication 8084.

⁸ State Water Resources Control Board. *Communities that Rely on Contaminated Groundwater Draft Report to the Legislature.* (February 2012).

⁹ Ward MH, et al. 2010. *Nitrate intake and the risk of thyroid cancer and thyroid disease.* *Epidemiology.*, v.21 (3)

In 2008, SBX2-1 (Perata)¹⁰ was signed into law, requiring the SWRCB, in consultation with other agencies, to prepare a report to the Legislature to better understand the sources of nitrate contamination and identify solutions for groundwater nitrate contamination. This year, the University of California (UC) Davis, under contract with SWRCB, released a report called “Addressing Nitrate in California’s Drinking Water.” This study determined that 96 percent of groundwater nitrate contamination comes from the agriculture sector, and in some of the state's most intensely farmed regions such as the Central Valley and the Salinas Valley, nitrate contamination has grown worse in recent decades. Specifically, the report revealed that nearly 10 percent of the 2.6 million people living in the Tulare Lake Basin and Salinas Valley rely on drinking water that may exceed the nitrate standard of 45 milligrams per liter set by CDPH for public water systems.

In light of the UC Davis report, the Governor’s office convened a Drinking Water Stakeholder Group that included representatives from the agriculture sector, state and local agencies, environmental justice groups and other stakeholders. This group is working to identify solutions that will help provide safe and affordable drinking water to disadvantaged communities in unincorporated areas impacted by nitrates in groundwater.

Prevalence of Groundwater Contamination in Disadvantaged Communities

In 2008, AB 2222 (Caballero)¹¹ was signed into law, requiring SWRCB to submit a report to the Legislature to identify the following: communities that rely on contaminated groundwater as a primary source of drinking water, the principal contaminants in groundwater, and potential solutions and funding sources to clean up groundwater.

The resultant SWRCB draft report “Communities that Rely on Contaminated Groundwater” identified 2,584 community PWS in California that rely on groundwater as their primary source of drinking water. Out of those, 682 community PWS were reported to rely on contaminated groundwater as a primary source of drinking water.¹² The SWRCB report also compared the list of 682 community PWS with a list of PWS that had received a drinking water quality violation within the most recent compliance cycle (2002-2010). This comparison revealed that a total of 265 community PWS that rely on contaminated groundwater and serve a little over two million people had received at least one drinking water quality violation within the last CDPH compliance cycle. According to this report, most of the community PWS with violations of drinking water standards are located in the Southern California Inland Empire, the east side of San Joaquin Valley, the Salinas Valley and the Santa Maria Valley. The findings from this report and the UC Davis study suggest that drinking water contamination in California disproportionately affects small, rural and low-income communities that depend mostly on groundwater as their drinking water source.

Communities that rely on contaminated groundwater typically treat their water before it is delivered and consumed. However, disadvantaged communities generally get their water from small PWS that often lack the infrastructure and the financial resources to remove the

¹⁰ California Water Code § 83002.5

¹¹ California Water Code § 10782.

¹² Findings reflect raw, untreated groundwater quality.

contaminants from the groundwater prior to the water being delivered¹³. By contrast, communities that receive their water supply from large PWS are better able to cope with groundwater contamination. Large PWS have the economic means to absorb the cost associated with treatment and the technical capacity to address water contamination.

In addition, approximately two million Californians rely on groundwater from either a private domestic well or a smaller groundwater-reliant system that is not regulated by the State. A large portion of these California residents lack an assessment of how clean their water is because they are not required to test the quality of their well water¹⁴.

Solutions to Address Drinking Water Contamination from Groundwater Sources

Each community public water system varies in size, location, and available resources. In addition, each community might face a different drinking water contamination challenge that might need a different solution. Below is a summary of some of the common solutions discussed when dealing with contaminated drinking water from groundwater sources.

- **Regional solutions:** Consolidation with a neighboring public system or other regional solutions could be the most effective long-term solution, but it can take years to develop and a high capital investment.
- **Drilling a deeper or new well:** This could provide a potential source of reliable water, but there is the risk of encountering other water quality concerns and eventual well contamination if the plume is spreading.
- **Bottled water/delivered water:** This provides a temporary emergency solution with no start-up cost, but it is inconvenient and can eventually become a financial hardship.
- **Water treatment:** This can take several forms, including large-scale community treatments systems to point-of-use systems in single homes. Water treatment can be an effective way of addressing groundwater contamination but the maintenance cost could be significant dependent on the system.
- **Switch to surface water:** Some communities may be able to address their water issues by using surface water as their drinking water source or by blending surface water with groundwater. However, planning and infrastructure support is not always available for this type of project. In addition, the operation and maintenance cost can also be significant.
- **Relocate households:** This would provide a safe and reliable water supply, but would be expensive and socially difficult since families could potentially lose their homes, jobs and communities.
- **Groundwater cleanup:** This can be a very effective tool to lower groundwater contamination levels. The Water Boards and the Department of Toxic Substance Control (DTSC) have programs to identify and help cleanup sources of groundwater contamination. Some of the disadvantages are that the costs to finance cleanups are high and there is not that much funding available. In addition, cleaning up naturally-occurring contaminants is not an option.

¹³ State Water Resources Control Board. *Communities that Rely on Contaminated Groundwater Draft Report to the Legislature*. (February 2012).

¹⁴ Ibid.

The State Drinking Water Program

In 1974, the federal Safe Drinking Water Act (SDWA) was passed by the U.S. Congress to protect public health by regulating public drinking water sources.¹⁵ The federal SDWA authorized the U.S. Environmental Protection Agency (US EPA) to establish mandatory drinking water standards for the entire country. In 1976, the California Safe Drinking Water Act (CA SDWA)¹⁶ was enacted to build on and strengthen the federal SDWA. The CA SDWA authorizes CDPH to protect the public from contaminants in drinking water by establishing maximum contaminants levels (MCLs) that are at least as stringent as those developed by the US EPA. The Drinking Water Program's mission includes the enforcement of the federal and state safe-drinking water acts and the oversight of PWS throughout the state.

In California, several agencies have responsibility over water quality; however, CDPH is the only agency in charge of the Drinking Water Program and required to enforce the quality and safety of the state's drinking water. CDPH responsibility for the quality of drinking water begins when water is pumped from a drinking water well or surface-water intake point. SWRCB and the Regional Water Quality Control Boards are responsible for the quality of the water source before the water gets pumped.

The Drinking Water Program regulates over 8,000 PWS by inspecting the systems, issuing permits, taking enforcement actions when necessary, and implementing new requirements due to changes in law or regulations. CDPH has delegated the Drinking Water Program regulatory authority for small PWS serving less than 200 service connections to thirty-four counties in California. The delegated counties (local primacy agencies) regulate approximately 4,600 small PWS that are usually owned by schools, churches and small businesses, like restaurants and hotels.

As described on the CDPH website, the Drinking Water Program, which is a component of CDPH's Division of Drinking Water and Environmental Management, also provides information on drought preparedness and water conservation; oversees water recycling projects; certifies residential water treatment devices; certifies drinking water treatment and distribution operators; supports and promotes water system security; provides support for small water systems and for improving technical, managerial, and financial capacity; oversees the Drinking Water Treatment and Research Fund; and provides funding opportunities for water system improvements.

Funding Opportunities through the Drinking Water Program

Projects to improve drinking water can be funded through a variety of sources that include federal, state and local agencies and nongovernmental organizations. Below is a summary of the main funding sources available through the Drinking Water Program that are managed by CDPH.

¹⁵ The "Safe Drinking Water Act", consists of title XIV of the Public Health Service Act (42 U.S.C. 300f-300j-9) as added by Public Law 93-523 (Dec. 16, 1974) and the amendments made by subsequent enactments.

¹⁶ California Health and Safety Code § 116270-116755.

The Safe Drinking Water State Revolving Fund (SRF): US EPA has provided the funds for the SRF since 1997, which includes a 20 percent state matching requirement. CDPH makes this money available in the form of low-interest loans and grants to support PWS with technical, managerial, and financial development. Money from this fund allows communities to correct infrastructure problems and achieve compliance with safe drinking water standards. CDPH makes yearly allocations of 100 to 150 million dollars.

Proposition 50 (The Water Security, Clean Drinking Water, Coastal Beach Protection Act): California voters passed Proposition 50 in the November 2002 general election. CDPH received 500 million dollars to be distributed as direct grants and loans for water security of water systems, community treatment facilities and monitoring programs. The money from this fund could also be used to match funds for federal grants for PWS infrastructure improvements. The funds allocated to CDPH from Proposition 50 have been fully committed. Proposition 50 also allocated funds to SWRCB and the Department of Water Resources (DWR). Currently, DWR has Proposition 50 funding available for certain types of drinking water projects.

Proposition 84 (The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act): California voters passed Proposition 84 in the November 2006 general election. Proposition 84 allocated 250 million dollars to CDPH for loans and grants to communities that need assistance with small improvements and to reduce or prevent contamination of groundwater sources. Funds could also be used for matching federal grants and for emergency projects. Most Proposition 84 funds managed by CDPH have been allocated. There is a balance of 7 million dollars that can only be used to address emergency situations that damage critical water infrastructure. Proposition 84 also allocated funds to DWR for use through the Integrated Regional Water Management (IRWM) program. Currently, the IRWM program has funding available for projects that address critical drinking water supply or water quality needs for disadvantaged communities. Funding is also available for Urban Water Suppliers implementing leak detection and repair and installation of water meters Best Management Practices.

Water Bond of 2010: In 2009 the Legislature passed SBX7 2 (Cogdill) enacting the Safe, Clean, and Reliable Drinking Water Supply Act of 2010.¹⁷ This measure, if approved by the voters, authorizes the issuance of bonds in the amount of 11.14 billion dollars, pursuant to the State General Obligation Bond Law, to finance a wide range of water-related programs and projects. Specifically, the water bond would provide 1 billion dollars for expenditures, grants and loans for projects to prevent and reduce the contamination of groundwater used as a source for drinking water. The water bond will be placed on the 2014 ballot.¹⁸

Funds available through CDPH have helped improve California's drinking water infrastructure. According to the SWRCB report, during fiscal year 2010-2011, CDPH allocated 375 million dollars in the form of loans and grants to communities that needed to address drinking water issues. Out of that money, 190 million dollars were allocated to disadvantaged communities. The amount of money available to address drinking water issues is almost depleted as funds from Proposition 50 and 84 are mostly allocated. There are still some funds available through the SRF,

¹⁷ California Water Code § 79701-79824.

¹⁸ AB 1422 (Perea, Chapter 74, Statutes of 2012).

SWRCB and DWR; but the money from those funding sources might not be sufficient to deal with the drinking water crisis. According to a US EPA report, the twenty-year capital improvement necessary by California PWS to continue to provide safe drinking water is about 39 billion dollars.¹⁹

In addition to a shortage of funds to deal with drinking water problems, there are many barriers that prevent disadvantaged communities from accessing the programs and funds that are already available. This results in communities that pay for their unsafe water and also have to carry the additional cost of alternative water sources. Some common barriers that disadvantaged communities face are:

- The application process for many of the state and federal programs is difficult and confusing. For example, CDPH, SWRCB and DWR administer programs and funds with different guidelines and qualification criteria.
- Disadvantaged communities may lack the institutional knowledge, resources and guidance required to apply for and receive funding.
- If a community is not able to demonstrate that they can afford the operation and maintenance of their proposed system project, then they do not qualify to receive most of the available funding from the state and the federal government.
- Easily accessible funding to support immediate, interim sources of safe drinking water is not always available.
- There is not public funding available for private domestic well owners or smaller ground water systems that are not regulated by the state.
- Funding requirements are often too strict to encourage creative, sustainable or regional solutions.

Outstanding issues

- Is the current selection process used by CDPH to allocate funding to address drinking water quality issues working? How could CDPH speed up the process and make it more effective?
- How is CDPH helping small disadvantaged communities in unincorporated areas to better navigate funding opportunities across agencies?
- How can the Drinking Water Program provide more interim solutions and emergency funding for disadvantaged communities?
- How could CDPH and other agencies allocate more funding for regional planning?
- Funds from Proposition 50 and Proposition 84 available through the Drinking Water Program are almost depleted. What is CDPH doing to continue to provide funding opportunities for water system improvements?
- There is not public funding available for private domestic well owners or smaller groundwater systems that are not regulated by the state. How is the Drinking Water Program or CDPH addressing this situation?

¹⁹ US EPA Needs Analysis Survey. 2007. Available at http://water.epa.gov/infrastructure/drinkingwater/dwns/upload/2009_03_26_needssurvey_2007_report_needssurvey_2007.pdf

- The process of establishing maximum contaminants levels (MCLs) to water contaminants is slow. In 2001 the Legislature required CDPH to set standards for Chromium-6. Currently, CDPH is still in the process of developing standards for this contaminant. How can CDPH make the process more efficient?
- The California Safe Drinking Water Act requires the state Drinking Water Program to submit a report to the Legislature assessing the overall quality of the state's drinking water and potential health risks that may be associated with drinking water. The last and only report submitted to the legislature was in 1993. Why is CDPH out of compliance with this statutory requirement?
- California doesn't have a comprehensive state-managed groundwater use permitting and ground water rights system.
- How can the state promote sustainable, regional drinking water solutions?

Summary of Drinking Water Measures from the 2011-2012 Legislative Session

AB 54 (Solorio, Chapter 512, and Statutes of 2011): Authorized a local agency formation commission (LAFCO) to include small, community-run mutual water companies in its municipal service reviews, and provides CDPH more guidance regarding issuing Safe Drinking Water Revolving Fund money to mutual water companies. Required mutual water companies to provide basic information to regional agencies about their operations.

AB 938 (VM Perez, Chapter 514, Statutes of 2011): Required that a written public notice of noncompliance with drinking water standards given by a public water system must include information in English, Spanish, and other languages spoken by the impacted community.

AB 983 (Perea, Chapter 515, Statutes of 2011): Authorized CDPH to take specified actions, when implementing the Safe Drinking Water State Revolving Fund, to improve access to financial assistance for projects serving small community water systems and disadvantaged communities.

AB 1194 (Block, Chapter 516, Statutes of 2011): Updated the California Safe Drinking Water Act (SDWA) to conform state drinking water law to the federal Safe Drinking Water Act.

AB 1221 (Alejo, Chapter 517, Statutes of 2011): Authorized the SWRCB to use the State Water Pollution Cleanup and Abatement Account to authorize funding for disadvantaged communities that are organized as not-for-profit water systems and tribes for the cleanup of contaminated water.

AB 1292 (Hernández, Chapter 518, Statutes of 2011): Authorized CDPH to sell revenue bonds to assist drinking water systems in meeting their federal Safe Drinking Water State Revolving Fund matching fund requirements.

SB 244 (Wolk, Chapter 513, Statutes of 2011): Required cities, counties, and local agency formation commissions (LAFCOs) to analyze infrastructure deficiencies in unincorporated disadvantaged communities.

AB 403 (Alejo, 2012): Would have authorized the Legislature to appropriate 2 million dollars to the State Water Resources Control Board from fines and penalties from the Waste Discharge Permit Fund. The money would have been allocated to the Greater Monterey County Regional Water Management for the development of an integrated water quality and wastewater treatment program plan for disadvantaged communities in the Salinas Valley. This measure did not receive a hearing in the Senate Appropriations Committee and died at the end of the legislative session.

AB 685 (Eng, Chapter 524, Statutes of 2012): E established in law a state policy that all residents of the state have a right to clean, affordable, and accessible water for human consumption, and directs relevant state agencies to implement the policy.

AB 2208 (Perea, 2012): Would have authorized CDPH, when implementing the Safe Drinking Water State Revolving Fund, to consolidate multiple community projects to meet safe drinking water standards. This measure died at the end of the legislative session.

AB 2238 (Perea, 2012): Would have clarified the definition of emergency in the Emergency Clean Water Grant Fund to facilitate disadvantaged communities' access to emergency funding. This measure did not receive a hearing in the Senate Appropriations Committee and died at the end of the legislative session.

AB 2334 (Fong, 2012): Would have required the Department of Water Resources, as part of the California Water Plan, to analyze how drinking water and wastewater services could be made more affordable for low-income residents. This measure was held in the Assembly Appropriations Committee.