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Local

Supersize cleanup effort at toxic sites

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By: [John Upton](#)
July 8, 2010

SAN FRANCISCO — The Bay Area is a natural wonderland where unique geological and meteorological phenomena have sculpted an abundance of intricate microclimates around a biologically rich estuary.

And the region has been ground zero for history-shaping American endeavors, including its role as a Navy headquarters during World War II and the mass production of computer chips, which boosted the population while polluting water supplies and the ground upon which hordes of people live, work and play.

Most of the damage was inflicted in the last century, a period when property records were painstakingly detailed, meaning federal and state regulators have identified most of the companies and agencies that must now fund extensive cleanup efforts.

The U.S. Environmental Protection Agency leads oversight, and in some cases the cleanup, of the nation's most-polluted sites.

Those sites are called Superfunds, although the supersize fund that was created by federal lawmakers when the program was created in the early 1980s is depleted and must be topped up annually.

The EPA normally leads cleanup-related work if the scale of pollution overwhelms a state's resources or if the company responsible for the pollution can't be found, no longer exists or is financially bust.

"The intent was for the EPA to deal with the worst sites," said California's federal EPA Superfund Division official, Kathleen Salyer. "We always try to get the lowest level to deal with it; if a county can deal with it, great. If it's more of a problem, then the state can do it."

Most of the Bay Area's Superfund-listed sites are in the South Bay, where computer-chip manufacturers stored chemicals in underground tanks that have corroded and leaked, and in the East Bay, where heavy industry was concentrated.

The only Superfund site in San Francisco or on the Peninsula is on the northern side of the counties' border at the shuttered Hunters Point Naval Shipyard, where the Navy has spent more than \$600 million to remove contamination in anticipation of a massive home-building project led by Lennar Corp.

The EPA and Navy plan to announce the cleanup process next year for the most-radioactively polluted portions of the 550-acre site, according to EPA cleanup official Mark Ripperda. A former shipyard dump and surrounding land might be excavated or simply covered with soil. Lennar Urban Vice President Kofi Bonner said the company hopes radioactive waste will be removed, but he said development plans call for only parkland to be built in the area regardless of the treatment that's selected.

Cleanup work at many of the other heavily polluted pieces of land in San Francisco and San Mateo counties is overseen



The Navy has spent \$600 million to clean up contamination at its former Hunters Point base in San Francisco. (Examiner file photo)

by the state, generally by its toxic-substances division or water department.

Cleanup can be mandated to protect wildlife and human health, or to prepare land for a new use, such as construction of apartments in a formerly industrial neighborhood.

Such work has historically involved the excavation of polluted soil and the extraction and treatment of polluted groundwater.

Modern cleanup projects, however, tend to inject materials as basic as molasses into groundwater, where they feed microbes.

“The bacteria that naturally exists flourishes and then, as they grow, they eat and degrade the contaminants,” EPA cleanup spokesman Rusty Harris-Bishop said.

Such so-called in-situ treatment can be particularly productive in the high-density Bay Area, where cleanup often takes place while buildings above remain occupied.

It can be challenging to execute, however, because of the region’s abundance of mud.

“It’s thick and tightly packed, so water moves through it much more slowly,” Bishop said.

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Places where contamination persists

Fort Mason

Federal officials are trying to determine exactly what pollution was left behind at the former military base — which the United States acquired from Mexico in 1846 — by various industrial activities and the storage of pesticides and other chemicals. Lead, volatile organic compounds and underground storage tanks and pipes pollute the site, which is now a part of the national parks system.

Hunters Point Naval Shipyard

The shuttered shipyard is among the Bay Area’s most heavily polluted pieces of land. The Navy flushed radioactive waste through sewer systems and deposited it in an on-site dump. U.S. Environmental Protection Agency figures show the Navy has already spent \$600 million on cleanup activities, which have been heavily focused on land that San Francisco and development officials set aside for a stadium plan rejected by the 49ers. Cleanup is ongoing, but the amount of pollution that will be removed remains unclear. The 550-acre shipyard is slated to contain thousands of new homes under a redevelopment project that could begin soon.

Treasure Island

The 450-acre island was built for the 1939 World’s Fair. It was planned to be used as an airport after the event, but the Navy took over the island to help coordinate its operations during World War II. San Francisco International Airport was instead built in northern San Mateo County. The Navy is now cleaning up solvents, petroleum and other pollution leftover from its operations, with construction of the first of thousands of new homes slated to begin in 2013.
Former PG&E Fillmore manufactured-gas plant

Fillmore and Bay streets

Homes and a paved school playground were built above contamination left behind by the manufacturing of gas from coal and other materials until 1906, when the plant was destroyed by the earthquake. PG&E is working with the state to develop cleanup plans.

Former PG&E Beach Street manufactured-gas plant

250 Beach St.

PG&E is investigating contamination left behind by a plant used to manufacture gas from 1899 to 1931, when fuel was phased out in favor of natural gas. A hotel now occupies the small plot of land, which is near the popular Fisherman's Wharf.

Former Schlage factory

Bayshore and Sunnydale avenues

In 1999, the Schlage Lock Co. disbanded a large work force that had manufactured locks and lock components since 1926, devastating the neighborhood's economy and leaving behind pollution that was alleged in court documents to have seeped into neighboring land. Neighboring landowner Universal Paragon Corp. acquired the site in mid-2008 under a settlement agreement, and cleanup activities began this year in anticipation of a redevelopment project that could see 6,000 people occupying a surrounding 46-acre redevelopment area by 2025.

Former PG&E North Beach manufactured-gas plant

1575 North Point St.

PG&E signed an agreement with California regulators in February to clean up the small site, where gas was manufactured until 1906 and stored after the earthquake. The land is now home to commercial and residential buildings and an electrical substation.

Mirant Potrero power plant

1201 Illinois St.

The 34-acre waterfront site, which is adjacent to the Port of San Francisco's Pier 70 — where redevelopment is planned — has been used to create fuel and power since the 1870s. Soil and groundwater are contaminated with a cocktail of chemicals such as arsenic, cyanide, polynuclear aromatic hydrocarbons and petroleum. PG&E, which owned the site until 1999, has begun modest cleanup work that's expected to move forward more aggressively after current owner Mirant Corp. shuts the plant. City officials hope the plant will close later this year.

Former PG&E Hunters Point power plant

1000 Evans Ave.

A power plant operated at the former shipbuilding site from the 1920s until 2006. The 38 acres of waterfront land is now being cleared of petroleum-based pollution. Future uses for the land have not been determined, but home-building is being considered.

Golden Gate Bridge

Paint that was blasted off the bridge during repainting efforts contained lead that now pollutes the land at both ends of the iconic span. In the 1990s, 40,000 tons of polluted soil were carted away to prepare for the bridge's seismic retrofit. Areas that remain sullied by the heavy-metal contamination are expected to be cleaned up by 2013.

Burlingame High School

400 Carolan Ave., Burlingame

The San Mateo Union High School District recently completed a four-year project that removed lead, polychlorinated biphenyls and arsenic contamination from school grounds. The sources of the contamination were not always clear.

California Oil Recyclers and G-C Lubricants

977 and 977-A Bransten Road, San Carlos

Decades of oil blending, packaging and recycling have left groundwater contaminated with petroleum, volatile organic compounds and other chemicals. Instead of cleaning the site, it was paved over in 2005, meaning undeveloped portions of the property can be used only for parking. Additional tests and cleanup activities may be required to protect workers from toxic fumes.

Hillview Middle School

1100 Elder Ave., Menlo Park

The land was contaminated with pesticides when it was previously used as an orchard. Lead contamination also is present. The state ordered southern stretches of the 9-acre site to be cleaned before a planned major overhaul of the school and its buildings can begin.

Myrtle Street High School campus site

1010-1056 Myrtle St., East Palo Alto

The Sequoia Union High School District purchased the 1.9-acre site, where it plans to build a new high school campus. The land was contaminated with lead and agricultural pesticides. Before a campus can be built, 200 truckloads of polluted soil must be excavated and hauled away.

Former PG&E gas-holding site

675 Jefferson Ave., Redwood City

A 25-foot-high tank, which held up to 500,000 cubic feet of gas that was produced on the opposite side of Marshall Street, left behind arsenic, polynuclear aromatic hydrocarbons and other pollution after it was dismantled in 1959. Cleanup activities are being planned for the half-acre site, where a bank is now located. Pollution created nearby by the manufactured-gas plant has been removed.

Sequoia Alternative School

400 block of Fourth-Fifth avenues, Redwood City

Lead from paint and chemicals from termiticides used on various buildings polluted the multiparcel site. More than 60 truckloads of contaminated soil were hauled away last summer, allowing construction of school buildings to begin.

Sharp Park Rifle Range

6 acres in Pacifica

Workers will spend four months excavating more than 1,500 truckloads worth of dirt contaminated by lead shot and dumping it at a northern portion of the 6-acre site, where it will be covered with clean soil to form a permanent mound. Extensive vegetation will be cleared, with work expected to finish by the end of October. The firing range was closed in 1988 after 36 years of operation when lead shot was discovered around nearby homes. The land is owned by San Francisco.

Tanklodge Square

837 Industrial Road, San Carlos

Oil sludge was discovered oozing up through the floor of a warehouse building years after it was built in 1979. The oil was collected as it accumulated and removed. The contamination appears to be seeping into the property from nearby oil-related operations, and cleanup work is being planned.

Sources: U.S. EPA, California Department of Toxic Substances Control

Correction: This article was corrected on July 12, 2010. The original article incorrectly stated the scope of the Schlage Lock project site. The project there could see 6,000 people occupying a surrounding 46-acre redevelopment area by 2025.

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