

Source Water Protection Issues Monterey Bay Area

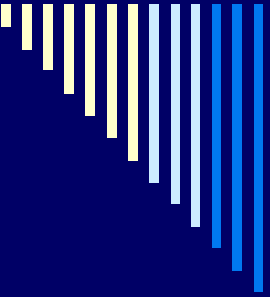
**Western States Source Water & Ground Water Protection Forum
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Monterey Bay Area Overview

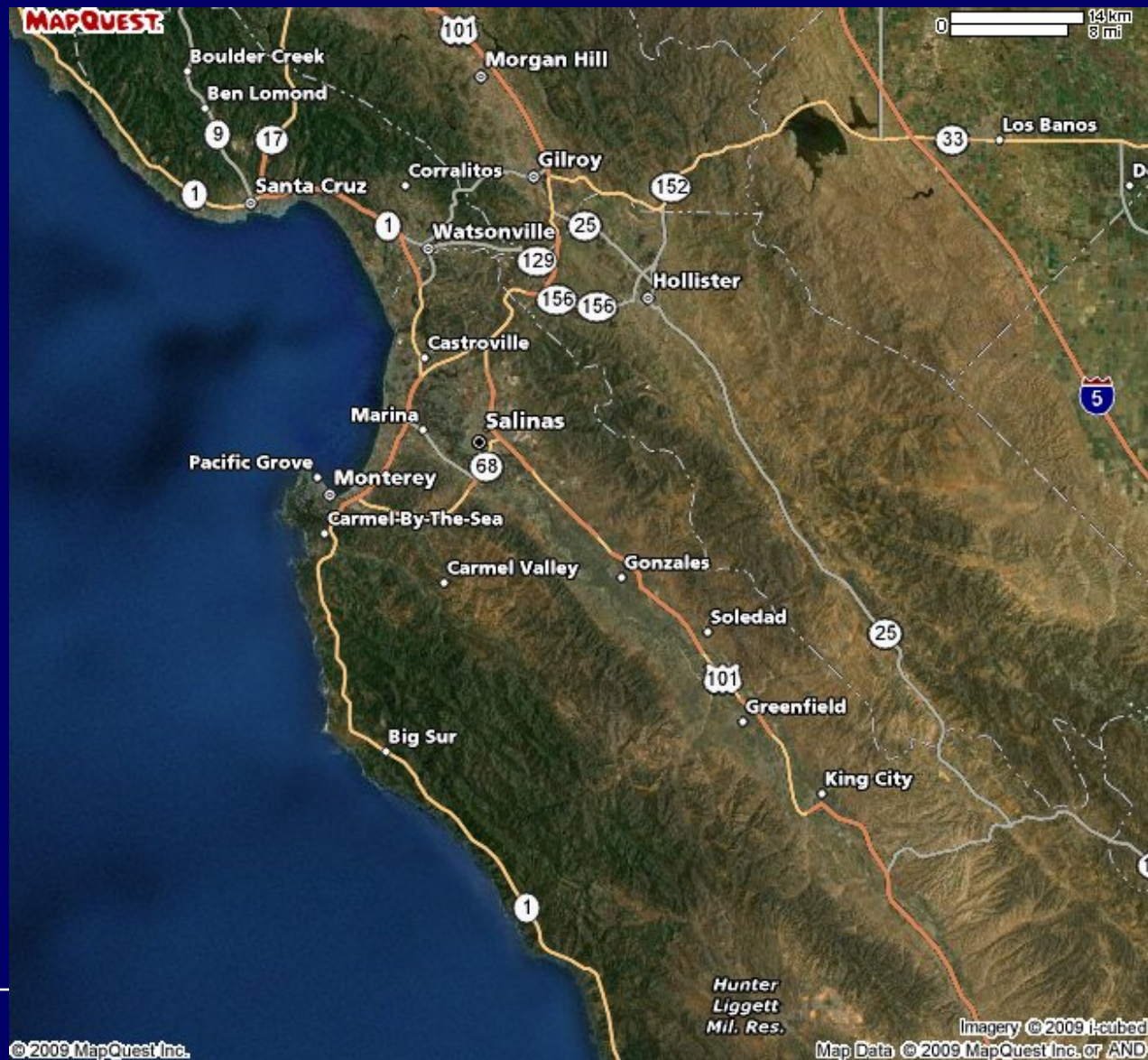
- Three Counties
 - Coastal and Mountain: Santa Cruz and Monterey
 - Inland: San Benito
 - Land use
 - Urban: Santa Cruz, Watsonville, Monterey, Salinas, Hollister, plus smaller incorporated areas
 - Rural: Santa Cruz Mountains, Big Sur, some areas in San Benito County
 - Agriculture: large portion of 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
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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
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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.
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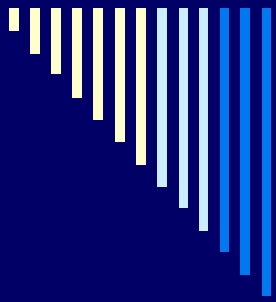
Nitrate in Salinas Valley Well Construction

- 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
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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
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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
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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
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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
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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
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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
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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.)

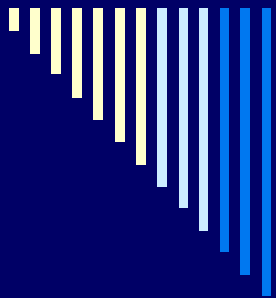
- Creek Monitoring
 - Establish baseline coliform levels
 - Detection of high levels above baseline
 - Triggers additional monitoring, inspections to determine source of contamination
 - Program components for proposed septic system approval and creek monitoring has resulted in improved WQ in mountain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

Contact Information

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