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# SAN FERNANDO BASIN AQUIFER FOLLOW-UP



Ben Cowitt, chair  
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# SAN FERNANDO BASIN AQUIFER FOLLOW-UP

## TOPIC

The Los Angeles County 2014–2015 Civil Grand Jury (CGJ) formed the San Fernando Basin Committee (committee) to investigate the Los Angeles Department of Water and Power’s (LADWP) responses to the Los Angeles County 2009–2010 Civil Grand Jury’s recommendations for the San Fernando Basin (SFB) aquifer in its 2009–2010 Final Report.

## BACKGROUND

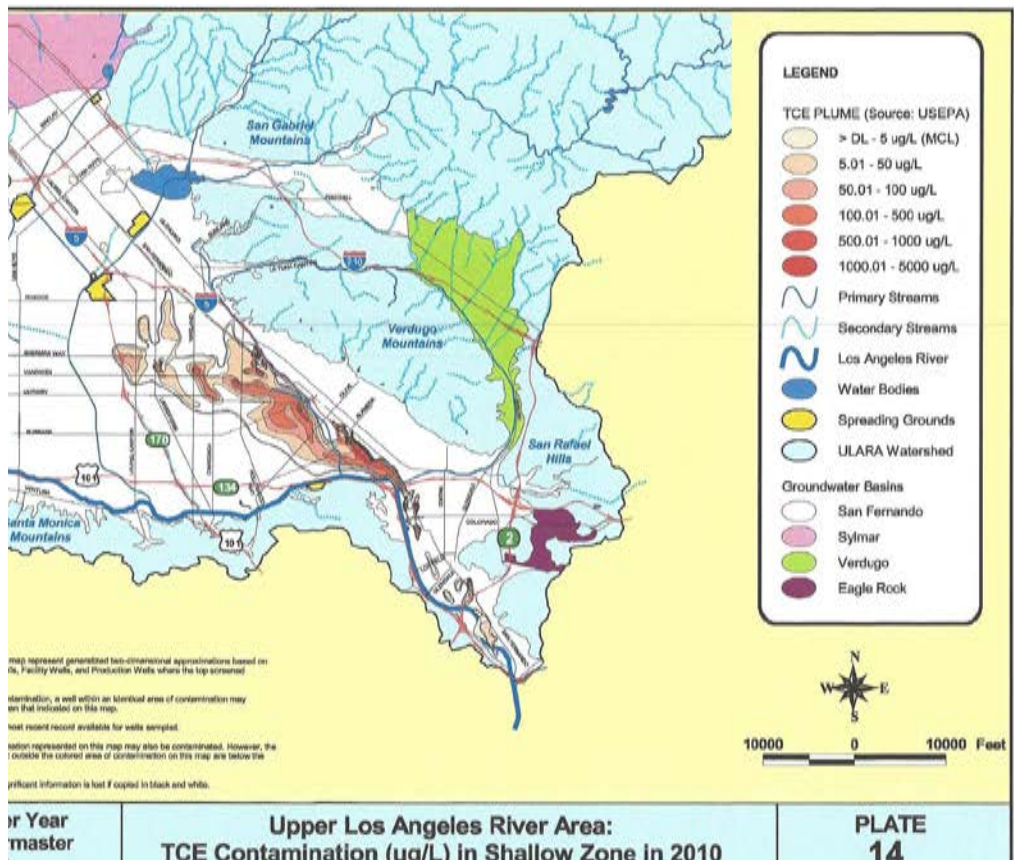


Fig. 1 Contamination in the San Fernando Basin—map ULARA

San Fernando Valley in the neighborhood of North Hollywood and the city of Burbank is an area containing seven square miles of contaminated groundwater in a portion of the SFB

aquifer.<sup>1</sup> A groundwater monitoring program conducted from 1981 to 1987 revealed more than 50 percent of the water wells in the eastern portion of the SFB were contaminated from chemicals used by aerospace and defense manufacturing, machinery degreasing, dry cleaning, and metal plating (see Fig. 1).

Although the United States Environmental Protection Agency (USEPA) has implemented three Superfund remediation facilities in SFB, the contamination has expanded to other areas of SFB and has impaired use of many groundwater production wells. As of 2014, LADWP's analysis has shown that LADWP can reliably operate only 30 of its 115 wells on a regular basis. Additional wells can also be operated but on a closely monitored and restricted basis—because contaminant concentrations may rise substantially, requiring that LADWP temporarily suspend use of one or more of these restricted wells.<sup>2</sup>

For the North Hollywood Operable Unit (NHOU), the USEPA chose the first interim cleanup remedy consisting of groundwater pumping and treatment using aeration and granular activated carbon air filtering units. For the Burbank Operable Unit, the contaminated water was treated through an air stripping process and liquid phased granular activated carbon to remove organic solvents.<sup>3</sup>

LADWP has the right to pump 87,000 acre-feet per year (AF/Y); additionally, under its Pueblo Water Right (granted by the king of Spain), Los Angeles has an exclusive right to extract and utilize the entire native safe yield<sup>4</sup> of the SFB of 43,660 AF/Y<sup>5</sup>—to make up for some of the mayor's anticipated water reduction. However, the North Hollywood Operable Unit Second Interim Remedy (RI2) has an undetermined completion date, and the LADWP remediation facilities are projected to be in operation by 2023.

California is in the fourth year of a severe drought. The mayor of Los Angeles issued an Executive Directive on Water Conservation in 2014 calling for a 20 percent reduction in the city's water usage by 2017 and a 50 percent reduction in LADWP's use of imported water by 2024. There is a great need to expedite the cleanup of the underground water basin in order to use the existing underground pool of water.<sup>6</sup>

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<sup>1</sup> An aquifer is a rock formation that is sufficiently porous and permeable to yield a significant quantity of water to a borehole, well, or spring. The aquifer may be unconfined beneath a standing water table, or it may be confined by an impermeable or weakly permeable horizon.  
<http://www.bgs.ac.uk/research/groundwater/resources/glossary.html>.

<sup>2</sup> LADWP's letter dated March 3, 2015, response to CGJ.

<sup>3</sup> <http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/ViewByEPAID/CAD980894893>.

<sup>4</sup> Native safe yield is the portion of safe yield derived from native waters. ULARA SFB.

<sup>5</sup> LADWP's Manager and Senior Engineer, Water Rights and Groundwater Management.

<sup>6</sup> Mayor Eric Garcetti issued an executive directive on water conservation to address the ongoing drought, Oct. 14, 2014.

LADWP performs its research and development at the La Kretz Innovation Campus's Los Angeles Cleantech Incubator (LACI).<sup>7</sup> Half of LACI provides office space to help other individuals and companies with similar research interests, and the other half is for LADWP's research and development lab and smart-grid demonstration labs.

Also doing research in water conservation is the La Kretz Center for California Conservation Science at UCLA. The center helps preserve California's biodiversity and ecosystems through research, education, and public programs. It supplies scientific research to inform actions to protect and restore California's fragile biodiversity resources.

## **METHODOLOGY**

The committee compared the Los Angeles County 2009–2010 Civil Grand Jury's recommendations with LADWP's responses. The CGJ then followed up with its own questions and reviewed LADWP's responses thereto.

The committee interviewed:

- Watermaster, Upper Los Angeles River Area (ULARA)
- Manager and senior engineer, Water Rights and Groundwater Management, LADWP
- Chief sustainability and economic development officer, LADWP

## **COMMITTEE QUESTIONS AND LADWP RESPONSES**

Following are the recommendations made to LADWP by the Los Angeles County 2009–2010 Civil Grand Jury in its 2009–2010 Final Report, LADWP's responses, the 2014–2015 CGJ's questions to LADWP, and LADWP's responses:

### **Recommendation 2.3 (2009–2010)**

LADWP should continue maximum efforts to obtain United States Environmental Protection Agency (USEPA) funding for the cleanup of the San Fernando Basin Aquifer.

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<sup>7</sup> LADWP's Sustainability and Economic Development Officer.

## **LADWP’s written response to the Los Angeles County 2009–2010 Civil Grand Jury on November 22, 2010**

LADWP agrees with the finding.

LADWP agrees and continues to work with and engage the USEPA to effect cleanup of the San Fernando Basin (SFB).

## **CGJ’s written questions to LADWP on February 10, 2015**

*What progress has LADWP made in obtaining funding from the United States Environmental Protection Agency (USEPA) to effect cleanup of the SFB? Please indicate the funding amounts received from the potentially responsible parties since 2010. Please indicate the status of the North Hollywood Operable Unit (NHOU) Second Interim Remedy (RI2) and monitoring wells including their location, construction, and operational dates.*

## **LADWP’s written response to the 2014–2015 CGJ on March 3, 2015**

USEPA has designated three Superfund areas in the easterly portion of the SFB; a fourth SuperFund area was also designated within the Verdugo Basin, a neighboring sub-basin within the Upper Los Angeles River Area watershed.<sup>8</sup> USEPA have implemented three groundwater remediation facilities—the NHOU, the Burbank Operable Unit, and the Glendale North and South Operable Units.

Our response is limited to the NHOU, since this facility is located within the city of Los Angeles (city) and primarily affects solely LADWP’s use of its water rights in SFB.

LADWP continues to work closely with USEPA on SFB remediation, and our ongoing collaboration is currently focused on NHOU remediation facility, which began operating in 1989 and now requires replacement.

USEPA issued a Record of Decision for RI2 in 2009, requiring a new remediation facility. The responsible parties have submitted work plans to USEPA and are currently conducting its remedial design investigation to determine the appropriate size and scope of the replacement facility. Expected construction and operational dates for the RI2 facility is

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<sup>8</sup> The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund, was enacted by congress on Dec. 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, \$1.6 billion was collected, and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. <http://www.epa.gov/superfund/policy/cercla.htm>.

subject to completing their investigation and are undetermined at this time.

Responsible parties have also completed installation of 33 groundwater monitoring wells in 2013, and they use these wells to collect samples of groundwater for laboratory analysis. Funding for the NHOU is provided through the USEPA Superfund Program, which reimburses 90 percent of the operating costs. Funds are provided by the responsible parties to USEPA, which then reimburses LADWP based on actual expenditures. Since January 1, 2010, responsible parties have provided \$2,082,283 in reimbursements through December 31, 2014.

**Notes taken from 2014–2015 CGJ’s telephonic conversation on April 17, 2015, clarifying LADWP’s March 3, 2015, response**

NHOU needs to be replaced—it will be replaced by RI2. USEPA issued a Record of Decision for RI2 in 2009, requiring a new remediation facility. The responsible parties have submitted work plans to USEPA and are currently conducting a remedial design investigation to determine the appropriate size and scope of the replacement facility. Expected construction and operational dates for the RI2 facility are subject to completing the investigation and are undetermined at this time.

The Potentially Responsible Parties (PRP) are Honeywell, Lockheed, and minor PRPs. The PRPs have installed 33 groundwater monitoring wells in 2013. Some are inside and around Home Depot, and others are near NHOU at 11845 Vose in North Hollywood. The PRPs send the groundwater samples for laboratory analysis.

LADWP operates NHOU. LADWP agrees upon a work plan budget for NHOU operating costs for the year (personnel, electricity—direct and indirect costs). The PRPs give 100 percent of the budget to USEPA, and USEPA reimburses LADWP 90 percent. LADWP received \$2,082,283 in reimbursements through December 31, 2014 from USEPA.

The RI2 will clean up four primary contaminants—1.44 Dioxane, Hexavalent Chromium, Trichloroethylene, and Tetrachloroethylene. The City Attorney is coordinating with the USEPA and the engineers.

**Recommendation 2.4 (2009–2010)**

LADWP should develop a detailed projection of the cost of the cleanup and securing the filtration processes on the wells of the San Fernando Basin Aquifer to obtain the maximum output according to its legal rights, including the timeframe for completing this process.