STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION – DIVISION OF WATER QUALITY
MARCH 15, 2011

ITEM 10

SUBJECT

INFORMATIONAL ITEM: U. S. GEOLOGICAL SURVEY PRESENTATION ON "FINDINGS FROM IMPLEMENTATION OF STATE WATER BOARD GROUNDWATER AMBIENT MONITORING AND ASSESSMENT (GAMA) PROGRAM PRIORITY BASIN PROJECT"

DISCUSSION

The Groundwater Ambient Monitoring and Assessment (GAMA) Program was created in 2000 and expanded by the Groundwater Quality Monitoring Act of 2001 [Assembly Bill 599 (Liu)]. The main goals of GAMA are to improve statewide groundwater monitoring and increase the availability of groundwater quality information to the public. There are four active GAMA projects: the GeoTracker GAMA information system; the Domestic Well Project; Special Studies where Lawrence Livermore National Laboratory (LLNL) is technical lead; and the Priority Basin Project where the U. S. Geological Survey (USGS) is technical lead.

Proposition 50 specified funds to implement AB 599, and the Priority Basin Project will end unless new funding is identified by 2013. AB 2222 (Caballero) required the State Water Board to make recommendations for funding the GAMA Program through 2024. The AB 2222 GAMA Report to Legislature was released in late January.

The GAMA Priority Basin Project implements a significant element of AB 599 (2001, Liu) to comprehensively monitor groundwater that is used for drinking and to do so after prioritizing groundwater basins. The 116 priority groundwater basins collectively account for over 90 percent of both groundwater use and number of contaminant sources. In addition, groundwater quality outside of priority basins, such as the Sierra Nevada, and in selected "low-use" basins is also being assessed. Between May 2004 and December 2010, the USGS has sampled about 2,200 wells that are primarily public water supply wells in 111 of the priority basins, about 50 of the low-use basins, and several areas outside of basins. All groundwater sampling is voluntary and through extensive outreach hundreds of water suppliers and other well owners have allowed well sampling.

The USGS samples for hundreds of chemicals and at lower concentrations than required of water suppliers to submit to the California Department of Public Health (CDPH) for regulatory compliance. In combination with CDPH data, the data collected by the Priority Basin Project provides a more comprehensive perspective of groundwater quality, trends, and areas of concern.

The USGS has made a number of findings in its investigations to date. The USGS evaluates groundwater quality for the GAMA Priority Basin Project in terms of the proportion of the aquifer resource that has chemical concentrations exceeding health-based benchmarks. Some chemicals have regulatory benchmarks and others have non-regulatory benchmarks. From a

statewide perspective, naturally-occurring trace elements are more prevalent at concentrations above benchmarks (typically MCLs) than any other constituent; trace elements are high in about 15% to 20% of the resource at the depth zone tapped by public supply wells. In contrast, nitrate typically exceeds benchmarks in about 5% to 10% of the resource. However, high concentrations of nitrate are likely to be more prevalent at shallower depths. Organic compounds, such as solvents, gasoline-related compounds, and pesticides, are generally present at high concentrations in only a small proportion of the resource (<1%). Trace elements occurring at high concentrations include arsenic, uranium, boron, and vanadium.

The USGS publishes information in reports available at http://ca.water.usgs.gov/gama/. These reports as well as the data from all four GAMA Program projects, CDPH public supply wells, California Department of Pesticide Regulations and Department of Water Resources wells for monitoring, and Water Boards groundwater contaminant cleanup sites are available through the State Water Board's GeoTracker GAMA information system http://www.waterboards.ca.gov/gama/geotracker_gama.shtml.

POLICY ISSUE

This is an Informational Item.

FISCAL IMPACT

None (Informational Item only).

REGIONAL BOARD IMPACT

None (Information Item only).

STAFF RECOMMENDATION

None (Information Item only).

Shared information related to this item will assist the Water Boards in reaching Goals 2 and 3 of the Strategic Plan Update: 2008-2012. Goal 2 is to improve and protect groundwater quality in high-use basins by 2030. Goal 3 is to promote sustainable local water supplies.