Groundwater Contamination Prevention and Cleanup in the Central and West Coast Basins: A Cooperative Effort

Phuong Ly
2011 WRD Groundwater Quality Workshop
June 29, 2011

Outline

1. Importance of Groundwater Contamination Prevention and Cleanup
2. Sources of Groundwater Contamination
3. Identifying/Reporting Groundwater Contamination
4. Investigation/Cleanup of Contaminated Sites
5. Working Cooperatively on Contaminated Sites: CWCB Groundwater Contamination Forum
Importance of Groundwater Contamination Prevention and Cleanup

• Water systems regulated by Title 22 (limits to various chemical concentrations)

• Exceeding these limits may pose risks to customers, result in fines to well owners, require wellhead treatment, require well shutdown, etc.

• Groundwater contamination can migrate throughout the basins, creating widespread issues for well owners and customers
Identifying/Reporting Groundwater Contamination

• No single method or agency manages identification or reporting of groundwater contamination in CA

• Overlapping methods: e.g., hazardous materials storage/use permits, waste disposal manifests, waste discharge permits, spill reporting, site inspections

• Overlapping federal, state, local agencies: e.g., USEPA, CDPH, DTSC, RWQCB, LA County DPH, city departments of environmental health, fire departments

Investigation/Cleanup of Contaminated Sites

• No single method or agency manages investigation or cleanup of contaminated sites in CA

• Overlapping methods: e.g., enforcement of storage/disposal/discharge permits, emergency spill cleanups, emergency hazardous materials/waste removal, voluntary and involuntary contaminated site investigation and remediation

• Overlapping federal, state, local agencies: USEPA, etc.

• Good coverage, but important for agencies to communicate and share data
Central and West Coast Basins
Groundwater Contamination Forum

- Established in 2003 by WRD
- A data-sharing and discussion forum to facilitate site investigations and cleanups
- Stakeholders include regulatory agencies, various cities & purveyors
- Memorandum of Understanding to work cooperatively
- Meet 3 to 4 times per year

High-Priority Contaminated Groundwater Sites in the Central and West Coast Basins

- With Forum, WRD developed list and map of 46 “high-priority contaminated groundwater sites” (sites with known or imminent threat to drinking water aquifers)
- Many factors considered when selecting the high-priority sites:
  - Site location and hydrogeology
  - Distance to nearest drinking water well
  - Depth to shallowest water-supply aquifer beneath site
  - Concentration of detected contaminants in site groundwater
  - Fate and transport of detected contaminants
  - Presence of contamination in nearby drinking water wells
  - Status of site characterization with respect to groundwater contamination
  - Status of site remediation with respect to groundwater contamination
  - Stage of regulatory agency involvement
- WRD assists with data collection, data review, recommendations to facilitate site characterization/cleanup (e.g., AAD, Carson Regional Groundwater Group)
High-Priority Contaminated Groundwater Sites in the Central and West Coast Basins

Central Basin Groundwater Contamination Study

- **Purpose:** Analyze the geology and groundwater flow system to find pathways where shallow groundwater contamination could flow into deeper potable aquifers in the Central Basin

- **Tasks:** Compilation of existing data, sequence stratigraphy analysis, water quality sampling, geochemical analysis, characterization of groundwater flow system

- Conducted by WRD & USGS
- Expect to issue final report by end of 2011
- Results will be shared with other regulatory agencies
Summary

- Federal, state, and local agencies all are stakeholders in preventing/minimizing groundwater contamination

- Pooling data and resources amongst agencies can help expedite investigation and cleanup of contaminated sites, understanding threat to potable aquifers

- Central and West Coast Basins Groundwater Contamination Forum evolved from agencies working together to achieve these goals

- Forum has been successful in moving site investigations and cleanups forward, and will help to improve understanding of multiple contaminant plumes and migration pathways