Source Water Protection Issues Monterey Bay Area

Western States Source Water & Ground Water Protection Forum
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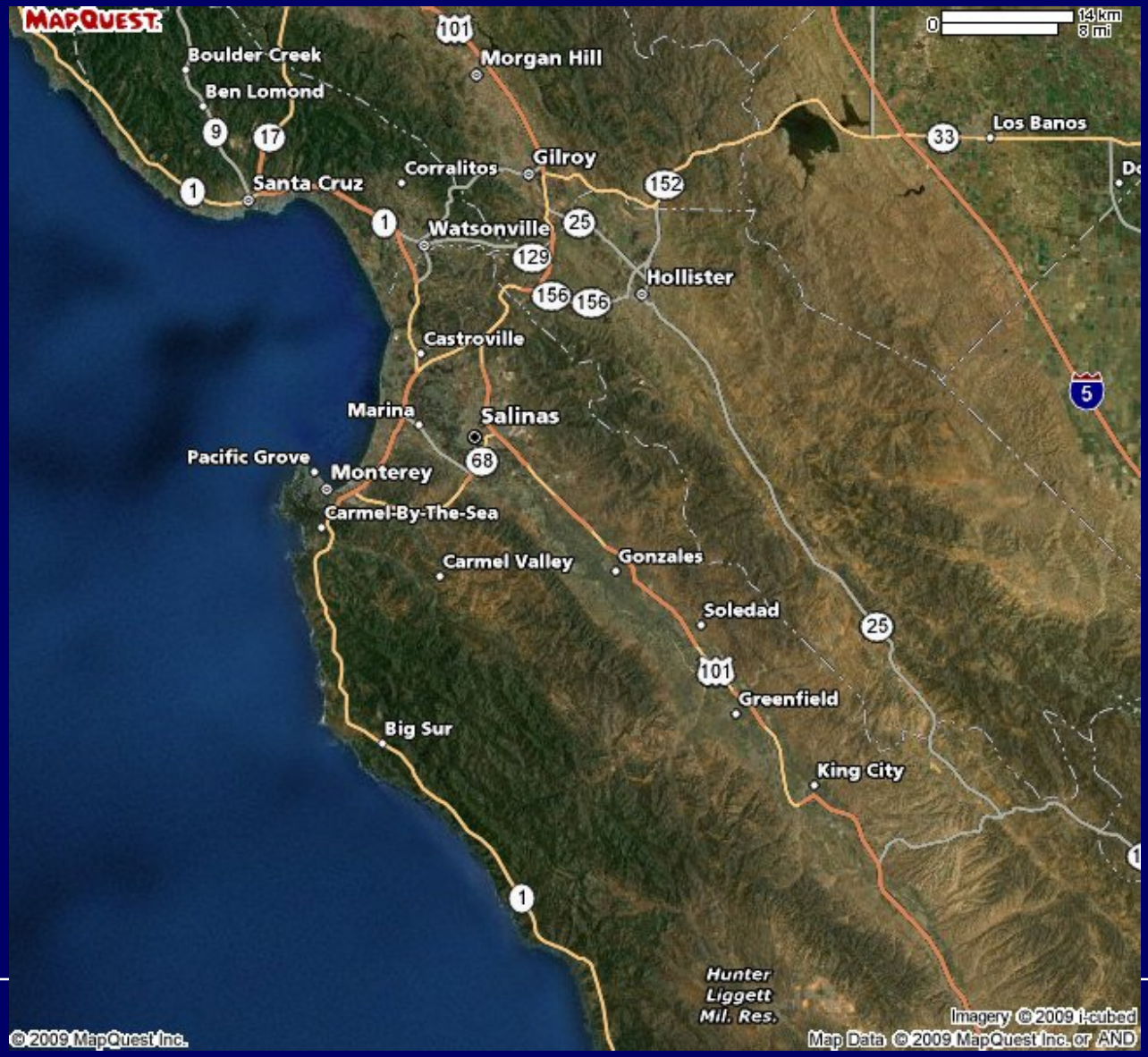
Monterey Bay Area Overview

- Three Counties
  - Coastal and Mountain: Santa Cruz and Monterey
  - Inland: San Benito
- Land use
  - Urban: Santa Cruz, Watsonville, Monterey, Salinas, Hollister, plus smaller incorporated areas
  - Rural: Santa Cruz Mountains, Big Sur, some areas in San Benito County
  - Agriculture: large portion of all three counties
  - Source water: both surface and ground
    - Desal in future (sea water and brackish GW)
      - 1 constructed; in permit process
      - 5 additional proposed

Local Issues Affecting Source Water Quality

- Monterey County
  - Nitrate, Salinas Valley
  - VOC Plume – former Fort Ord
- Coastal Areas - Seawater Intrusion
- Santa Cruz Mountains - Septic Systems

Monterey Bay Area



Nitrate in Salinas Valley - Monterey County

- Valley relies solely on GW for drinking water
- Nitrates in GW today are the result of fertilizer used 50+ yrs ago
- Proper Well Construction & Destruction - best defense
- Monterey County Issues Well Construction & Destruction Permits for all wells (ag, municipal, industrial, domestic etc)
  - Adheres to California Well Standards (CWS)
    - Adopted by State in 1974, revised in 1990
  - Monterey County also has well construction ordinances, some of which are more strict than CWS.

Nitrate in Salinas Valley Well Construction

- E-logs evaluated before casing installed to optimize depth of perforations
- Well construction and WQ for wells within one mile of a proposed well are evaluated when reviewing proposed construction of a new well
  - Can affect required depth of annular seal

Nitrate in Salinas Valley Well Construction (cont.)

- County Inspectors conduct several well inspections
  - Site approval
  - Verify placement of annular seal
- Destruction required of all abandoned wells to protect aquifers

Seawater Intrusion Coastal Areas

- Seawater intrusion is a concern in Monterey and Santa Cruz Counties
- Initial WQ concerns came from ag, but there are long term implications to municipal and domestic wells in coastal areas
  - Starting to see impacts to local municipal wells

Seawater Intrusion Coastal Areas (cont.)

- Caused by a difference in hydraulic head between ocean and adjacent groundwater as a result of:
  - Over-drafted GW basins
  - Rising ocean levels
- Current proposed solutions include:
  - Develop alternative sources of supply to reduce pumping in intruded aquifers
  - One proposal for desal using brackish water from intruded aquifer

Seawater Intrusion Coastal Areas (cont.)

- Monterey County considers effects on sea water intrusion in permitting well construction in coastal areas
  - No perforations in allowed upper aquifer
  - Dual perforated wells not allowed to protect lower aquifers

VOC Plume at Fort Ord

- Ft. Ord is former Army base, decommissioned in 1995
- Plume has impacted a municipal well
  - Quarterly monitoring
  - Shows low levels of volatile organic chemicals (VOCs) just above detection limit for reporting

VOC Plume at Fort Ord (cont.)

- Army is taking responsibility for monitoring and remediation
  - Pump, treat and reinject
    - Pumping location designed to pull plume hydraulically away from municipal wells
    - Reinjection site located towards coast to provide a barrier against sea water intrusion as a result of pumping
- Additional info: www.fortordcleanup.org

Septic Systems
Santa Cruz Mountains

- Rural area predominately on septic
  - Many systems are very old
  - Drinking water comes from both GW and from surface water sources
  - Some SW systems have increased SWTR filtration requirements under SWTR due to coliform loading in sources
- County Environmental Health has active Septic System program

Septic Systems
Santa Cruz Mountains (cont.)

- Requirements for Proposed Septic Systems
  - Monitor water surface levels in nearby wells during winter
    - Require septic system to be 3’-5’ above the average wet season ground water surface
  - Require new septic systems to meet 100’ setback from creeks
    - 50’ setback must be included in upgrades/repairs to existing systems
  - Treatment systems may be required in septic tanks in areas of high GW to improve quality of leachant
    - Aeration, media, biological treatment

Septic Systems
Santa Cruz Mountains (cont.)

- Creek Monitoring
  - Establish baseline coliform levels
  - Detection of high levels above baseline
  - Triggers additional monitoring, inspections to determine source of contamination
- Program components for proposed septic system approval and creek monitoring has resulted in improved WQ in mountain area

Additional Resources

Staff from local ground water management agencies in Monterey County are here today and can answer questions on their geographical area

- Kathleen Thomasberg – Monterey County Water Resources Agency
  - Salinas Valley
  - Fort Ord
- Joe Oliver - Monterey Peninsula Water Management Agency
  - Monterey Peninsula

Any Questions?

Contact Information

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