

# Groundwater Protection: What Works?

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# Overarching Needs

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- Protect current and future beneficial uses of groundwater against adverse impacts
- Continue to operate – without undue cost or risk - in areas with impacted resources
- Identify new resources, including restoration of impacted areas

# Objectives of this talk

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- Review several methods
- Discuss pros and cons of these methods
- Identify opportunities to maximize results
- Summarize the findings

# Considered methods for protecting groundwater resources

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- Advocate – secure public funding for management and cleanups
- Litigate – draw attention to problems and search for “deep pocket”
- Regulate - prevent contamination and oversee contaminant clean up
- Educate – public awareness of importance and vulnerability of groundwater resources
- Manage – sustainable resource use, including well field optimization practices

# State funded cleanup example no. 1

## - CA Prop. 50, direct funding

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- Water Security, Clean Drinking Water, Coastal And Beach Protection Act of 2002
- (b) Provide a safe, clean, affordable, and sufficient water supply to meet the needs of California residents, farms, and businesses.
- 3<sup>rd</sup> Round Priority List recommended \$75MM for groundwater protection projects in 2009

# **State funded cleanup example no. 2**

## **- CA Prop. 84, direct funding**

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- Proposition 84, The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act of 2006 passed in 2006
- \$60MM for contamination prevention/reduction projects for groundwater
- \$1 billion for local agency projects intended to deliver safe drinking water and protect water quality

# State funded cleanup example no. 2

## - Prop. 84, 3/23/2010 priority list

**DRAFT**

### Proposition 84 Section 75025 - First Round Project Priority List Prevention and Reduction of Groundwater Contamination

Total Ranking Points	Entity Name	Project Number	Project Title	Funds Requested
21	West Valley Water District	P84G-3610004-801	Wellhead Treatment System Project	\$10,000,000
19	City of El Monte	P84G-1910038-802	Well No. 3 VOC and Blending Project	\$990,413
17	Pasadena Water and Power	P84G-1910124-801	Sunset Well Ion Exchange Perchlorate Treatment System	\$1,450,000
17	California State Polytechnic University, Pomona	P84G-1910022-801	Install Groundwater Treatment Plant to Eliminate Nitrate and Perchlorate	\$2,472,300
17	City of Morro Bay	P84G-4010011-801	Desalination Plant Energy Recovery Project	\$600,000
16	Eastern Municipal Water District	P84G-3310009-803	Perris Desalter Iron/Magnesium Removal Facility	\$10,000,000
16	Department of Toxic Substances Control	P84G-8400006-801	Hard Chrome/South Central Los Angeles Groundwater Remediation Project	\$5,161,805
15	City of Anaheim	P84G-3010001-801	Abandoned Well Destruction Project	\$375,000
7	Eastern Municipal Water District	P84G-3310009-801	Enchanted Heights Sewer System	\$9,744,830
<b>Total Funds Requested:</b>				<b>\$40,794,348</b>

# **State funded cleanup example no. 3**

## **- November 2010 ballot**

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- Safe, Clean, and Reliable Drinking Water Supply Act of 2010
- Includes \$1 billion for groundwater protection and cleanup

# State assurance funds - petroleum USTs - public funding example no. 4

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- 34 U.S. EPA-approved state UST funds in 1996
- 37 state assurance funds in 2005 for USTs
- 43 currently listed on US EPA website
- Previous concerns about long-term viability of this approach to funding groundwater protection have not materialized

# **State assurance funds - dry cleaners**

## **– public funding example no. 5**

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- 13 states have mandated programs and funding for dry cleaner remediation
- PCE chemical and toxicological properties make it a serious threat to groundwater resources
- Florida program was open for application from 1996 until 1998, over 1400 sites made eligible, and to date 129 have received rehabilitation completion orders

# State funded cleanups

## - Common successes

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- Direct funding efficiently puts resources toward cleanup
- State cleanup funds provide for a type of public-private partnership on cleanups, with associated opportunities for innovation and cost-competition
- Cost recovery from a state cleanup fund provide an incentive for cleanups
- Industry-specific cleanup funds are typically fee-based, alleviating the need for taxation

# State funded cleanups

## - Common shortcomings

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- Current political climate not receptive to new taxes
- Not all “polluting industries” can be realistically funded through fee-based systems
- Allocating funding to prioritize cleanup projects that protect groundwater has been a challenge

# State funded cleanups

## - Opportunities to maximize results

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- Leverage funding availability by encouraging regulatory oversight of priority release sites
- Fee-based cleanup funding could be used for agricultural pollution problems
- Successful advocacy of public funding has been combined with other water infrastructure development projects

# Litigation example no. 1

## - City of Lodi Action

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- City of Lodi created its own CERCLA-like statute (“MERLO”)
- This statute granted the City greater rights than it possessed under CERCLA
- The City started aggressively suing under its statute and secured outside financing for the litigation
- One insurer sued in Federal Court, asserting that CERCLA preempted MERLO
- Judge Damrell found that since DTSC had asserted jurisdiction over the site, Lodi had to obtain DTSC’s blessing to sue; therefore, Lodi’s claims should be thrown out
- City was left with no recovery and large bills owed for litigation financing (\$16MM loan from Lehman Brothers)
- City sued former legal team in 2005, settled with City paying \$1.2MM to former lawyer in 2009, but lawsuits over settlement ensued

# Litigation example no. 2

## - Orange County Water District

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- Orange County Water District is a water purveyor which has its own statute under which it can sue
- The District has filed two separate actions regarding “contamination”; one based upon properties in Northern Orange County, the other based upon properties in Southern Orange County
- The Southern Orange County matter alleges contamination exists in an area that is approximately 10 square miles
- As far as we can tell, OCWD has no plan currently in place to remediate this area, but has sued numerous defendants in this area
- Many of the defendants are already under regulatory oversight, either voluntary or mandatory

# Litigation example no. 3

## - TCP Litigation

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- Fourteen different cases have been filed by various water purveyors (mostly cities) claiming response costs have been incurred to remediate trichloropropane from production wells
- These purveyors have sued Dow Chemical and Shell Chemical for design, manufacture and distribution of their products “D,D” and “telone” – soil fumigants which allegedly contained TCP
- The water purveyors also sued the distributors of these products. No end users have been sued
- All of these cases have been consolidated before one trial judge in San Bernardino County, located east of Los Angeles
- The first case, brought by the City of Redlands, California, is currently in trial

# Litigation example no.4

## - Cal Water Service Matter

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- Cal Water Service has sued for PCE contamination of its wells located in 10 different water districts
- Cal Water has sued manufacturers of PCE, manufacturers of dry cleaning equipment and distributors of both
- Forty-five defendants have been sued
- At first 244 production wells were at issue; later Plaintiffs reduced that number to 91

# Litigation example no. 5

## - Nationwide MTBE Litigation

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- Clean Air Act Amendments of 1990 required use of oxygenates in gasoline
- MTBE appeared to threaten numerous wells and basins
- Class action lawsuits filed in 2000 against MTBE manufacturers and oil companies, and consolidated in US District Court for Southern District of New York (MDL 1358)
- Initial denial followed by reactivation in 2003
- Settlement between 153 public water companies and most defendants in 2008
- ExxonMobil, Lyondell Petrochemical and several others continuing case-by-case litigation
- Recent studies suggest corn ethanol no better and possibly worse than petroleum from global warming perspective
- USEPA recently stated that actual well impacts from MTBE far fewer than feared, and level of threat at sites such as Santa Monica's Charnock well field were overstated.

# Litigation

## - Pros & Cons...

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- Significant resources are consumed by legal fees, including expert witnesses, with no contribution toward addressing the problem, how can this be justified?
- How much time is required of plaintiffs as a result of counter claims and defense tactics?
- If countersuits and cross-claims are intended to trigger insurance coverage of consultants and other stakeholders, will increased insurance premiums result?
- Claims against municipalities and POTWs for their role in distribution of PCE via sewers have been successful in the past, what can be done to limit this liability and address the problems?
- We have seen increased scrutiny of well site selection, will this lead to, among others, claims against well owners/operators for operational practices that allow for well to become a conduit for vertical migration of contaminants?

# Regulation

## – Prevention & Oversight

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- Common Successes
  - ▶ Limit or prevent new releases
  - ▶ Publicly available site data
  - ▶ Review of cleanup completeness
- Common Shortcomings
  - ▶ Extended time frame for cleanup work
  - ▶ Site-scale actions of cleanup efforts provide little help in understanding basin-scale threats
  - ▶ Enforcement is frequently limited to “precedent setting cases” where a financially large entity is involved, and where the enforcement will be well-publicized

# Regulation

## - Opportunities to maximize results

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- Identify areas of vulnerability within your basins
- Inventory cleanup projects to (1) evaluate magnitude, and (2) track schedules
- Use information above to help agencies prioritize cleanups
- Publicize open cases and encourage incentives
- Water agencies in California have been “deputized” by regulatory agencies

# Public awareness

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- Common Shortcomings
  - ▶ Limited general knowledge of groundwater
  - ▶ Many current groundwater problems are legacy issues, not the result of recent releases
- Common Successes
  - ▶ Public interest in sustainability and resource protection
  - ▶ Promoting funding for groundwater quality projects has been combined with other water supply and environmental educational campaigns

# Public awareness

## - Opportunities to maximize results

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- Water conservation is critical to reduction of greenhouse gas emissions
- As a sustainability measure, water conservation has the side benefit of reducing groundwater extraction, increasing groundwater residence times which reduces contaminant spreading and may allow for biodegradation of contaminant plumes

# Groundwater Quality Management

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- Common successes
  - ▶ Integral element of long-term stewardship of resource
  - ▶ May be only way to protect wells from regional contamination
- Common shortcomings
  - ▶ Limited resources for basin-scale resource management or planning
  - ▶ Requires understanding of basin hydrogeology

# Groundwater Management

## - Opportunities to maximize results

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- Groundwater quality monitoring
- Oversee compliance with well standards
- Centralize information tracking
- Well field optimization to reduce or eliminate impacts to individual wells
- In-well or multi-well blending

# Groundwater Protection Methods

## - Conclusions

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- Direct funding of cleanups typically requires a tax but puts resources directly to work
- State assurance funds complement existing regulatory frameworks and could address dry cleaner or agricultural groundwater contamination threats
- Litigation has become more widespread, significant resources consumed by the process
- In-depth knowledge of basin hydrogeology and prioritization of sites within basins is critical
- No single “silver bullet,” education and management will also be necessary

# End of presentation

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# Abbreviated Bibliography

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California Legislative Analyst's Office (Calif. LAO). 2008. *Groundwater Management and Drinking Water Quality Issues*. Presented to Assembly Budget Subcommittee No. 3 on Resources. 3.

Calif. LAO. 2010. *Improving Management of the State's Groundwater Resources*. March.

Lewis & Clark Law School. 2003. *Fireman's Fund Insurance Co. v. City of Lodi*.

State Coalition for Remediation of Drycleaners. 2010. [www.drycleancoalition.org](http://www.drycleancoalition.org)

United States Government Accountability Office (GAO). 2007. *Leaking underground Storage Tanks, EPA Should Take Steps to Better Ensure the Effective Use of Public Funding for Cleanups*. Report to Congressional Requesters. February.

United States Environmental Protection Agency (U.S. EPA). 1997. *State Funds In Transition: Models for Underground Storage Tank Assurance Funds*. January.

U.S. EPA. 2004. *Cleaning Up the Nation's Waste Sites: Markets and Technology Trends*. September.