

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL
BOARD SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT – Mary Rose Cassa
and Alec Naugle

MEETING DATE: May 8, 2013

ITEM: 9

SUBJECT: **Groundwater Awareness** – Status Report on Groundwater Resources in Our Region and the Water Board’s Efforts to Protect and Restore Those Resources

DISCUSSION: We reported to you in March on the status of the Board’s Cleanup Programs. This status report provides additional information about the nexus between groundwater resources and our efforts to protect and restore those resources.

Groundwater resources in the San Francisco Bay Region

The San Francisco Bay Region is a fairly compact, urban region with a population of about seven million. Total water use is about 1.5 million acre-feet per year, primarily for urban-residential (including drinking water) and agricultural use. Groundwater supplies about 20% of this total, most of which is pumped from larger supply wells, with a lesser contribution from private domestic and irrigation wells. This percentage increases during drought years.

There are 28 groundwater basins within our region, and most groundwater use occurs in 7 of them: Santa Clara Valley, Napa Valley, Niles Cone (in the Fremont area), Livermore Valley, Sonoma Valley, Clayton Valley, and the peninsula’s Westside Basin. Groundwater from smaller basins such as the Half Moon Bay Terrace and Pescadero Valley is an essential water supply for those communities. Almost all of this region’s groundwater is considered an existing or potential source of drinking water pursuant to our Basin Plan.

Groundwater basin impairments and threats

Groundwater in the region is traditionally of high quality; however, it faces numerous threats, including industrial spills, leaking underground storage tanks, improperly maintained septic systems, urban runoff, and inefficient agricultural operations. The primary sources of groundwater degradation in this region are industrial chemicals (largely addressed through the Cleanup Programs and the Land Disposal Program) and salt from seawater intrusion (largely addressed by local groundwater management agencies such as the Alameda County Water District). Pollution from nitrates and other agricultural pollutants is significant only in localized areas, such as the Pescadero Valley (largely addressed by county health departments).

In the future, climate change and sea level rise will affect groundwater resources in our region in two important ways. First, even a slight rise in sea level will cause groundwater levels to rise near the bay margin, potentially mobilizing

residual contaminants. Many of our industrial cleanup sites and land disposal sites are located near the bay margin, including several closed or inactive landfills. Second, a shift in climate can lead to a greater need for storing drinking water in underground aquifers. Many water agencies are already considering plans for enhanced recharge, including aquifer storage and recovery, to address future water demands. Both effects could have important implications for how we implement our groundwater protection programs and the Cleanup Programs.

Groundwater protection and restoration efforts

With our limited resources, we have concentrated our groundwater protection and cleanup efforts on the region's most important groundwater basins such as the Napa/Sonoma, Petaluma, Livermore-Amador, and Santa Clara Valley basins and the Niles Cone. These efforts were described in more detail in our March status report. We also coordinate with local groundwater management agencies to support their management efforts. In addition, we conduct Basin Plan activities specific to our groundwater resources, such as updating beneficial uses and water quality objectives for each groundwater basin.

Future priorities

Cleaning up spill sites in heavily-used groundwater basins in our region will continue to be a priority for the Cleanup Programs. This will include focusing our efforts on sites that pose a vapor intrusion or public health threat. Dry cleaner spill sites present some unique challenges, as described in our March status report.

We will also incorporate priorities from the State Water Board's pending Groundwater Strategic Plan. That plan identifies three key groundwater problems: (1) groundwater quality degradation due both to discharges of pollutants (e.g., nitrates, salts, and industrial chemicals) and to mobilization of naturally-occurring constituents (e.g., arsenic); (2) lowering of water tables, permanent loss of storage capacity, seawater intrusion, and spreading of contaminated plumes due to over-pumping; and (3) reduced groundwater recharge due to changes in land use practices (e.g., increased impervious surface in urban areas). The plan will identify strategies to address these key problems.

RECOMMEN- DATION:

This is an information item only and no action is necessary.

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