California Drinking Water Issues

Jennifer Clary
Clean Water Action
February 24, 2016

CLEAN WATER ACTION

Human Right to Water

"It is hereby declared to be the established policy of the state that every human being has the **right to safe, clean, affordable, and accessible water** adequate for human consumption, cooking, and sanitary purposes.

All relevant state agencies…shall consider this state policy when revising, adopting or establishing policies, regulations, and grant criteria…"

CLEAN WATER ACTION


CLEAN
WATER
Environmental Justice
Coalition For Water

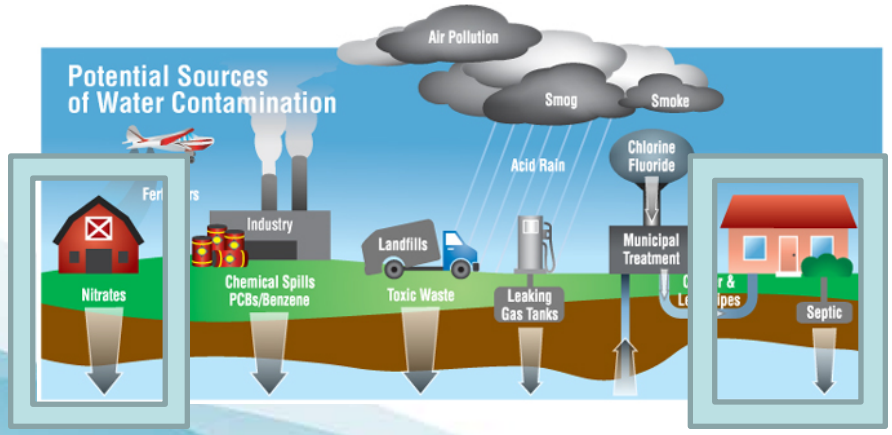
Nitrate Health Impacts

Acute (Short-term)

- Methemoglobinemia (Blue Baby Syndrome)
- Severe gastoenteritis

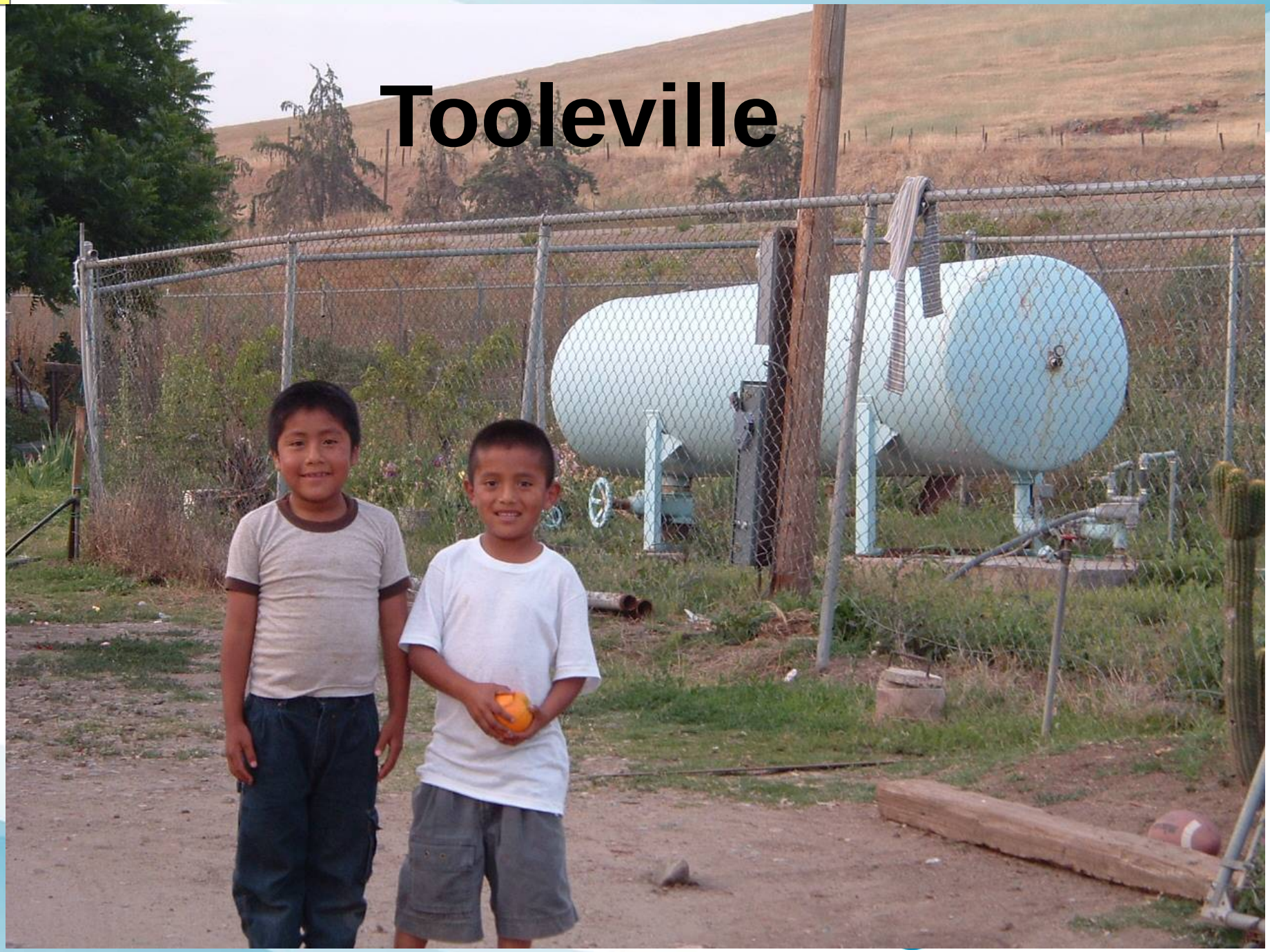
Chronic (Long-term)

- Cancer (thyroid, colon, stomach, others)
- Impaired in utero growth, pre-term birth
- Birth Defects
- Pancreatitis
- Nervous system defects



CLEAN WATER ACTION

Tooleville

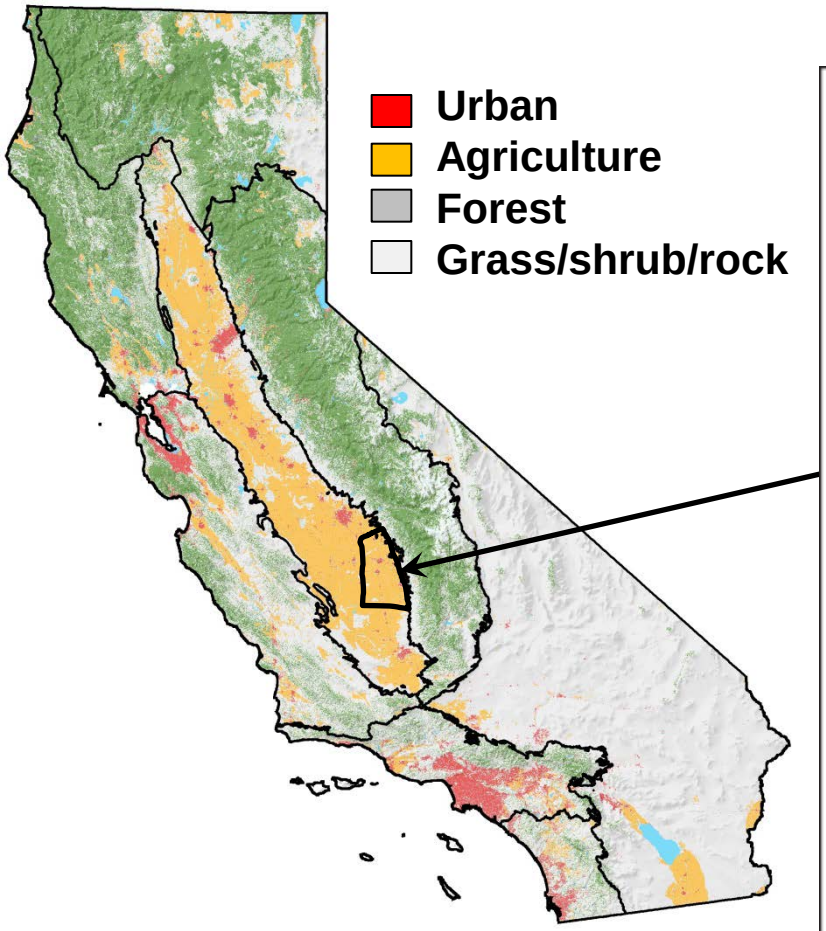


Springfield Terrace

- 160 to 300+ residents in harvest months
- Drinking water exceeds **300 mg/L** nitrate with violations as far back as 1986

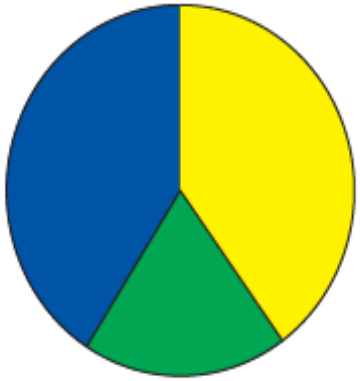
Nitrate, Well Depth, and Land Use

USGS domestic well study 2006

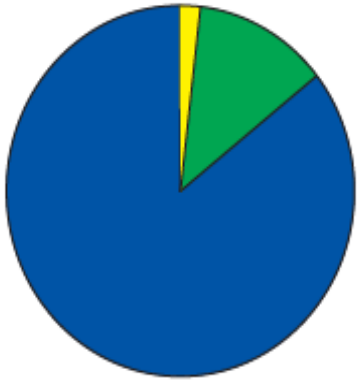


Derived from GAMA PBP,
GAMA DWP & USGS NWIS data

Western Tulare County



Shallow wells
(<200 ft)
Mostly domestic
and small-system



Deep wells
(screen >200 ft)
Mostly public-supply
and irrigation

Arsenic

Health Effects

- cancer
- increased blood pressure
- hypertension
- cardiovascular disease
- reduced mental function in children
- tremors and numbness

CLEAN WATER ACTION

Allensworth and Alpaugh

CLEAN WATER ACTION

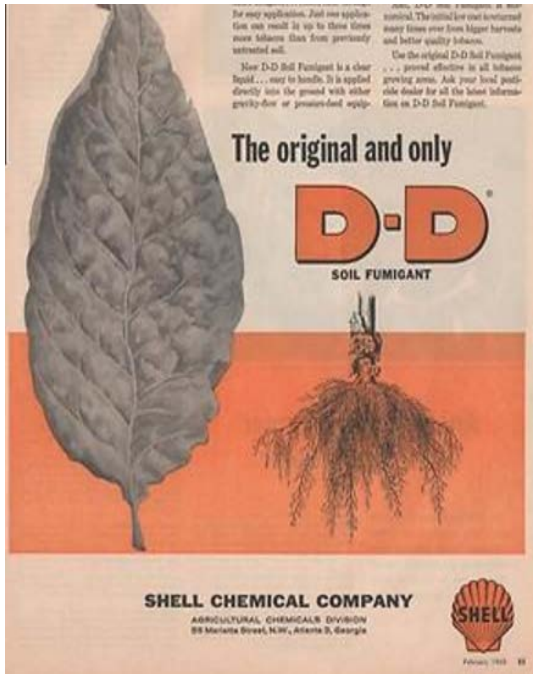
1,2,3-TCP

DOW®

Dow AgroSciences

Telone® II

SOIL FUMIGANT



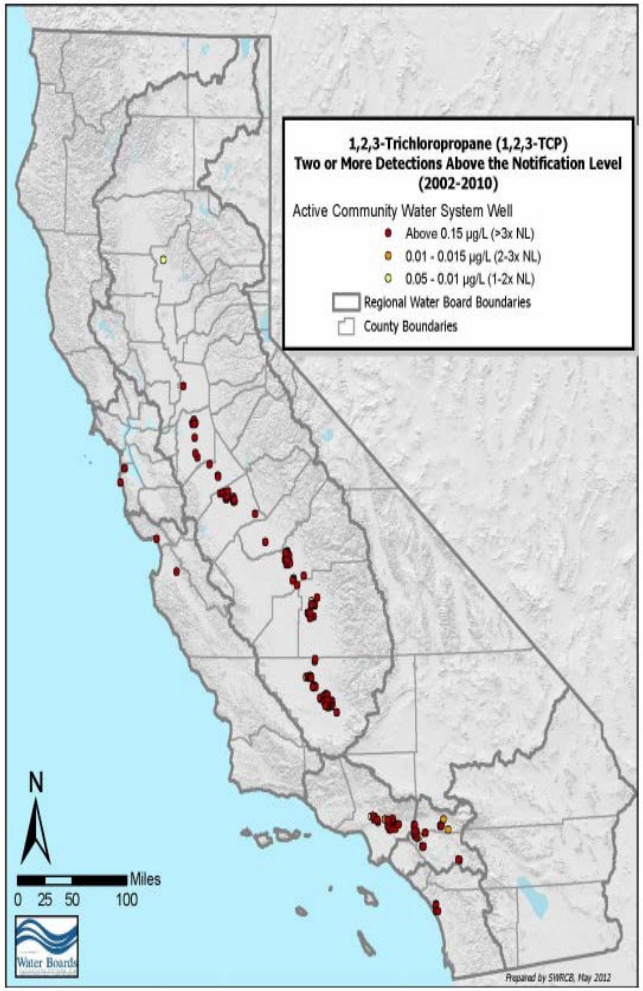
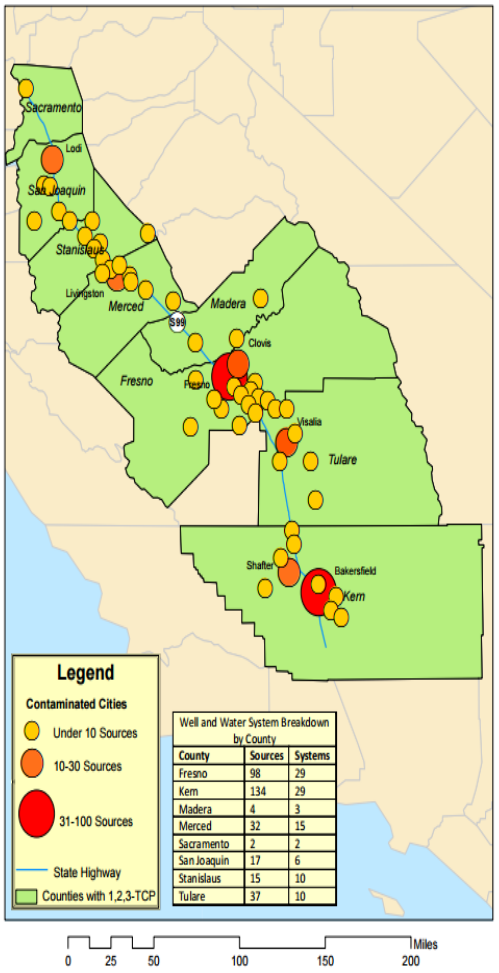


Figure 3.1: 1,2,3-Trichloropropane in Active Community Water System Wells (251) with Two or More Detections above the Notification Level of 0.005 µg/L (Maximum Concentration Observed, 2002-2010)

1,2,3-TCP Contamination in the San Joaquin Valley



Well and Water System Breakdown by County

County	Sources	Systems
Fresno	98	29
Kern	134	29
Madera	4	3
Merced	32	15
Sacramento	2	2
San Joaquin	17	6
Stanislaus	15	10
Tulare	37	10

CLEAN WATER ACTION

Cost Recovery Litigation

CLEAN WATER ACTION

Uranium

CLEAN WATER ACTION

Water Quality is not static

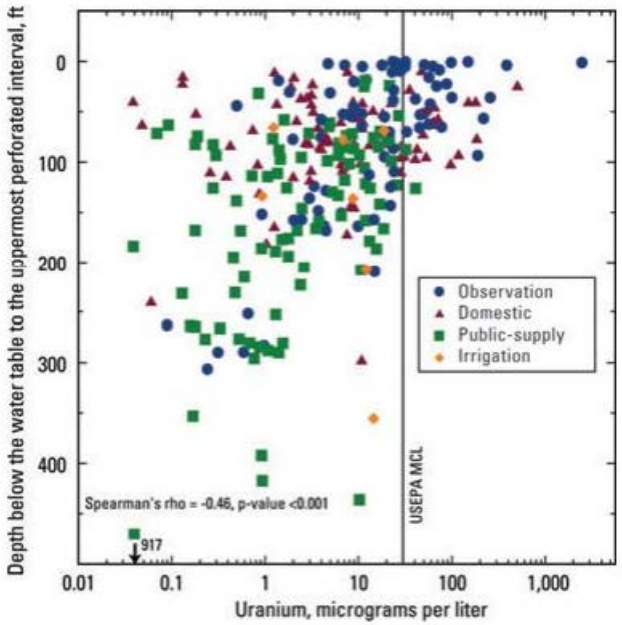


Figure 2. Relation between uranium in groundwater and depth below the water table to the uppermost perforated interval among well types in the eastern San Joaquin Valley, California.

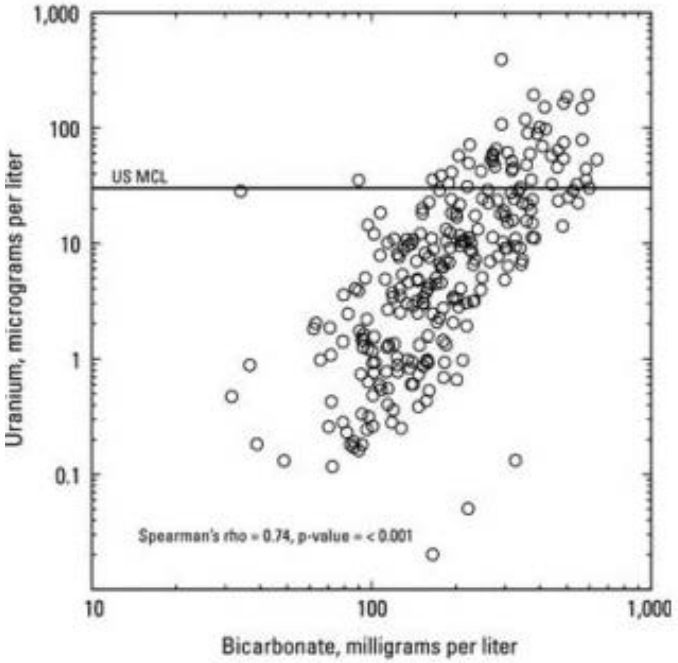


Figure 4. Relation between uranium and bicarbonate in oxic groundwater in the eastern San Joaquin Valley, California.

CLEAN WATER ACTION

Drought

CLEAN WATER ACTION

East Porterville

Photo Courtesy of Community Water Center

CLEAN WATER ACTION

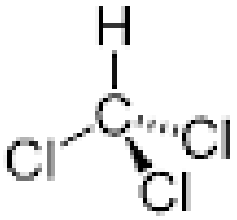
Loss of Water Supply

- Total dry wells reported (July 2015): 2115
- Highest #: Tulare County, 1126
- #3: LA County, 150
- #4: Ventura County, 120

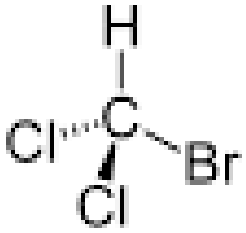
CLEAN WATER ACTION

Distribution System Contaminants

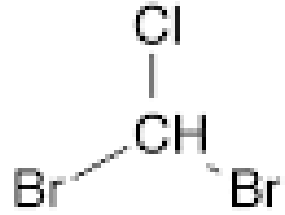
CLEAN WATER ACTION



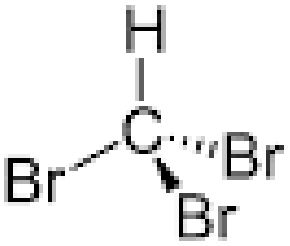
Chloroform



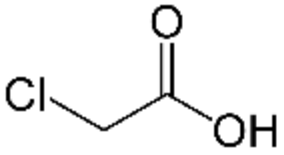
Bromodichloromethane



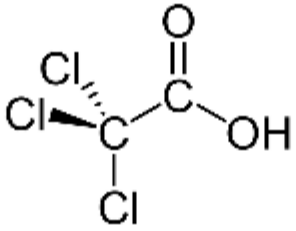
Dibromochloromethane



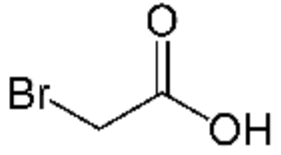
Bromoform



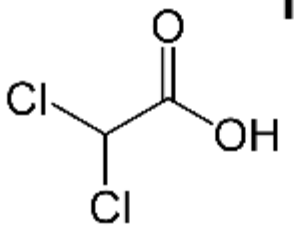
Chloroacetic Acid



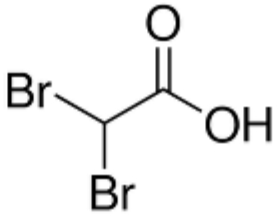
Trichloroacetic Acid



Bromoacetic Acid



Dichloroacetic Acid



Dibromoacetic Acid

CLEAN WATER ACTION

Affordability

- Limited information collected about water rates and affordability
- Tiered rate structures in jeopardy based on recent Capistrano decision
- Prop 218 limits the ability to implement lifeline rates
- Successful water conservation equals higher water rates

CLEAN WATER ACTION

Ducor, Ca

San Jerardo

Vulnerable Communities

CLEAN WATER ACTION

Small Water Systems

- 7500 water systems in CA
- 3000 community water systems (residential water supplies)
- 2300 community systems with < 1000 connections
- About 400 schools have their own water system (non-transient, non-community)

CLEAN WATER ACTION

Californians not served by a public water system

- Less 5-14 connections – state small systems
- 1-4 connections – private wells
- USGS Estimate 2.5 million in CA
- LA County estimate 575,900

CLEAN WATER ACTION

Small Water System Program Plan

Progress Status	Previous Status Total	Current Status Total
Solved/Returned to Compliance	24	44
Exec. Construction	23	28
Exec. Planning	51	49
FA Issued	-	1
Under Review	38	33
Application Pending	-	2
Unsolved	44	21
Not Funded	-	5
Total Funding (in millions)	**$99.2**	**$134.1**

CLEAN WATER ACTION

Here's what's not part of the plan

- Total Coliform violations – 121 systems
- Arsenic violations – 98
- Hex Chrome violations – 97
- Nitrate violations – 43
- Uranium - 11

CLEAN WATER ACTION

Solutions

CLEAN WATER ACTION

DRINKING WATER PROGRAM MOVE TO STATE WATER BOARD

Office of Sustainable Water Solutions

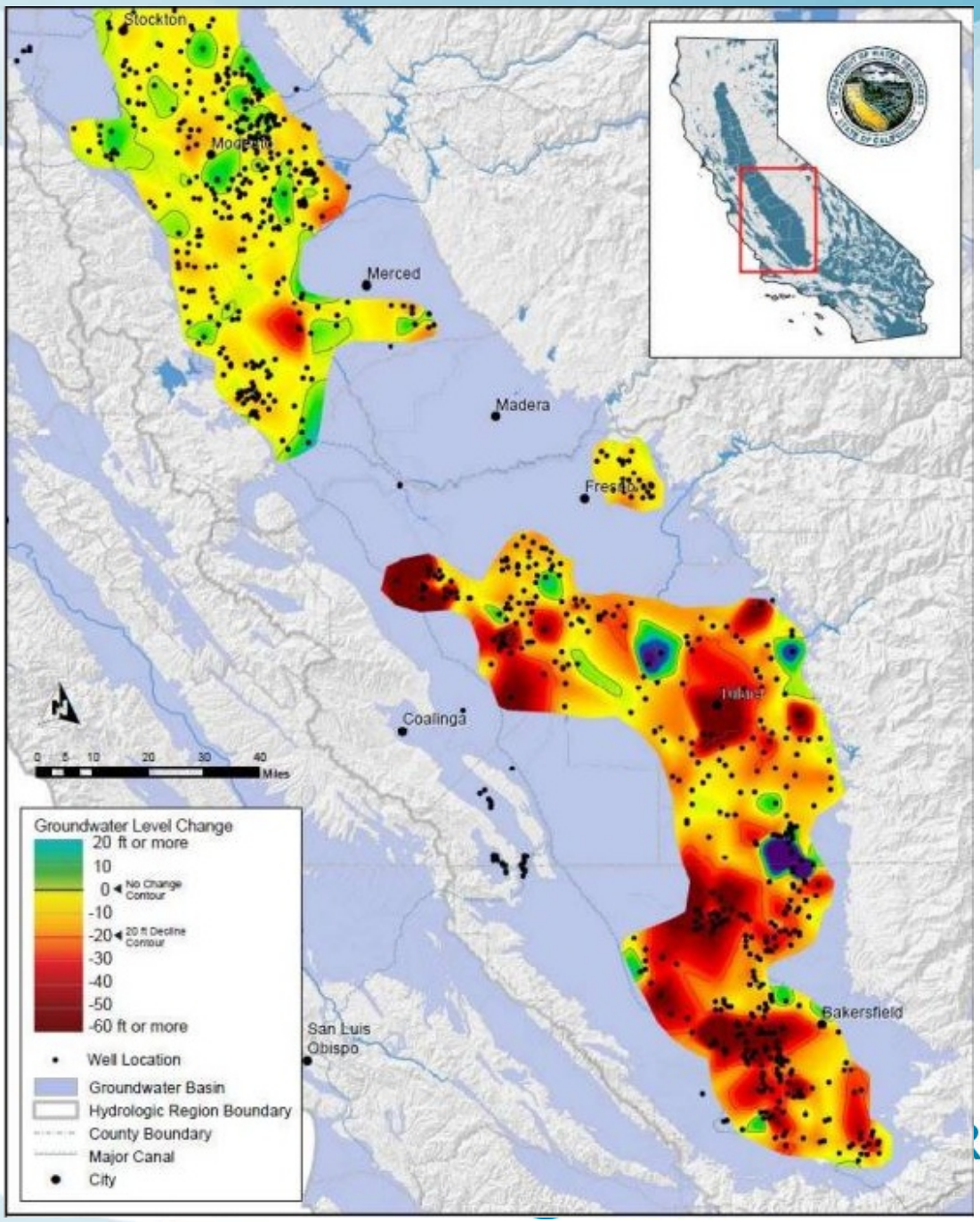
Dedicated office within the State Board Division of Financial Assistance that coordinates financial, technical, legal and other assistance for impacted systems

CLEAN WATER ACTION

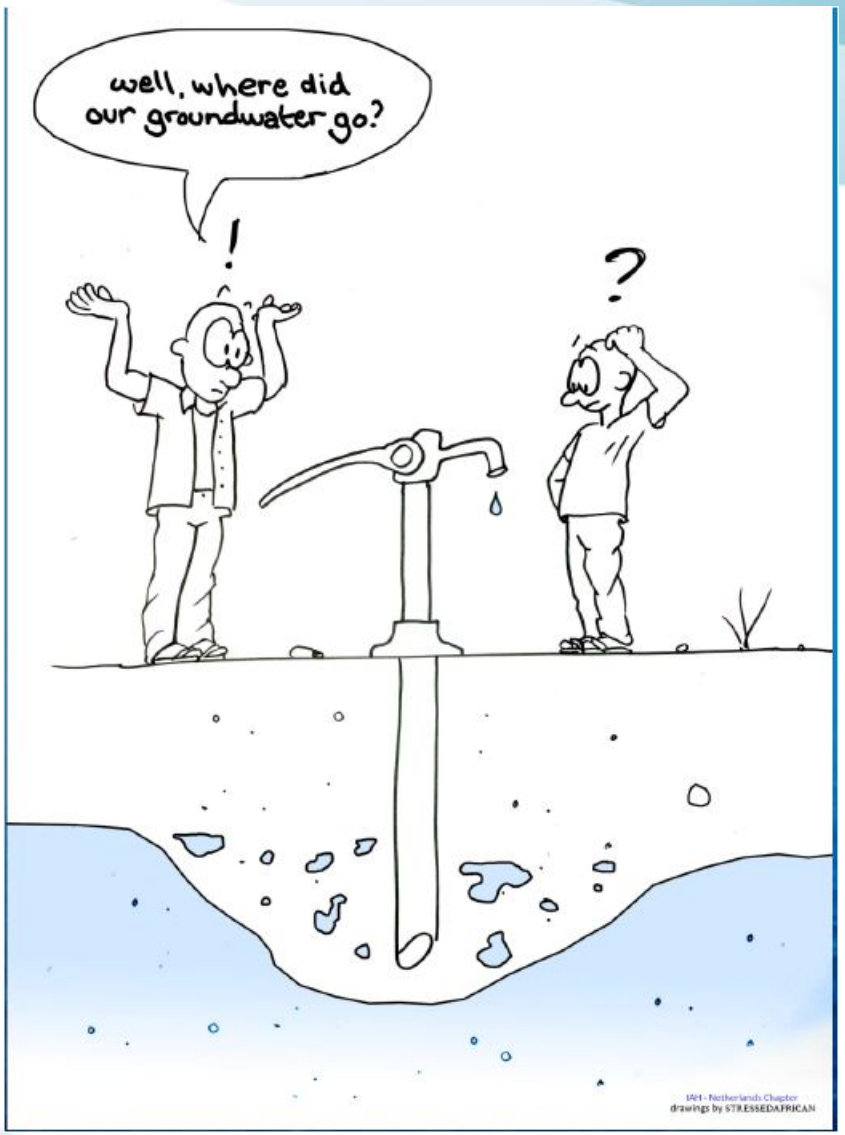
Sustainable Groundwater Management

CLEAN WATER ACTION

Change in San Joaquin Valley Groundwater levels 2013-2014



Department of Water Resources



2016 Goal

Protect Ground-water

CLEAN WATER ACTION

What's "undesirable" and who decides?

Significant and unreasonable….

- Lowering of groundwater levels
- Reduction of groundwater storage
- Seawater intrusion
- **Degraded water quality**
- Land subsidence
- Surface water depletions

CLEAN WATER ACTION

Salt and Nutrient Management

CLEAN WATER ACTION

Tighten current requirements for new development

- Current state law – 500 units triggers water supply assessment

CLEAN WATER ACTION

What's needed

- ….issuing permits to vulnerable systems!

CLEAN WATER ACTION

Proposition 1

- $520 million for small water system infrastructure needs
- Up to 15% for technical assistance
- $51 million in IRWMP funding for DACs
- $90 million in Recycled water funding for DACs
- $800 million in GW remediation funding now being developed

CLEAN WATER ACTION

Is this inevitable?

CLEAN WATER ACTION

Water Conservation

- East LA – 51.4 gallons per capita per day, median income $37,982
- Beverly Hills – 235.9 gallons per capita per day, median income $86,141

- Distance between the two cities – 16 miles

CLEAN WATER ACTION

Equity Challenges of Water Conservation Programs

- Most based on rebate formulas
- Indirect ratepayers (renters) have few options
- Programs developed and funded by individual water agencies

CLEAN WATER ACTION

Affordability - recommendation

Develop water user fee to fund lifeline rates for low-income residents, both rural and urban

CLEAN WATER ACTION

Thank you!

For more information, contact:

Jennifer Clary
Water Program Manager
Clean Water Action/Clean Water Fund
350 Frank H. Ogawa Plaza, Suite 200
Oakland, CA 94612
Tel. (415) 369-9160x311Jclary@cleanwater.org

CLEAN WATER ACTION