

**CENTRAL COAST WATER BOARD
SAN LUIS OBISPO COUNTY DOMESTIC WELL SAMPLING PILOT PROJECT
PROJECT SUMMARY
OCTOBER 2018**

Problem Statement

Over eighty percent of the people living on the Central Coast rely on groundwater for their drinking water and other uses. While public water systems are regulated by the Division of Drinking Water and local agencies, thousands of people rely on individual domestic drinking water wells which are generally not regulated. These wells tend to be shallow, often in poor condition, and therefore vulnerable to contamination (e.g. nitrate, arsenic). Water quality data for domestic drinking water wells is lacking, and well users and regulatory agencies are often unaware of groundwater contamination or unsafe drinking water quality. Monitoring domestic drinking water wells is challenging because state and local agencies generally do not have the authority or resources to require monitoring. Many domestic well users cannot afford routine well testing and limited resources are available to provide technical assistance.

Project Goals

- Provide free drinking water sampling and analytical services to domestic well owners in San Luis Obispo County as a pilot project;
- Equip participants, as well as community members, with the tools to make informed decisions about the quality of their drinking water, and provide education on the importance of maintaining their domestic wells;
- Share groundwater quality data associated with domestic wells with the Water Boards, local government agencies, and the public using the Water Board's GeoTracker GAMA online data management system;
- Collaborate between the Americorps CivicSpark Program, the Central Coast Regional Water Quality Control Board, and San Luis Obispo County Environmental Health Services;
- Use lesson learned from pilot project to expand well testing across the Central Coast Region;

Implementation Steps

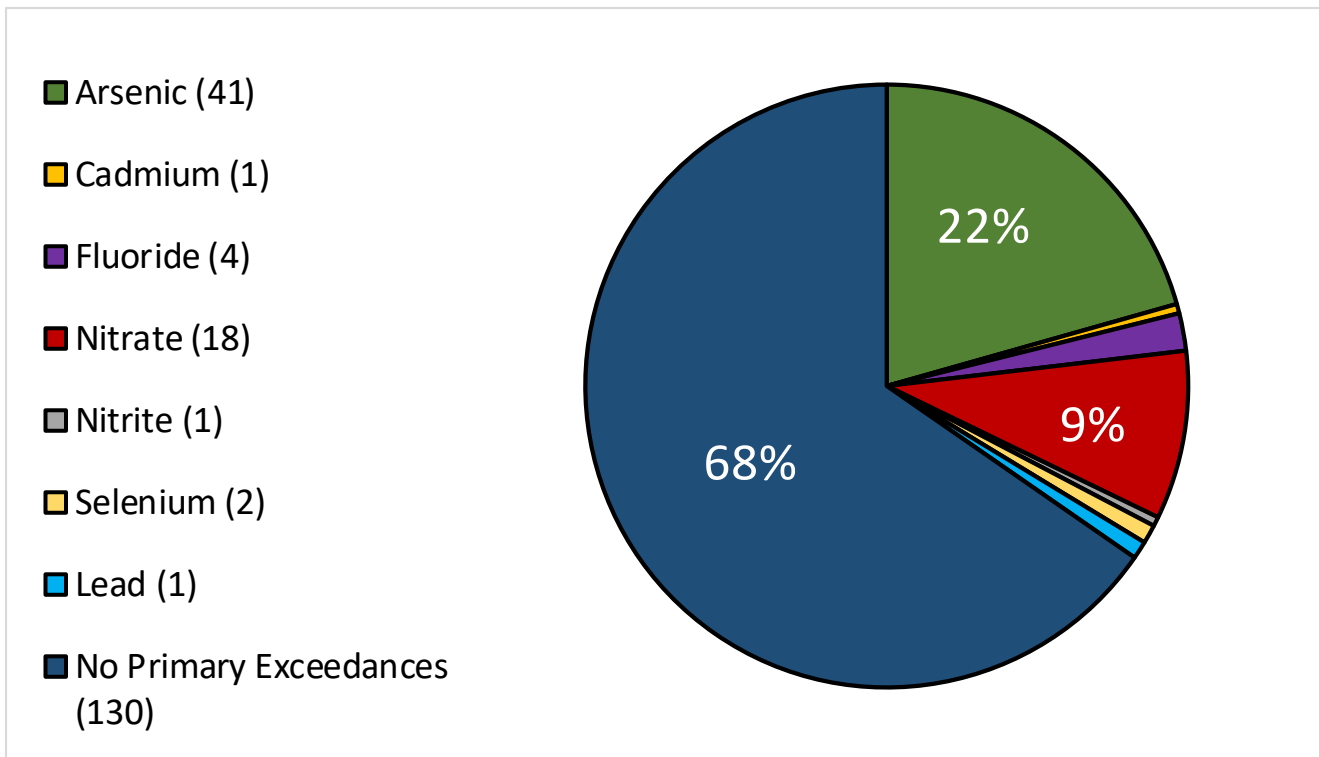
- Choose priority sampling areas;
- Conduct community outreach;
- Conduct sampling and analysis of domestic well water;
- Manage data electronically in GeoTracker GAMA;
- Ensure proper transmittal of results to participants;
- Evaluate accuracy of Nitrate App compared to laboratory analysis;

2017-2018 Project Results

- Successful inter-agency collaboration;
- Effective outreach to participants and smooth project implementation;
- 190 domestic wells in San Luis Obispo County sampled as of July 24, 2018;
- Results compared to safe drinking water standards;
- Approximately 30% (59) of the domestic wells sampled exceeded maximum contaminant levels (primarily arsenic and nitrate);
- Deltares Nitrate App implementation initially challenging but improved overtime;

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- Data electronically uploaded by lab to GeoTracker GAMA and results provided to participants;
- Positive response from community;
- Launched a well testing program across the Central Coast Region in October 2018.
- Results indicate that 68% of wells had no exceedances of the maximum contaminant level (MCL) for the constituents analyzed; 22% exceeded the MCL for arsenic; 9% exceeded the MCL for nitrate; Cadmium, fluoride, Selenium and lead all had less than or equal to 2% exceedances.



Deltares Nitrate App Evaluation

- The Nitrate App was developed by Deltares, a Dutch Research Institute, as a screening tool to interpret nitrate test strips using Smart Phone technology;
- Originally developed to give farmers more insight about the water quality on their agricultural fields; Nitrate App enables citizens to easily measure nitrate concentrations in water and the test results to be immediately visualized and compared to water quality standards;
- Central Coast Water Board collaborated with the State Water Resources Control Board and Deltares to evaluate how the Nitrate App could be used in a drinking water scenario;
- Project compared Nitrate App results with the laboratory analytical results to evaluate the app's accuracy;
- For more info, visit www.deltares.nl/nitrate-app

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- Successful community engagement and local agency coordination;
- Successful pilot project implementation to fill in domestic well data gaps, provide drinking water information to project participants, and assess local groundwater quality;
- Successful data management using GeoTracker GAMA, which enables data sharing and access to the public;
- Effective evaluation of the Nitrate App;
- For more information: <https://sites.google.com/view/ccgroundwater>