



June 2011

Four years ago, Boeing made a commitment to clean up our land at Santa Susana and preserve the area as undeveloped open space for future generations. Our vision then, which remains unchanged today, was to permanently restrict the land for nonresidential, noncommercial use.

We always have hoped that future generations will see what we experience every day when we come to work—herds of deer, meadows of wildflowers, and groves of California oak in a mountain setting.

Last month's federal court ruling brought much needed clarity to this situation by ensuring that the same laws applied everywhere else will allow a balanced approach to be taken. This will allow the land to be made safe for people in a way that also protects, rather than destroys, the site's valuable natural resources. Now we can focus on completing the investigation and cleanup so that we can deliver on our commitment to preserve Santa Susana as a vital wildlife corridor.

When we asked a federal judge to declare California Senate Bill 990 unconstitutional, we said we would continue cleanup while the court heard the case. In the year and a half since then, we've done just that.

We've installed new systems to capture and treat rainwater before it leaves the site. We continue to remove former buildings and tanks associated with past rocket engine testing, and we've removed contaminated soil in accordance with the 2007 Consent Order, a comprehensive cleanup agreement among the California Department of Toxic Substances Control (DTSC), Boeing, NASA, and the U.S. Department of Energy.

We intend to continue cleanup work under our order and we will continue interim cleanup actions that accelerate progress at the site. In addition, we will continue working with the state, federal parties, and community members to ensure that the site is properly cleaned up in a timely manner and made safe for future generations to enjoy.

Sincerely,



Tom Gallacher
Site Director



Steve Shestak
Director of Remediation

Boeing Implements Guidance from Storm Water Experts



Storm Water Expert Panel leads community members on tour at Santa Susana.

As the world's largest aerospace company, Boeing has plenty of engineering talent on hand. But much of Boeing's expertise is in designing airplanes and spacecraft that circle the globe. So, when it came to designing storm water treatment systems for two drainage locations at Santa Susana, Boeing looked outside the company for guidance.

Boeing assembled a committee of independent professionals, known as the "Storm Water Expert Panel," to provide technical expertise.

"Due to the variable nature of rain in Southern California, we needed a multifaceted approach to managing storm water," said Paul Costa, Boeing's environmental manager at Santa Susana.

The panel recently hosted a storm water management public meeting

and tour for the Los Angeles Regional Water Quality Control Board and community members at the former Santa Susana Field Laboratory. During the meeting, the panel discussed the plans for two drainage areas, Outfalls 8 and 9.

"They shared ideas, which we are implementing, that are designed specifically for the site," said Costa. "For instance, they showed how to control erosion by planting native vegetation. In addition, they shared how we can modify culverts to trap sediments. They even had ideas on using plants and special filters to treat storm water before it leaves the site."

After the meeting, the panel hosted a walking tour of areas where soil is being excavated to show how erosion-control is being implemented.

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Storm Water

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“Boeing has installed sophisticated storm water treatment systems at drainage locations around the site,” said Mike Stenstrom, professor of civil and environmental engineering at the University of California, Los Angeles. “Meeting the stringent Regional Board permit limits has posed significant challenges at Outfalls 8 and 9 due to the very steep terrain and the exceptionally large size of the drainage areas. The larger the drainage area, the larger the size of capture and treatment required to manage storm water runoff.”

The panel was established in 2008 by the Regional Board to help Boeing achieve water quality compliance standards at Outfalls 8 and 9. The panel has been providing guidance and direction on implementing natural storm water controls to treat sediments and contamination within the watersheds.

In 2009, the Regional Board issued an order requiring the removal of contaminated soils within these two drainage areas as an interim measure until final cleanup is underway. “The goal of the panel’s effort has been two-pronged,” said Stenstrom. “To treat storm water within the facility before it reaches the outfalls. And to remove contaminated soils from upstream sources, which will minimize the potential for on-site soils and chemicals to be carried off-site by storm water runoff and potentially impacting downstream aquatic life.”

The expert panel is composed of Bob Gearheart, PhD, professor emeritus at Humboldt State University; Jonathan Jones, PE, DWRE, chief executive officer of Wright Water Engineers; Mike Josselyn, PhD, cofounder and president of Wetlands Research Associates and professor emeritus at San Francisco State University; Bob Pitt, PhD, PE, Professor of civil and environmental engineering at the University of Alabama; and Mike Stenstrom, PhD, PE, Professor in civil and environmental engineering at the University of California, Los Angeles

More information can be found at the following website:

www.boeing.com/aboutus/environment/santa_susana/isra.html.

Groundwater U: Building an Understanding of Groundwater



Groundwater U participants review core holes at Santa Susana.

Understanding what groundwater is and how it reacts to geologic formations is a highly developed science that combines geology, hydrology, chemistry, and physics. It’s also a subject that is not generally understood by individuals outside the scientific community.

“It’s extremely complex and we hope that by hosting Groundwater U, we can provide the community with a better understanding of how we’re dealing with the groundwater issues in Santa Susana,” said Mike Bower, Boeing’s geologist at Santa Susana.

Groundwater U included six educational sessions and a geologic field trip. It was designed to help community members strengthen their knowledge about groundwater, specifically the groundwater issues at the Santa Susana site. This is especially important with the Boeing, NASA, and U.S. Department of Energy’s recent submission of the Groundwater Investigation Report to the California Department of Toxic Substances Control (DTSC). This

highly technical report is the culmination of 15 years of groundwater investigation and characterization at Santa Susana.

“DTSC will provide the public with an opportunity to review and comment on the report, and we wanted everyone to have a strong grasp of the concepts that were discussed,” said Bower.

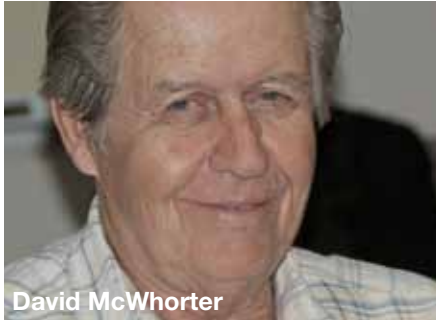
The first three sessions, which started in March, were general groundwater information sessions covering geology, hydrogeology, contaminant sources, and contamination movement. The meetings were hosted by Richard Laton, associate professor of hydrogeology in the Department of Geological Sciences, California State University, Fullerton; and Matthew Becker, professor and Conrey Endowed Chair of Hydrogeology, Department of Geological Sciences, California State University, Long Beach.

Groundwater U materials as well as videos from each meeting can be found at the following website: www.etec.energy.gov.

Boeing Reports Continued Environmental Improvements



John Cherry



David McWhorter



Beth Parker

GROUNDWATER U PHOTOS COURTESY OF MERRILEE FELLOWS, NASA

The Boeing Company generated year-over-year improvements in environmental performance as reported in the company's annual Environment Report (www.boeing.com/environment).

At manufacturing and office locations in 2010, Boeing consumed less energy, reduced carbon dioxide emissions and water intake, and generated less hazardous waste compared to the previous year.

Highlights of the report include:

- Boeing facilities reduced carbon dioxide emissions by 28 percent, energy use by 30 percent, hazardous-waste generation by 44 percent, and water intake by 41 percent since 2002, measured on a revenue-adjusted basis.

- Boeing's environmental thinking is showcased at its new South Carolina site, which will be powered completely by renewable energy, including solar panels that will cover the roof of the 787 assembly building. The site is one of four Boeing facilities that will send zero nonhazardous solid waste to landfills.



Boeing employees volunteer to clean up Bolsa Chica Wetlands

The final three meetings were specific to groundwater at Santa Susana and were presented by the SSFL Groundwater Advisory Panel, which includes:

- **John Cherry**, who is a distinguished professor emeritus at the University of Waterloo and an adjunct professor at the University of Guelph, both in Ontario, Canada.
- **David McWhorter**, distinguished professor emeritus, Department of Chemical and Agricultural Engineering, Colorado State University.
- **Beth Parker**, professor and The Natural Sciences and Engineering Research Council of Canada research chair in fractured rock contamination hydrology, School of Engineering, University of Guelph and formerly a research professor at the University of Waterloo.



Boeing volunteers teamed up with the Bolsa Chica Conservancy to remove invasive plants and harmful debris from the Bolsa Chica Wetlands. More than 120 employees and their families helped clean the wetlands along Pacific Coast Highway and removed invasive ice plant.

lower mesa. The Bolsa Chica Wetlands is also an important stop for migratory birds along the Pacific Flyway, including some endangered and threatened species. More than 200 species of birds have been sighted in the wetlands.

The area includes more than 1,200 acres of undeveloped wetlands, lowlands, and

Every year, Boeing employees continue to make significant improvements to the area's habitat.

Bus Tours

Boeing, NASA, and DOE will host community bus tours on Saturday, October 29 from 1:00–4:30 p.m. and on Saturday, November 12 from 9:00 a.m.–12:30 p.m. and 1:00–4:30 p.m.

If you would like to join us, please send us an e-mail (santasusanacommunitytours@boeing.com).

Space is limited and RSVPs will be taken on a first-come, first-served basis.

For more information, please visit us online (http://www.boeing.com/aboutus/environment/santa_susana).



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