

2010 WQMC Update: “Safe to Drink” Portal – Groundwater Portion

GAMA Program Background

The State Water Board implements AB 599 (Groundwater Quality Monitoring Act of 2001, Liu) through the Groundwater Ambient Monitoring and Assessment (GAMA) Program. The main goals of the GAMA Program are to improve statewide groundwater monitoring and to increase the availability of groundwater quality information to the public. There are four active projects in GAMA: Domestic Well Project, Priority Basin Project, Special Studies Project and GeoTracker GAMA.

GAMA collects data by testing groundwater for hundreds of naturally-occurring and man-made chemicals. GAMA compiles these test results with existing groundwater quality data from several different agencies. The GeoTracker GAMA groundwater information system was publicly unveiled in 2010, making millions of groundwater quality data and information available via the State Water Board's website.

“Safe to Drink” Portal Development

The Monitoring Council reviewed a mockup of the “Safe to Drink” portal developed by GAMA staff in February 2010. GAMA staff was directed to develop a working draft of the groundwater portion of the “Safe to Drink” portal: “Safe to Drink, Groundwater”. GAMA staff and the GeoTracker GAMA consultant, with significant input from California Department of Public Health (CDPH), developed the draft “Safe to Drink, Groundwater” portal. The working concept was to leverage the existing GeoTracker GAMA groundwater quality system to use as a part of an important piece of the “Safe to Drink” portal, since the GeoTracker GAMA system does not directly address drinking water safety. Raw groundwater is typically not what most Californians drink since their drinking water receives some type of treatment.

Public Outreach

The GAMA Program performs public outreach on several different levels: face-to-face meetings, telephone, mail, and internet:

- GAMA has contacted thousands of well owners via public meetings. The meetings also include agencies and organizations (including non-governmental) dedicated to advancing groundwater knowledge.
- GAMA regularly holds public meetings before and after sampling. Three kick-off and three wrap-up public meetings were held, in 2010 alone, as part of the Priority Basin Project.
- GAMA mails test results and reports to all well owners who voluntarily have their wells tested.
- GeoTracker GAMA allows public access to a Google-maps based database that readily provides groundwater information: groundwater quality test results, as well as water level

information, copies of well logs and links to published reports for a specific area of interest.

Interagency Communication and Data Sharing

The U.S. Geological Survey (USGS) and Lawrence Livermore National Laboratory (LLNL) help to implement the GAMA Program with the State Water Board. GAMA collects data in two ways: direct sampling and analyses and sharing data from other agencies.

Two-billion pieces of data are currently in the GeoTracker GAMA system. These data are from several sources including: Water Boards, CDPH, Department of Water Resources (DWR), Department of Pesticide Regulation (DPR), USGS and LLNL. SWRCB GAMA staff, the USGS and LLNL meets monthly to discuss scope, schedule and budget issues, as well as findings for the Priority Basin and Special Studies Projects.

Groundwater Monitoring Coordination

Nearly 300 wells were sampled in 2010 for hundreds of chemicals throughout the state, bringing the total to over 4,000 wells sampled since 2000. A subset of wells has also been sampled to help identify trends in groundwater quality. This comprehensive groundwater quality monitoring has improved our understanding of groundwater conditions in California. Advanced monitoring and analytical test methods, like age-dating and ultra low-level detection limits for chemicals of emerging concern, help better assess groundwater conditions in the state.

Assessment and Reporting

Final reporting for the GAMA Program Projects during 2010 includes the following:

- Three Domestic Well Summary Reports (GAMA staff):
 - San Diego, Tulare and Yuba Counties
- Nine Priority Basin reports/publications (USGS):
 - Three Fact Sheets (North San Francisco Bay, Northern San Joaquin Valley, and Central Eastside San Joaquin Valley study units)
 - Three Assessment Reports (North San Francisco Bay, Northern San Joaquin Valley, and Central Eastside San Joaquin Valley study units)
 - Three Data Summary Reports (Colorado River, Madera/Chowchilla and South Coast Ranges Coastal study units)
- Three Special Studies reports (LLNL):
 - An Isotopic and Dissolved Gas Investigation of Nitrate Source and Transport to a Public Supply Well in California's Central Valley
 - Groundwater Age Simulation and Deconvolution Methods for Interpretation of 3H-3He Data (Tritium-Helium age-dating)
 - Ion Exchange and Trace Element Surface Complexation Reactions Associated with Applied Recharge of Low TDS (Total Dissolved Solids) Water in the San Joaquin Valley, California