



2017 | YEAR in REVIEW

JPL Groundwater Cleanup Project A Year of Advancement & Enhancements

This 2017 Year in Review is part of NASA's effort to keep the public informed about the progress of groundwater cleanup efforts at and in the vicinity of NASA's Jet Propulsion Laboratory (JPL).

BACKGROUND

The groundwater chemicals being addressed are volatile organic compounds (VOCs) and the chemical compound perchlorate. The chemicals originated from long-discontinued liquid and solid waste disposal practices during the 1940s and 1950s when wastes from JPL drains and sinks were disposed of in brick-lined seepage pits – a waste management practice that was common at the time.

In 2017, NASA took important steps to advance and enhance ongoing efforts to restore water resources in the vicinity of JPL. Groundwater cleanup efforts continued at three NASA-funded treatment plants:

Groundwater Cleanup

NASA remains confident that the treatment systems in place continue to be effective in remediating the affected groundwater.

On JPL property at the “source area”

In 2017, the source area treatment system removed 96.1 pounds of perchlorate from groundwater beneath JPL and 1.5 pounds of VOCs. Since system startup in January 2005, the total perchlorate groundwater concentration beneath JPL has been reduced by more than 97 percent. Also during 2017, NASA began planning to convert the existing fluidized bed reactor perchlorate-removal system to an ion exchange technology, better suited to the site now that lower levels of perchlorate are present. Even with recent low water levels affecting the aquifer and NASA's most shallow extraction well at JPL being shut down since 2015, the remaining two extraction wells, somewhat deeper, continued in operation at the site.

In the Arroyo Seco, near four Pasadena drinking water wells that draw from the aquifer known as the Monk Hill Sub-Basin

In 2017, the Monk Hill Treatment System operated by Pasadena Water and Power (PWP) and located approximately in the middle of the affected area, removed 59.9 pounds of perchlorate from groundwater and 16.3 pounds of VOCs. Since system startup in 2011, perchlorate levels in Monk Hill groundwater have been reduced by more than 92 percent. Also during the year, NASA initiated planning and design of a new production well and associated infrastructure for the Monk Hill system. This well will enhance remediation of the groundwater by reducing the time to achieve cleanup. Stay tuned for more progress.

At two Lincoln Avenue Water Company (LAWC) drinking water wells in Altadena, at the outer edges of the affected area

A third and deeper LAWC drinking water well, funded and constructed by NASA, became fully operational in 2017. The new well enhances groundwater cleanup efforts and helps maintain effective containment of the leading edge of unwanted groundwater chemicals. The well also serves as a modern, reliable backup for LAWAC, ensuring for its customers continued clean drinking water supplies for many decades. The LAWAC system removed 36.4 pounds of perchlorate during 2017 and 8.8 pounds of VOCs. Perchlorate concentration in the LAWAC groundwater has now been reduced by more than 65 percent since startup in 2004.

The U.S. EPA concurred with NASA that the three NASA-funded groundwater treatment systems “are protective of human health and the environment.”

Continued Groundwater Monitoring

With 25 monitoring wells on and in the vicinity of JPL, NASA remains confident that the treatment systems in place continue to be effective in remediating the affected groundwater. Quarterly monitoring reports continued to be filed in 2017 and posted at the groundwater cleanup website: <https://jplwater.nasa.gov>.

Groundwater Cleanup Project Director Honored

In April at NASA’s 2017 Environmental Conference, Project Director Steve Slaten won a prestigious NASA Blue Marble Award, recognizing his “exceptional leadership” and his “innovative solutions to successfully remediate NASA’s JPL groundwater.” In honoring Slaten, NASA said that he “spearheaded a collaborative approach to remediate groundwater contamination in partnership with the local water purveyors. He recognized that implementing and operating offsite cleanup systems would necessitate intense cooperation with water purveyors and permitting agencies,” and “the value and importance of public outreach.” Slaten in turn credited the support of NASA management, LAWC and PWP, local officials and regulators, his team of contractors, and NASA’s Merrilee Fellows for her role in community outreach.

Second Five-Year Review Completed

In January, NASA completed the CERCLA-required second Five-Year Review of the cleanup project, evaluating ongoing groundwater cleanup efforts at and in the vicinity of JPL. The U.S. Environmental Protection Agency (U.S. EPA) concurred with the findings of the second Five-Year Review, saying that the “interim” remedies – three NASA-funded groundwater treatment systems in place and an extensive groundwater monitoring program – “are protective of human health and the environment.” The first Five-Year Review was completed in February 2012.

Community Outreach

During 2017, NASA

Published a 2016 Year in Review document,

Updated the public via the project website on a variety of aspects of the cleanup, including completion of the Second Five-Year Review and progress on drafting of the final Record of Decision,

Responded to inquiries from the community about NASA’s cleanup efforts, and

Maintained close contact with neighbors near the LAWC well construction project site and other stakeholders including Altadena Town Council members.

Community Outreach

Our **commitment** remains strong to groundwater cleanup and to **communicating** with neighbors and community members about the **progress** being made.

For information, contact

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