



# Training Event Summary

## **Event: WaterTalks Training #5 - Water Quality & Governance** **101**

<b>Intended Audience</b>	WaterTalks CBOs and guests	<b>Date and Time</b>	2022.06.30 11am - 2pm
<b>Producer / Facilitator</b>	TreePeople	<b>Event Format</b>	In person
<b>IRWM Region</b>	Greater LA County	<b>Number of Participants</b>	16

### **Event Summary:**

This event was the 5th part of a 9-part training session for WaterTalks CBOs in the Greater LA County area. It was the first of 4 sessions focused on drinking water issues in the LA Region. Included was a presentation on Drinking Water Contaminants and Regulations, and another on Water System Governance, both by Tori Klug, PE, with Stantec. There were discussions and exercises following each. The event was held live at TreePeople Center. An overview was also shared and discussed on development of the WaterTalks Tap Water Quality Testing program, including 3 different approaches that could be taken.

See presentation slides and infographic on the following pages.

# TreePeople



COUNCIL FOR  
WATERSHED  
HEALTH



# Water Quality and Governance 101

JUNE 30, 2022



Stantec



# Land Acknowledgement

Los Angeles is the unceded ancestral lands and waters of the Tongva, Chumash, and Tataviam people, the original stewards of this land. We recognize that these Tribes are still present in this region. We honor their elders both past and present and the descendants who are citizens of these Tribes for their exemplary respect for water; we honor their continued connection to and protection of one of the most beautiful and diverse landscapes in the world.

We also express that acknowledgement of the ancestral homelands alone is not enough. We seek to lift up the stories, culture, and community of these California Native American Tribes, and all indigenous people.



# California Drinking Water Disparities

- More than 2 million people across the US do not have access to safe, clean drinking water
  - Includes ~one million people in California
- Abundant evidence of racial and class disparities in drinking water quality and affordability (1) (2)
- Indigenous households are much more likely to lack access to indoor plumbing than white households (3)



Photo credit: Community Water Center, <https://www.communitywatercenter.org/policy>

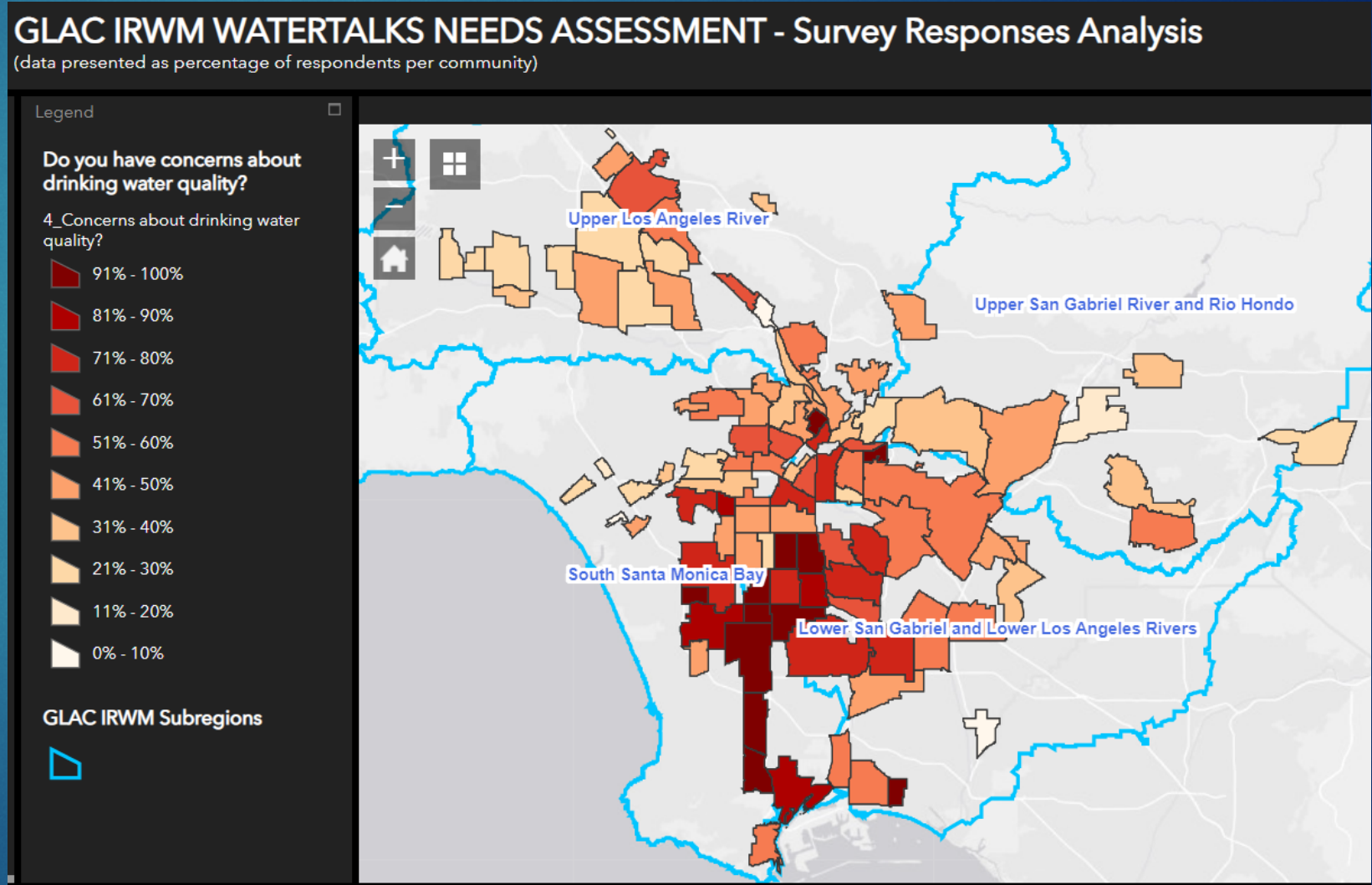
(1) Balazs & Ray, 2014. The Drinking Water Disparities Framework: On the Origins and Persistence of Inequities in Exposure. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4025716/>  
(2) UCLA Luskin Center, 2021. California Households Owe \$1 Billion in Water Bills, Highlighting Affordability Crisis. <https://luskin.ucla.edu/california-households-owe-1-billion-in-water-bills-highlighting-affordability-crisis>  
(3) Dig Deep & United States Water Alliance. Closing the Water Access Gap in the United States. <https://www.digdeep.org/close-the-water-gap>



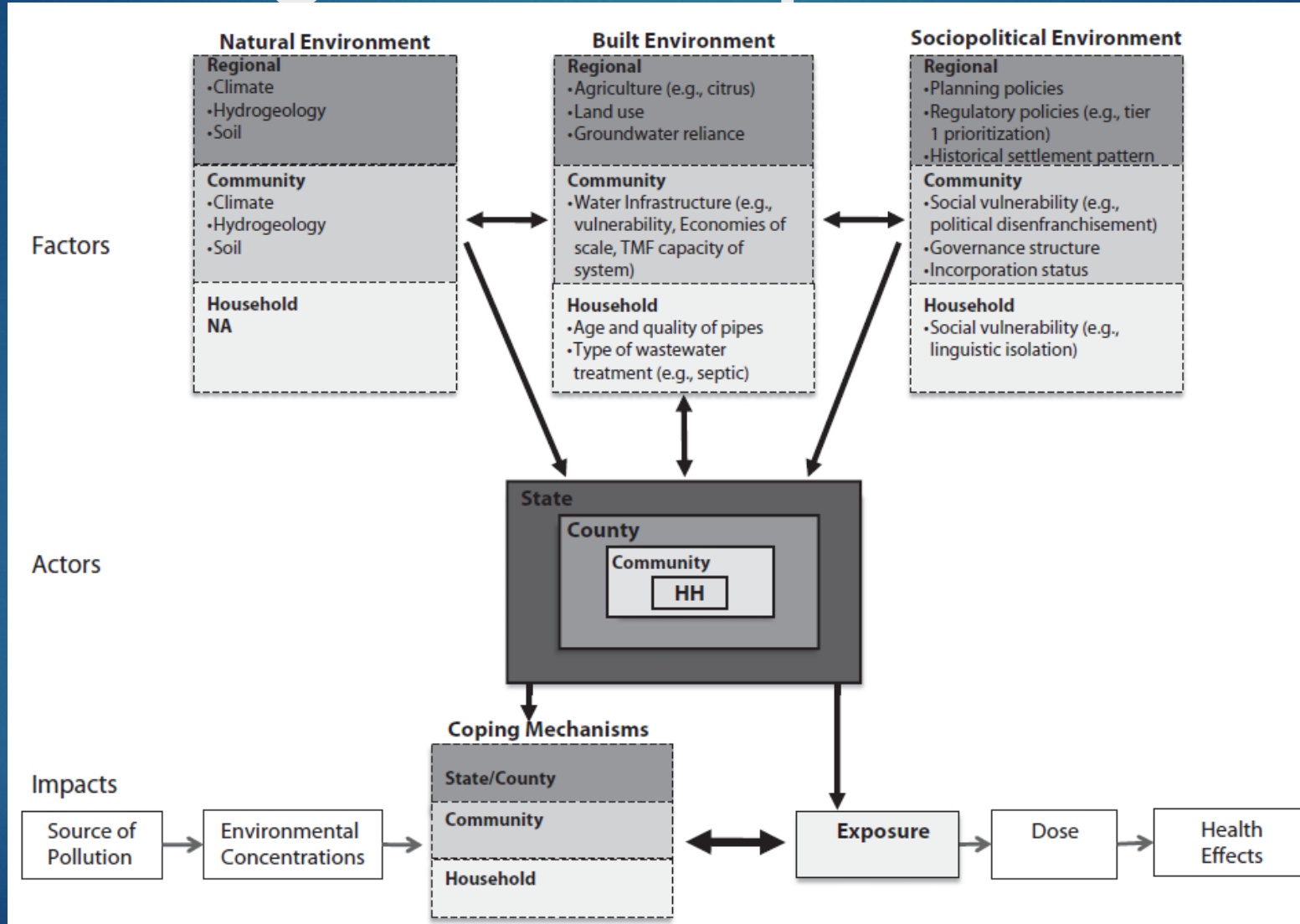


# Drinking Water Quality Concerns

- Drinking water quality concerns common across WaterTalks communities in LA County



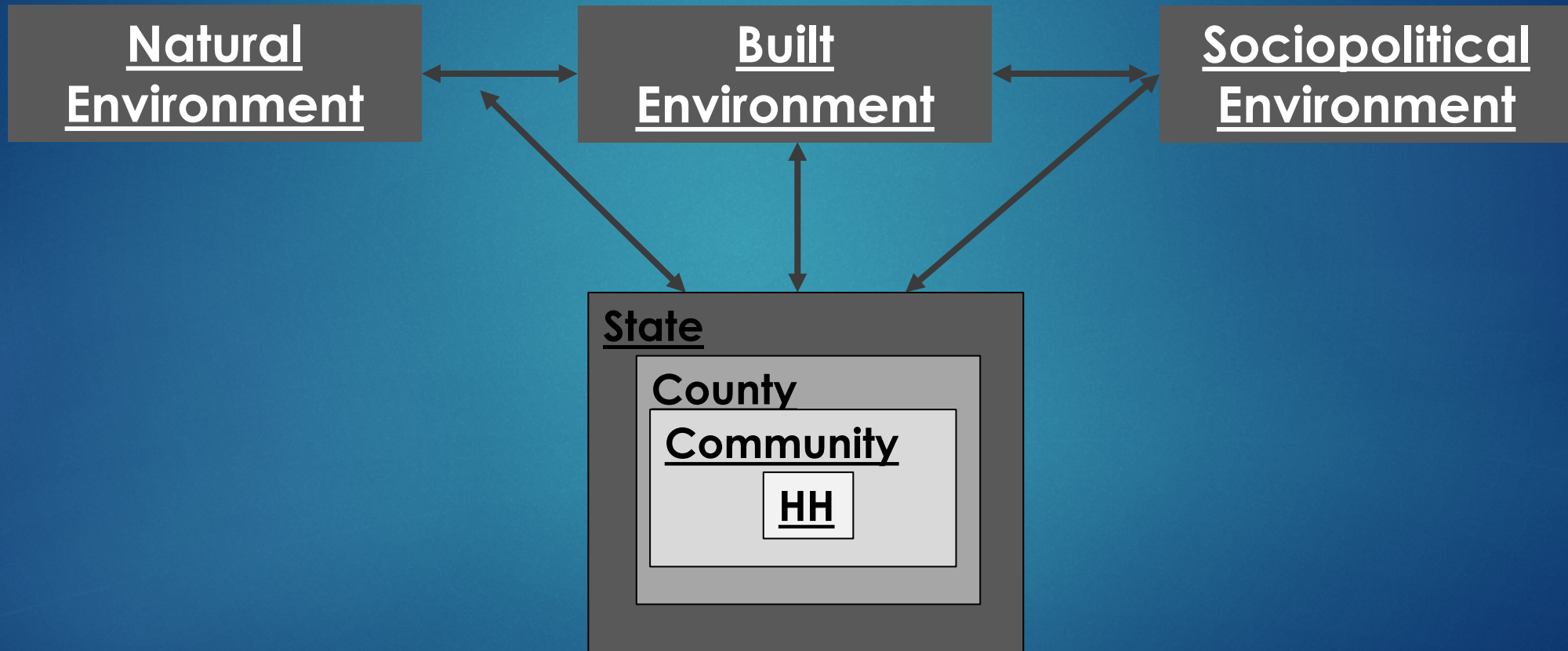
# CA Drinking Water Disparities







# California Drinking Water Disparities







# Human Right to Water in California

- **Building grassroots efforts** – organizations like Community Water Center focus on drinking water disparities
- **Global attention** – United Nations Special Rapporteur documented the extent to which many communities in California, mostly those of color, remained without access to safe drinking water and sufficient sanitation (1) (2)
- **Legislative action** – In 2012, California Assembly Bill 685 established the Human Right to Water

**AB 685 states: “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes”**

(1) Catarina de Albuquerque, UN Independent Expert on the right to water and sanitation: Mission to the United States of America from 22 February to 4 March 2011. [https://sr-watersanitation.ohchr.org/en/pressrelease\\_catarina.html](https://sr-watersanitation.ohchr.org/en/pressrelease_catarina.html)

(2) International Human Rights Law Clinic, 2013. The Human Right to Water Bill in California: an implementation framework for state agencies. Available at: [Water\\_Report\\_2013\\_Interactive\\_FINAL.pdf \(berkeley.edu\)](#)

# Safe and Affordable Drinking Water



- 2019 - Senate Bill 200 established the Safe and Affordable Drinking Water (SADW) Fund
  - Created a \$1.3-billion, 10-year effort (1) (2)
- SADW funds tied together with previously existing funding sources to create the **Safe and Affordable Funding for Equity and Resilience (SAFER) Program**
  - Fiscal Year 2021 – 2022 budgeted **more than \$2.1 billion** for the SAFER Program (2)



Photo credit: State Water Board, SAFER Advisory Group webpage.  
[https://www.waterboards.ca.gov/safer/advisory\\_group.html](https://www.waterboards.ca.gov/safer/advisory_group.html)

(1) Sparling, N. 2020. California Is Making Progress On Safe Water For All, But Work Remains. <https://www.capradio.org/articles/2020/11/12/california-is-making-progress-on-safe-water-for-all-but-work-remains/>

(2) Mendoza et al. 2019. Op-Ed: Water Victory Shows Power of People. [https://hanfordsentinel.com/opinion/columns/op-ed-water-victory-shows-power-of-people/article\\_87e8a902-c4ab-53eb-a0c3-65893b25dd68.html?utm\\_campaign=user-share&utm\\_medium=social&utm\\_source=twitter](https://hanfordsentinel.com/opinion/columns/op-ed-water-victory-shows-power-of-people/article_87e8a902-c4ab-53eb-a0c3-65893b25dd68.html?utm_campaign=user-share&utm_medium=social&utm_source=twitter)

(3) FY 2021-2022 Fund Expenditure Plan: Safe and Affordable Drinking Water Fund. Available at: [https://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/sustainable\\_water\\_solutions/docs/2021/draft-final-2021-22-sadwfep-clean.pdf](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/sustainable_water_solutions/docs/2021/draft-final-2021-22-sadwfep-clean.pdf)





# State Water Board Progress

- **Shift in focus and in ethos** – key staff from grassroots organizations focused on water justice now working on State Water Board SAFER team
- **Acknowledging racial injustice** – Resolution No. 2021-0050, Condemning Racism, Xenophobia, Bigotry, and Racial Injustice and Strengthening Commitment to Racial Equity, Diversity, Inclusion, Access, and Anti-Racism (1)
- **Charting path forward** – Racial Equity Action Plan development (2)
  - Upcoming virtual workshops (3)

*“We envision a California where:*

- 1. race no longer predicts the access to or quality of water resources a person receives,*
- 2. race is not a predictor of professional outcomes for our employees, and*
- 3. we consistently apply a racial equity lens to our decision-making processes.” (2)*

(1) Resolution No. 2021-0050. [https://www.waterboards.ca.gov/racial\\_equity/resolution.html#:~:text=The%20Water%20Boards%20Racial%20Equity,a%20priority%20plan%20of%20action](https://www.waterboards.ca.gov/racial_equity/resolution.html#:~:text=The%20Water%20Boards%20Racial%20Equity,a%20priority%20plan%20of%20action)

(2) State Water Board Racial Equity website: [https://www.waterboards.ca.gov/racial\\_equity/](https://www.waterboards.ca.gov/racial_equity/)

(3) Notice of public meetings – Racial Equity Action Plan Workshop Series: [https://www.waterboards.ca.gov/racial\\_equity/docs/20220624\\_notice\\_racequity.pdf](https://www.waterboards.ca.gov/racial_equity/docs/20220624_notice_racequity.pdf)



# Discussion Groups



- What else should the Human Right to Water look like in practice? (10 minutes)

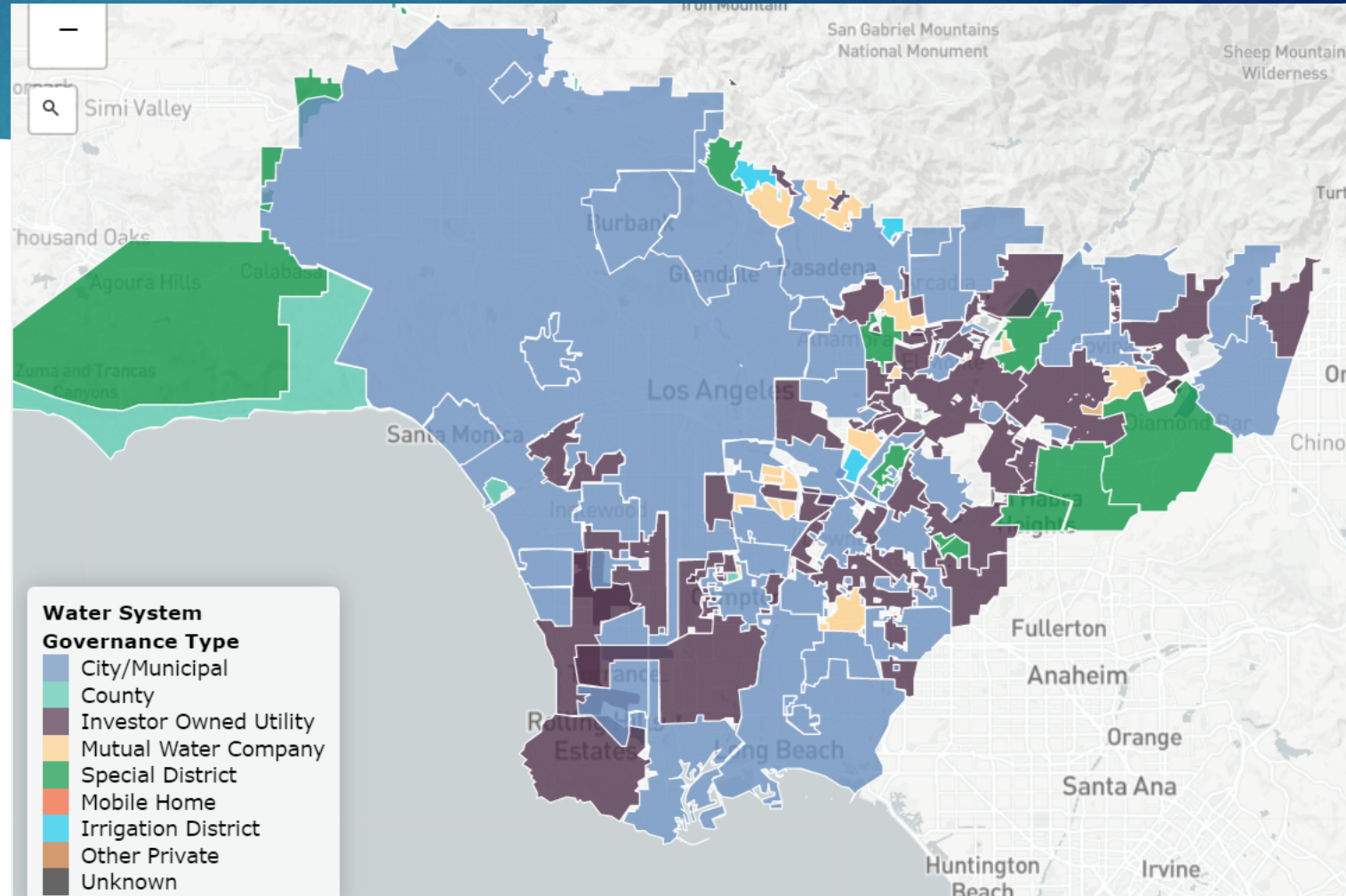
# Discussion Groups



- How do you see yourself/your org using this information? (5 minutes)

# Water System Governance

- **Definition** – “*Water governance is the interactions among structures that control decision-making and influence water’s use and management*” (1)
- **Water system fragmentation** – more than 200 (!) water systems in LA County



(1) Troxell, 2021. Urban Drinking Water Governing Bodies: Representation and Accountability of Systems to Los Angeles County’s Residents. <https://innovation.luskin.ucla.edu/wp-content/uploads/2021/06/Urban-Drinking-Water-Governing-Bodies.pdf>

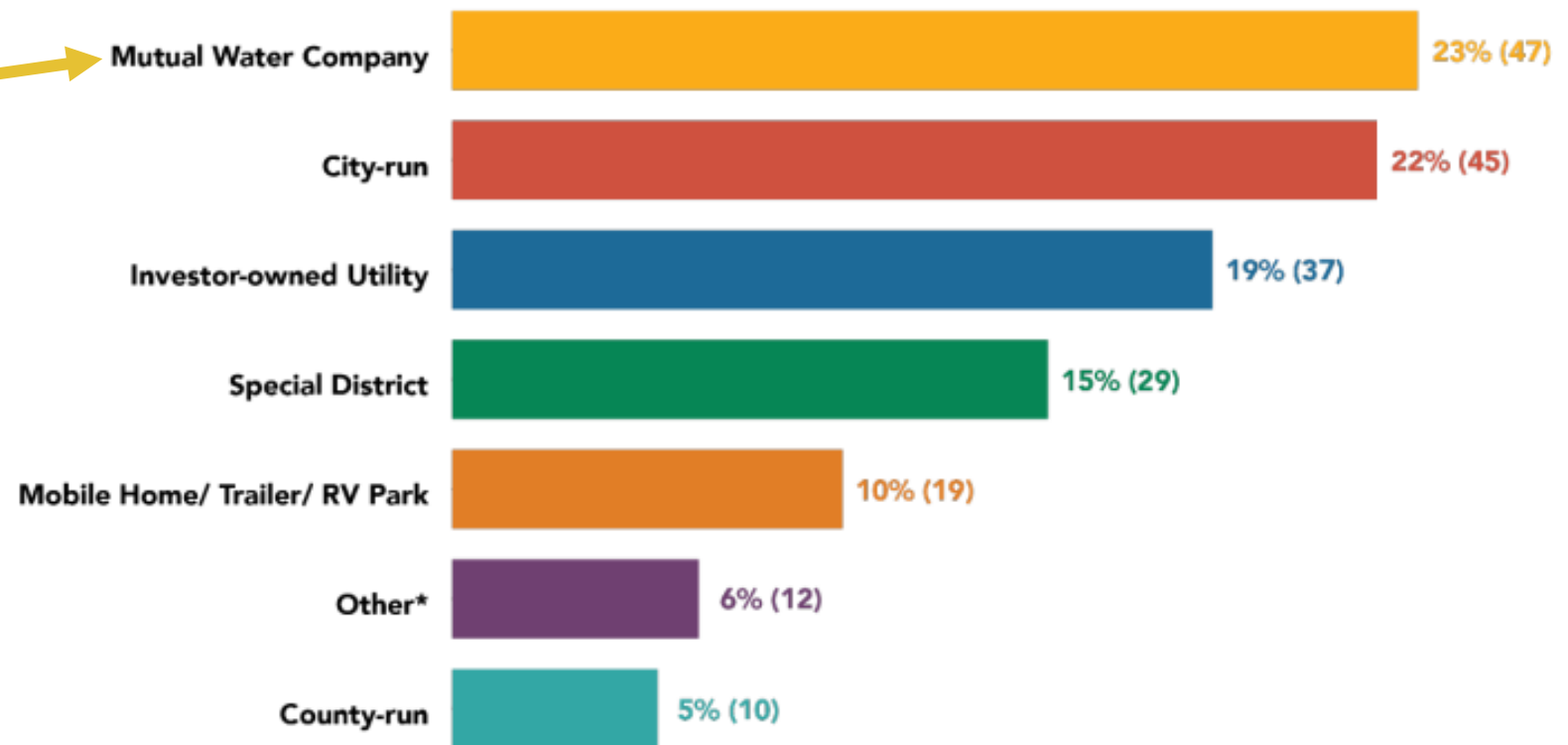




# LA County Water System Governance

- By count, mutual water companies are most common
  - But mutuals are relatively small – those 47 systems serve only 8% of LA County’s population

LA County Water System Count, by Governance Structure



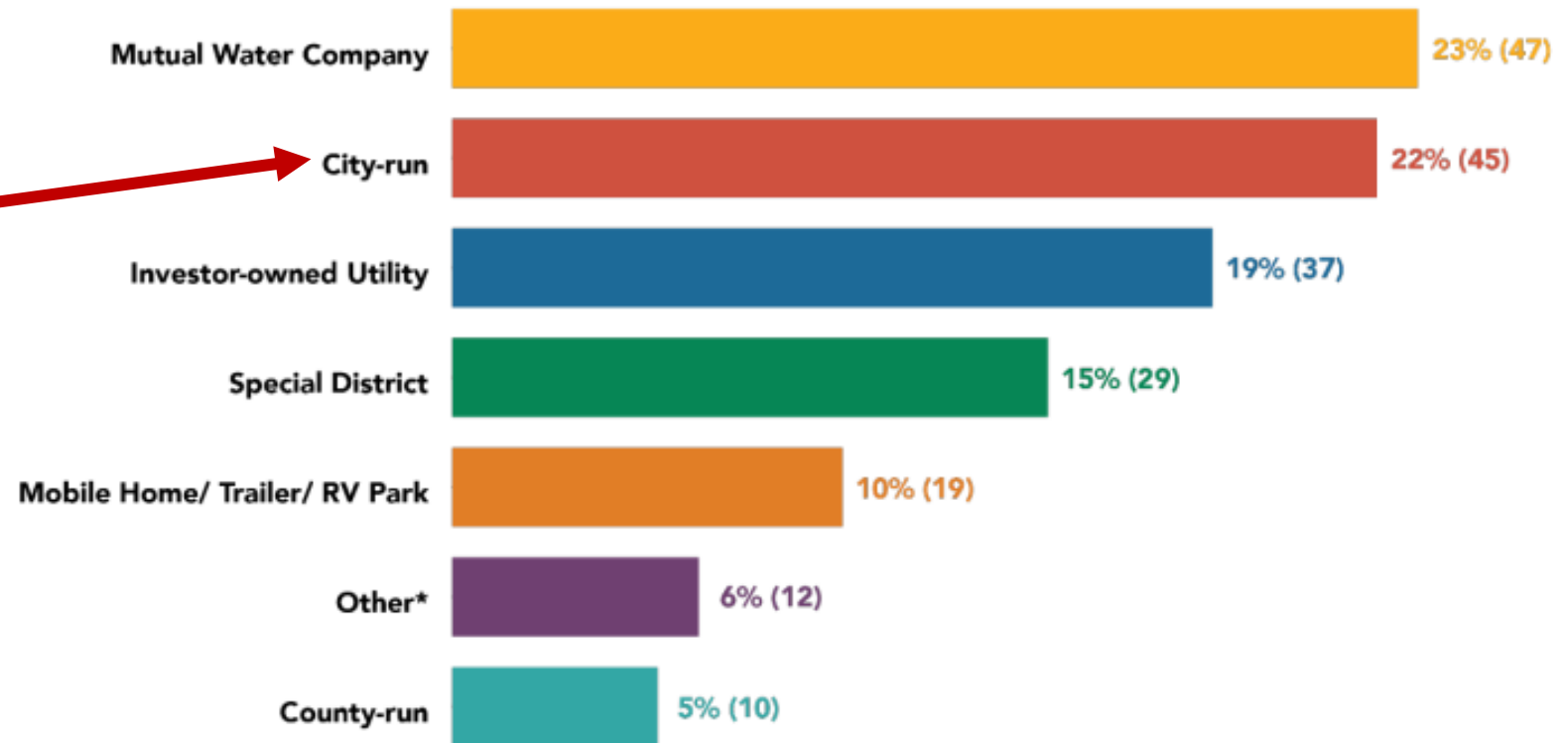
(1) Troxell, 2021. Urban Drinking Water Governing Bodies: Representation and Accountability of Systems to Los Angeles County’s Residents. <https://innovation.luskin.ucla.edu/wp-content/uploads/2021/06/Urban-Drinking-Water-Governing-Bodies.pdf>  
(2) Pierce and Gmoser-Daskalakis, 2020. Community Water Systems in Los Angeles County: A Performance Policy Guide. <https://innovation.luskin.ucla.edu/community-water-systems-in-los-angeles-county/>



# LA County Water System Governance

- Over half of people in LA County are served by a city-run system
- Over one-third of people in LA County served by LADWP

LA County Water System Count, by Governance Structure



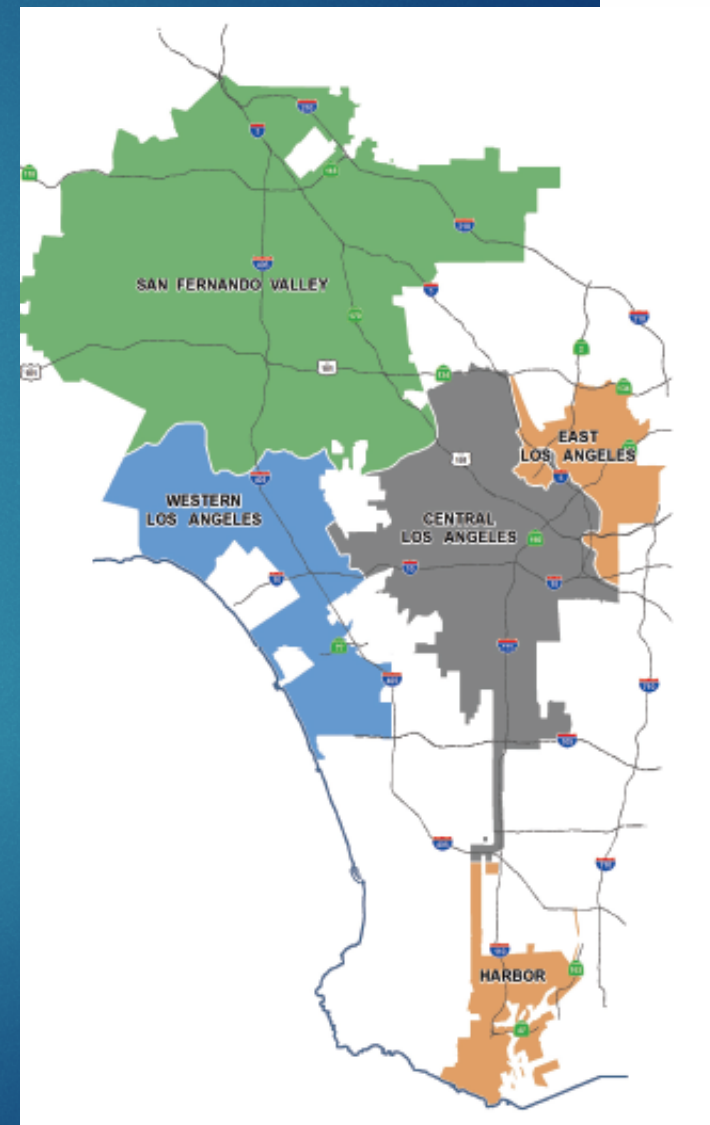
(1) Troxell, 2021. Urban Drinking Water Governing Bodies: Representation and Accountability of Systems to Los Angeles County's Residents. <https://innovation.luskin.ucla.edu/wp-content/uploads/2021/06/Urban-Drinking-Water-Governing-Bodies.pdf>

(2) Pierce and Gmoser-Daskalakis, 2020. Community Water Systems in Los Angeles County: A Performance Policy Guide. <https://innovation.luskin.ucla.edu/community-water-systems-in-los-angeles-county/>



# Within LADWP's System

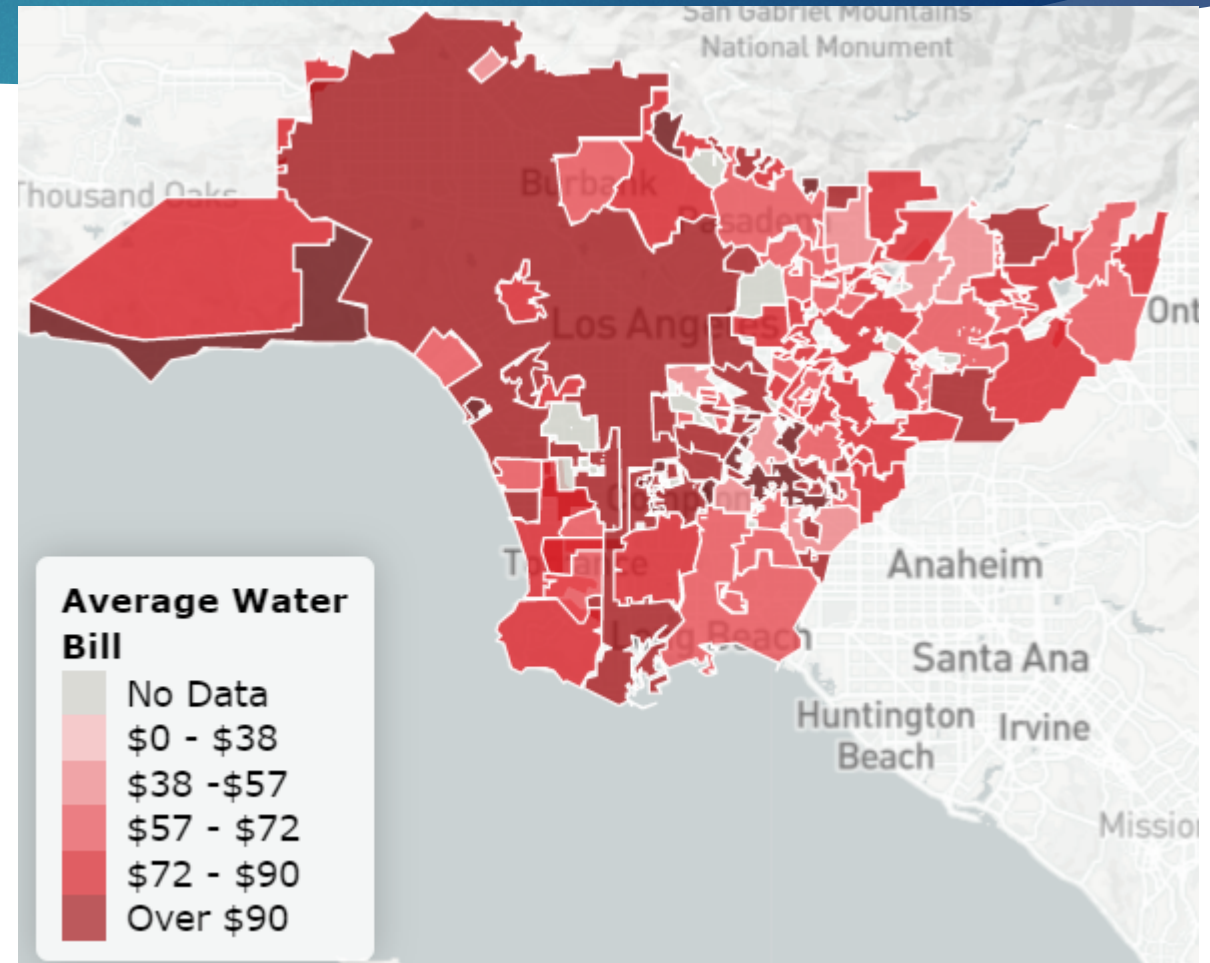
- There are different “Water Quality Service Areas” that are served water from different sources
  - The State Water Project
  - Colorado River Aqueduct
  - LA Aqueduct
  - Local groundwater
- LADWP's Annual Drinking Water Quality Report gives data for each service area (1)





# Governance Impacts

- Transparency
- Selection of leadership
- Performance
- Affordability programs
  - Prop 218 vs. CA Public Utilities Commission





# LA County Water System Governance Map Activity

<https://innovation.luskin.ucla.edu/los-angeles-county-water-governance-mapping-tool/>

## Los Angeles County Water System Governance Map | Menu |

Indigenous Land & Water Acknowledgment

Learn How to Use The Map

Click Here for Map Instructions

Water System Governance

Governance Types

How Water System Leadership Is Chosen

Water System Population

Water System Service Connections

Water Bill

Average Water Bill

Hours of Minimum Wage

Water System Performance

Primary Water Source

Click on a Water System

**Water System Governance Type**

- City/Municipal
- County
- Investor Owned Utility
- Mutual Water Company
- Special District
- Mobile Home
- Irrigation District
- Other Private
- Unknown



# PATH TO TAP

## WATER TREATMENT PLANT

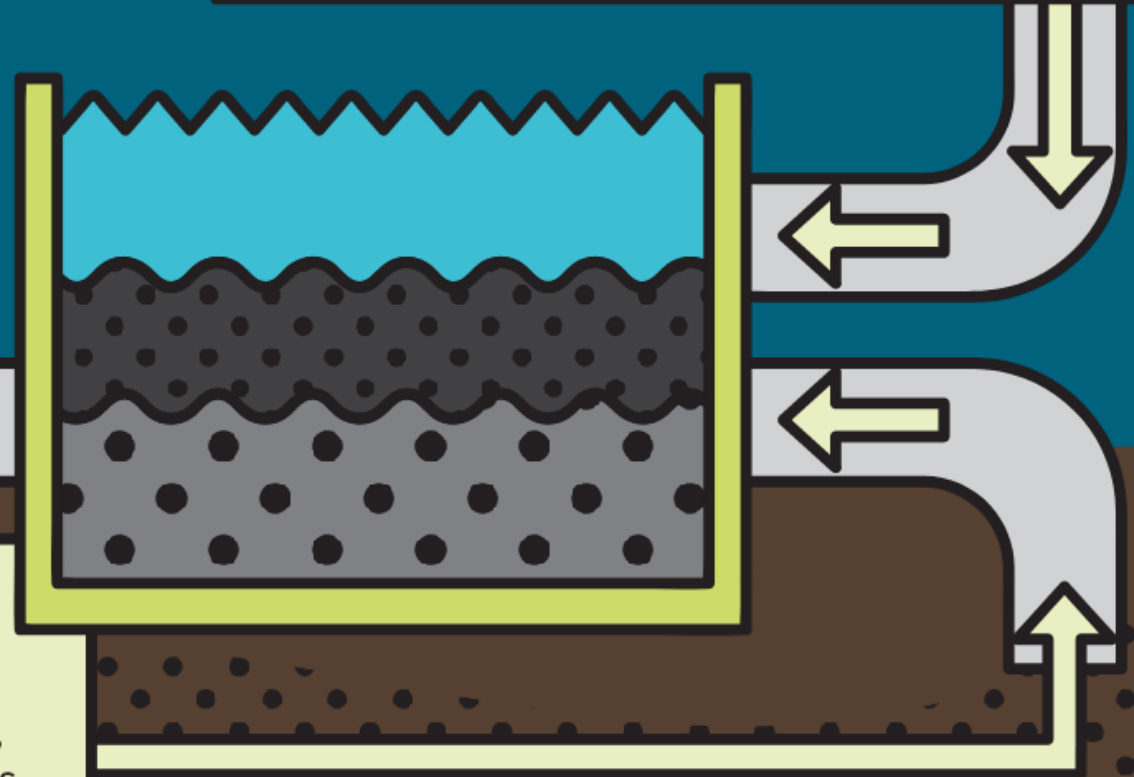
Imported water and groundwater must be treated before it is consumed. Treatment is designed based on the source water quality to kill or remove harmful bacteria, viruses, metals, and/or organic compounds.

## IMPORTED WATER

Currently, most of L.A. County's water supply is imported. Importing surface water is energy-intensive, vulnerable to climate change impacts and earthquakes, and involves the continued taking of ancestral waters of Indigenous peoples.

## GROUNDWATER BASINS

Some water systems are entirely reliant on groundwater. To make L.A. County more resilient, there are efforts to remediate groundwater basins that were contaminated by *industrial pollution* and to infiltrate more stormwater to replenish groundwater basins.



## UNDERGROUND PIPE SYSTEM

To deliver safe, clean water, a distribution system requires maintenance that includes replacing old pipes and maintaining consistent non-corrosive water chemistry.

*Corrosion* is the gradual deterioration of metal surfaces and can impact water quality. Pipe material and key water chemistry components like pH impact the rate of corrosion in distribution systems.

## PREMISE PLUMBING

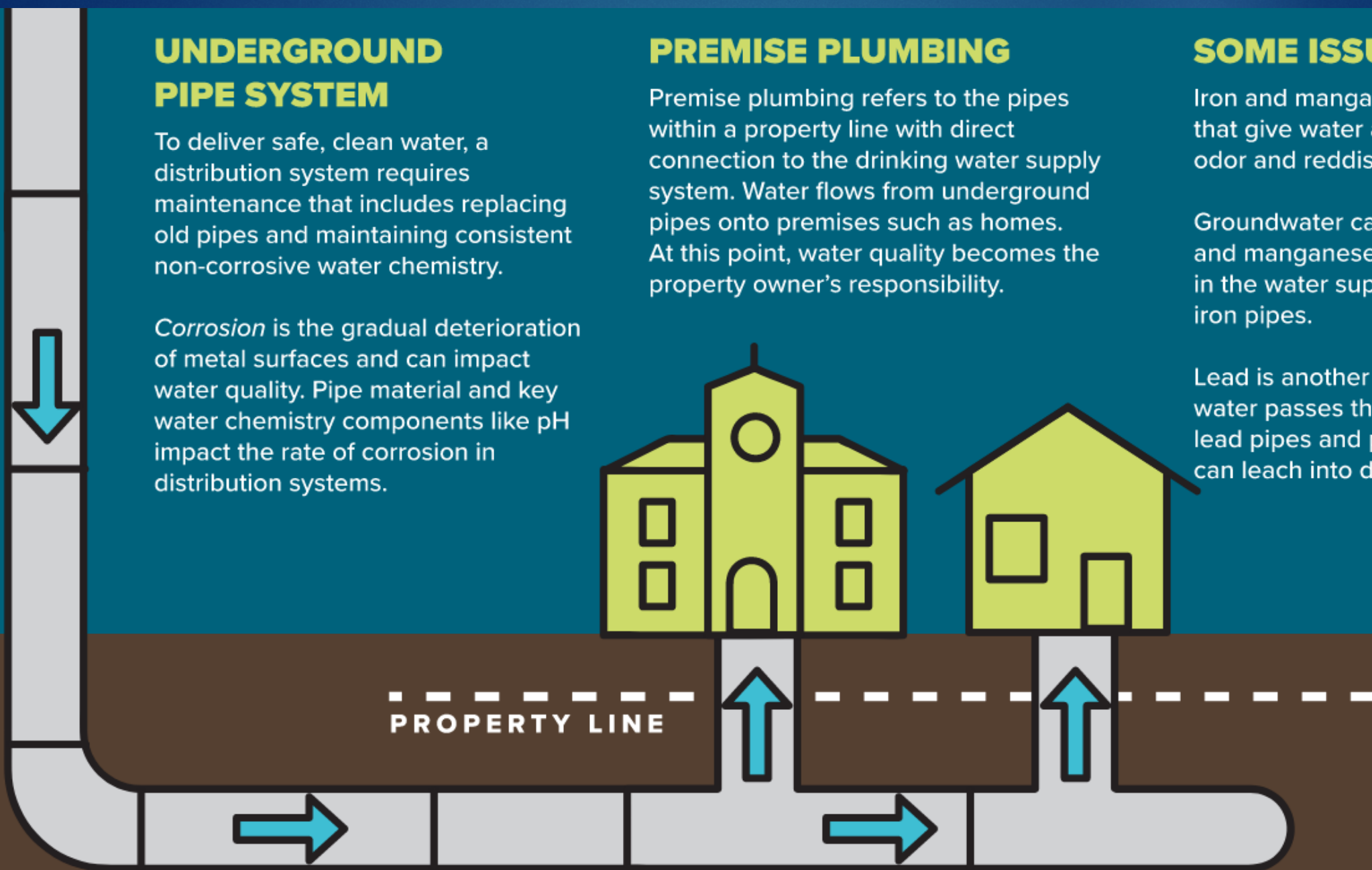
Premise plumbing refers to the pipes within a property line with direct connection to the drinking water supply system. Water flows from underground pipes onto premises such as homes. At this point, water quality becomes the property owner's responsibility.

## SOME ISSUES

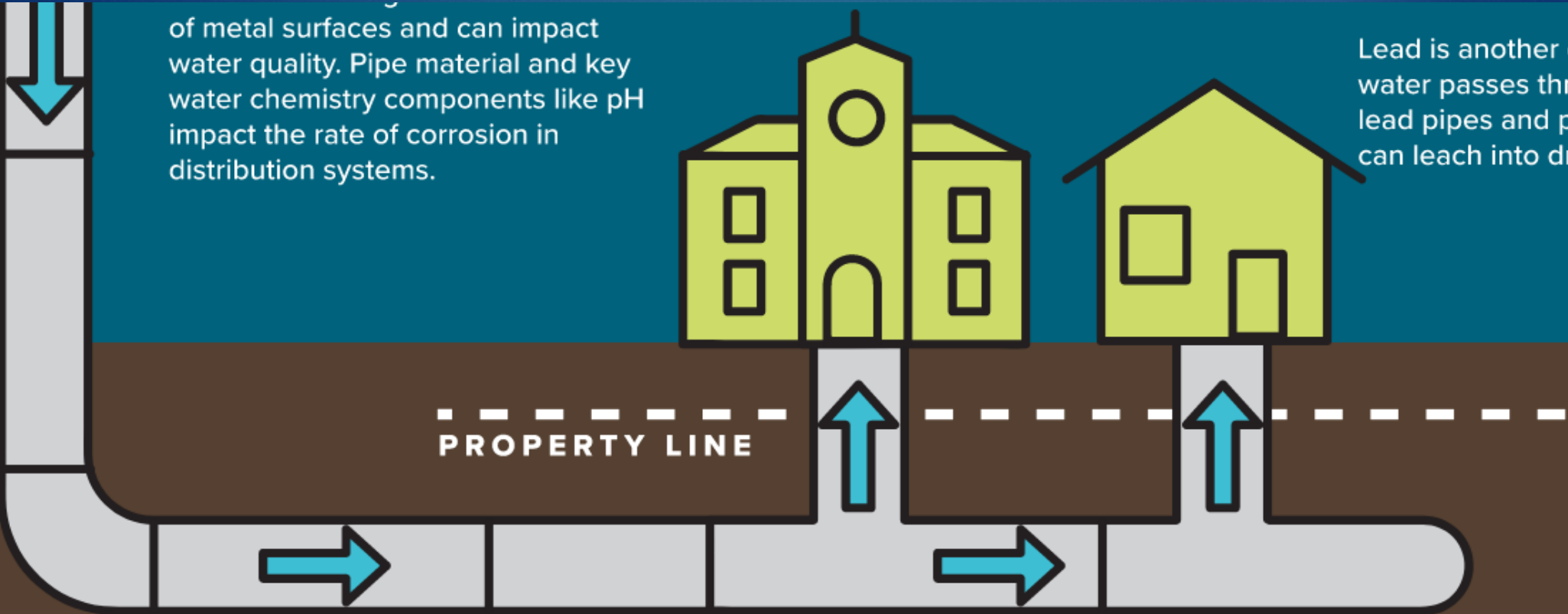
Iron and manganese are minerals that give water an unpleasant taste, odor and reddish-brown color.

Groundwater can include iron and manganese, and iron can leach in the water supply from corroded iron pipes.

Lead is another concern. When water passes through old, corroded lead pipes and pipe fittings, lead can leach into drinking water.







of metal surfaces and can impact water quality. Pipe material and key water chemistry components like pH impact the rate of corrosion in distribution systems.

Lead is another concern. When water passes through old, corroded lead pipes and pipe fittings, lead can leach into drinking water.

PROPERTY LINE

## WATER QUALITY AT THE TAP

Tap water quality can be impacted by everything upstream—premise plumbing, distribution system piping, treatment system, and water source.

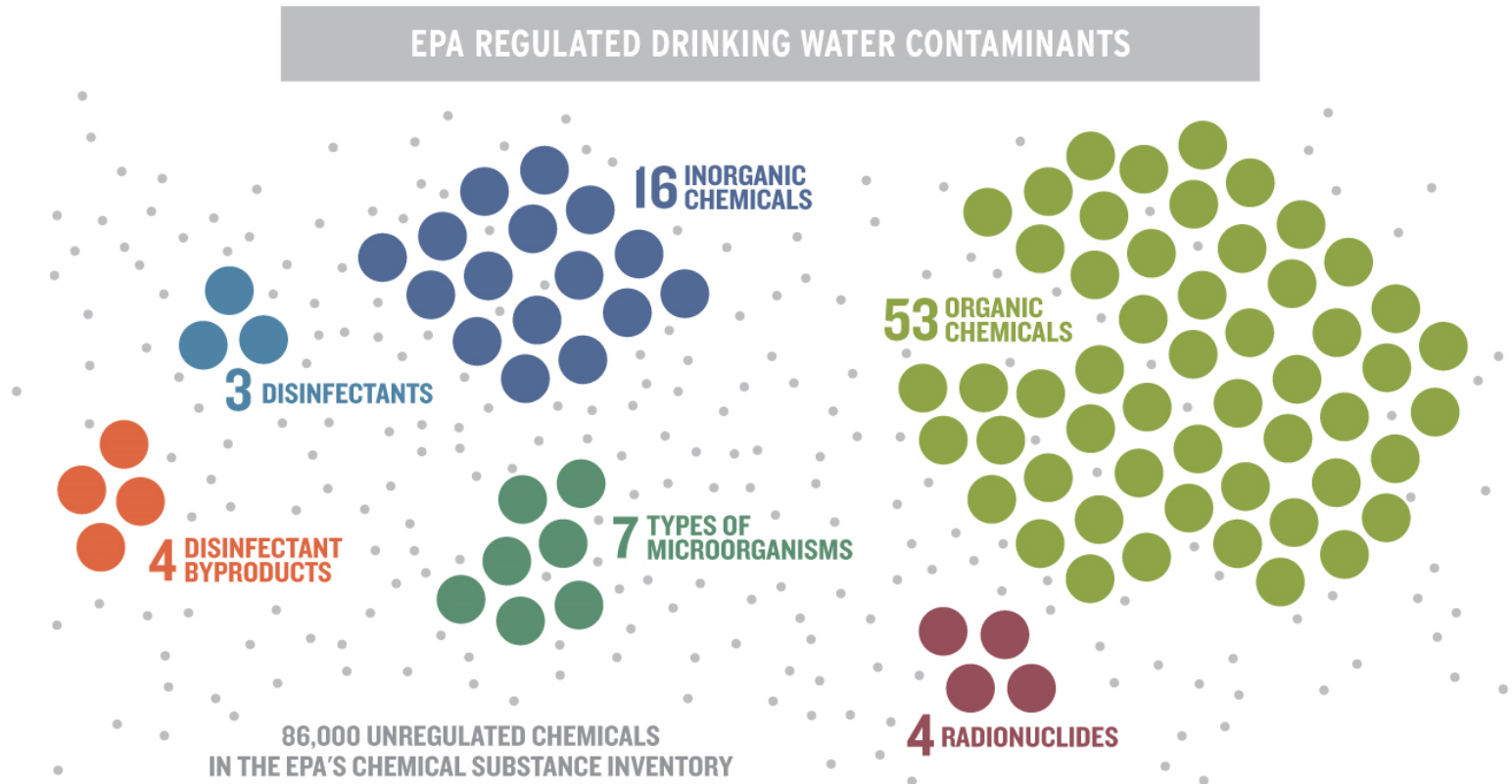
## SOLUTIONS INCLUDE

- ✓ School lead testing and school water infrastructure makeovers
- ✓ Regional tap water testing
- ✓ Well water treatment to reduce iron and manganese
- ✓ Training and active support for water distribution system flushing, leak detection, treatment, and more, to support ongoing operation of water systems.



# Regulated Drinking Water Contaminants

- Types of regulated drinking water contaminants:
  - Microorganisms
  - Inorganic chemicals
  - Organic chemicals
  - Radionuclides
  - Disinfection byproducts
  - Disinfectants



Source: U.S. Environmental Protection Agency and American Chemistry Council

Figure source: <https://ensia.com/articles/drinking-water-contamination-regulation-pollution-health/>



# Safe Drinking Water Act (SDWA)

- Gives EPA authority to set national health-based standards for drinking water (1) (2)
- “Primacy agencies” have primary responsibility for implementing the SDWA (3)
  - States, territories, and Navajo Nation
  - EPA implements the SDWA on all other tribal lands



1) EPA SDWA Overview: <https://www.epa.gov/sdwa/overview-safe-drinking-water-act>

2) EPA SDWA FAQs: <https://echo.epa.gov/help/sdwa-faqs>

3) EPA Primacy Agency Info: <https://www.epa.gov/dwreginfo/primacy-enforcement-responsibility-public-water-systems#:~:text=The%20Safe%20Drinking%20Water%20Act,Monitoring%20and%20reporting%20requirements>

# CA Drinking Water Quality Regs

- Public water systems are regulated by California State Water Resources Control Board Division of Drinking Water (DDW)
- DDW sets drinking water quality regulations for California



**Community water systems** are city, county, regulated utilities, regional water systems and even small water companies and districts where people live.



**Transient non-community water systems** include entities like rural gas stations, restaurants and State and National parks that provide their own potable water source. Most people that consume the water neither reside nor regularly spend time there.



**Non-transient Non-community water systems** are places like schools and businesses that provide their own water. The same people have a regular opportunity to consume the water, but they do not reside there.

Figure 2-1: Types of Public Water Systems



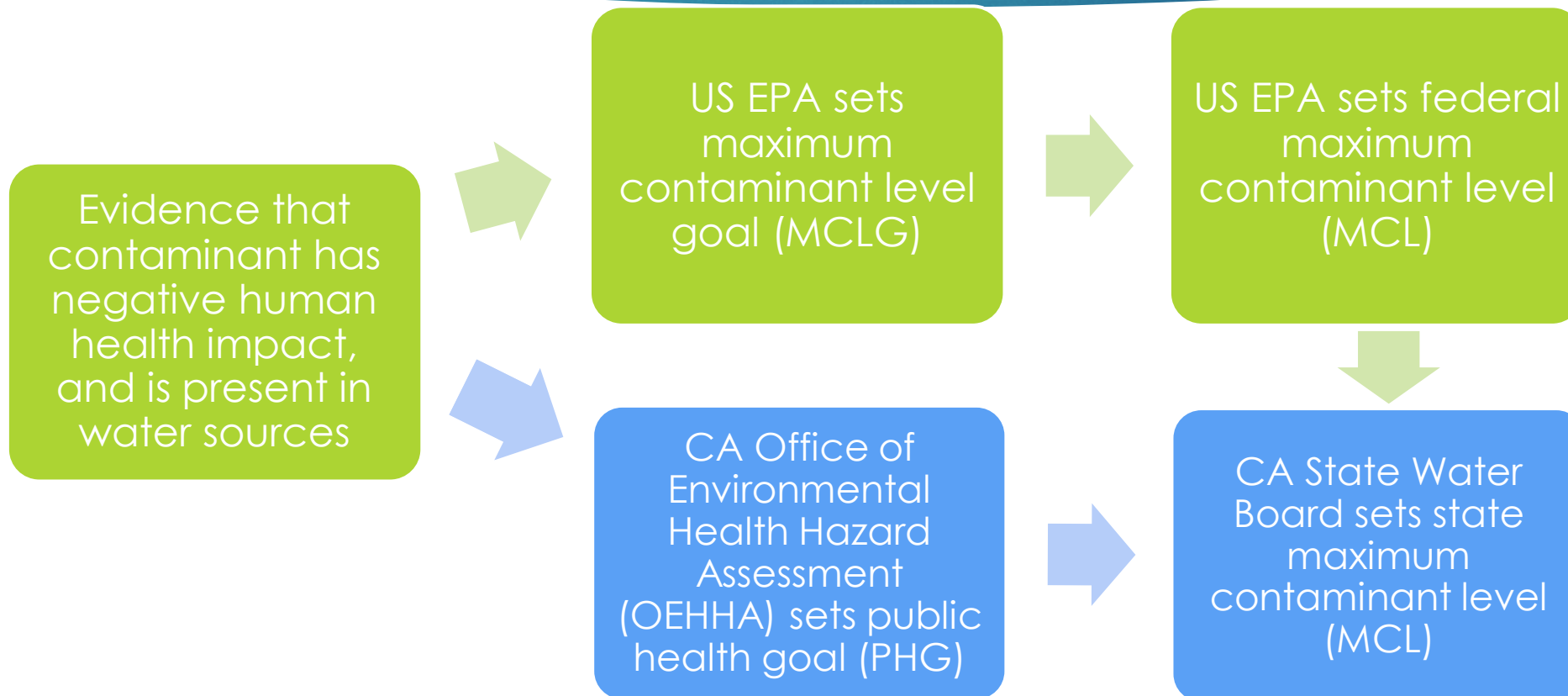
# Definitions



- **Maximum Contaminant Level Goal (MCLG)** – level of a contaminant at which there would be no risk to human health (EPA determines this based on research)
  - **Public Health Goal (PHG)** is a California-specific version of the MCLG, set by the California Office of Environmental Health Hazard Assessment
- **Maximum Contaminant Level (MCL)** – “highest level of a contaminant that is allowed in drinking water”, set as close as economically and technologically feasible to the MCLG / PHG
- **Secondary Maximum Contaminant Level (SMCL)** – “highest level a constituent allowed in drinking water that may affect the taste, odor or appearance”
- **Treatment Technique (TT)** – Required process intended to reduce the level of a contaminant in drinking water
  - Used in place of an MCL for contaminants that are unlikely to be detected, but are proven to be removed by certain technologies



# Drinking Water Quality Regulations (Simplified Process)







# Secondary Standards – EPA

## Table of Secondary Standards

- EPA sets secondary standards for contaminants that they consider “may cause cosmetic effects or aesthetic effects in drinking water” (1)
- Nationally, water systems are recommended, but not required, to comply with secondary standards

Contaminant	Secondary MCL	Noticeable Effects above the Secondary MCL
Aluminum	0.05 to 0.2 mg/L*	colored water
Chloride	250 mg/L	salty taste
Color	15 color units	visible tint
Copper	1.0 mg/L	metallic taste; blue-green staining
Corrosivity	Non-corrosive	metallic taste; corroded pipes/ fixtures staining

(1) EPA Secondary Standards webpage: <https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance-nuisance-chemicals>

# Secondary Standards - California



- Primacy agencies may choose to make secondary standards enforceable
- CA State Water Board considers secondary standards to be “necessary to protect the public welfare” (1)
- There are enforcement actions for secondary MCLs in California, but they follow a different path than primary MCLs

## Secondary Drinking Water Standards

California Code of Regulations, Title 22  
Division 4. Environmental Health  
Chapter 15. Domestic Water Quality and Monitoring Regulations  
Article 16. Secondary Drinking Water Standards

Constituents	Maximum Contaminant Levels Consumer Acceptance Contaminant Levels
Aluminum	0.2 mg/L
Color	15 Units
Copper	1.0 mg/L
Foaming Agents [MBAS]	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L

(1) CA State Water Board Secondary Standards webpage: [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/documents/ddw\\_secondary\\_standards.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/ddw_secondary_standards.pdf)



# Consumer Confidence Reports (CCRs), or Water Quality Reports

## Your CCR Provides Need-To-Know Information

SUCH AS:



Where your **water comes from**—such as an aquifer, lake, river, or other source.



A list of **regulated contaminants** that the CWS detected and the level.



Potential **health effects** from consuming contaminated water and additional safeguards against water-related illnesses.



**Contaminant levels** in your CCR compared to national standards and any violations of health-based standards.



# Regulated Drinking Water Contaminants

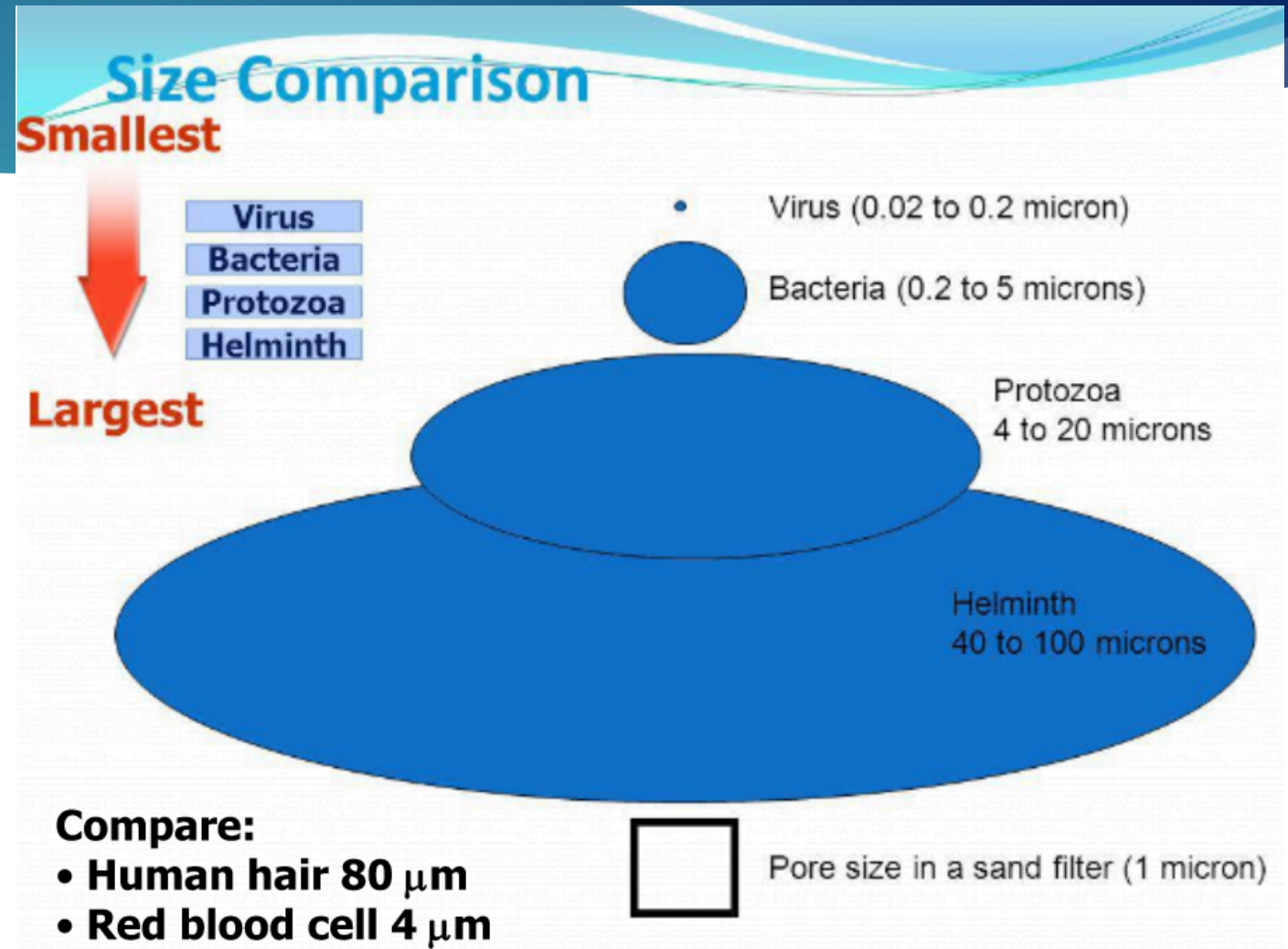
- Types of regulated drinking water contaminants:
  - Microorganisms
  - Inorganic chemicals
  - Organic chemicals
  - Radionuclides
  - Disinfection byproducts
  - Disinfectants



# Microorganisms



- Includes bacteria, protozoa, and viruses
- Turbidity, a measure of the cloudiness of water, is used to indicate water quality and filtration effectiveness
- Total coliforms used to indicate whether water source may be contaminated
- Generally more of a concern for surface water sources



# Inorganic Chemicals

- Metals, nitrate/nitrite, and more
- Can be present in source water, and can also be present in pipes
- Presence in source water can be due to industrial contamination, or can be naturally occurring
- In California, arsenic, nitrate/nitrite, and perchlorate most commonly exceed their MCL (1)

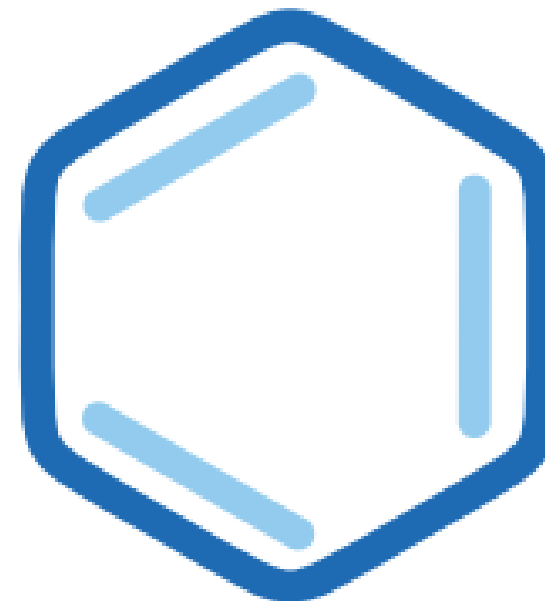




# Organic Chemicals



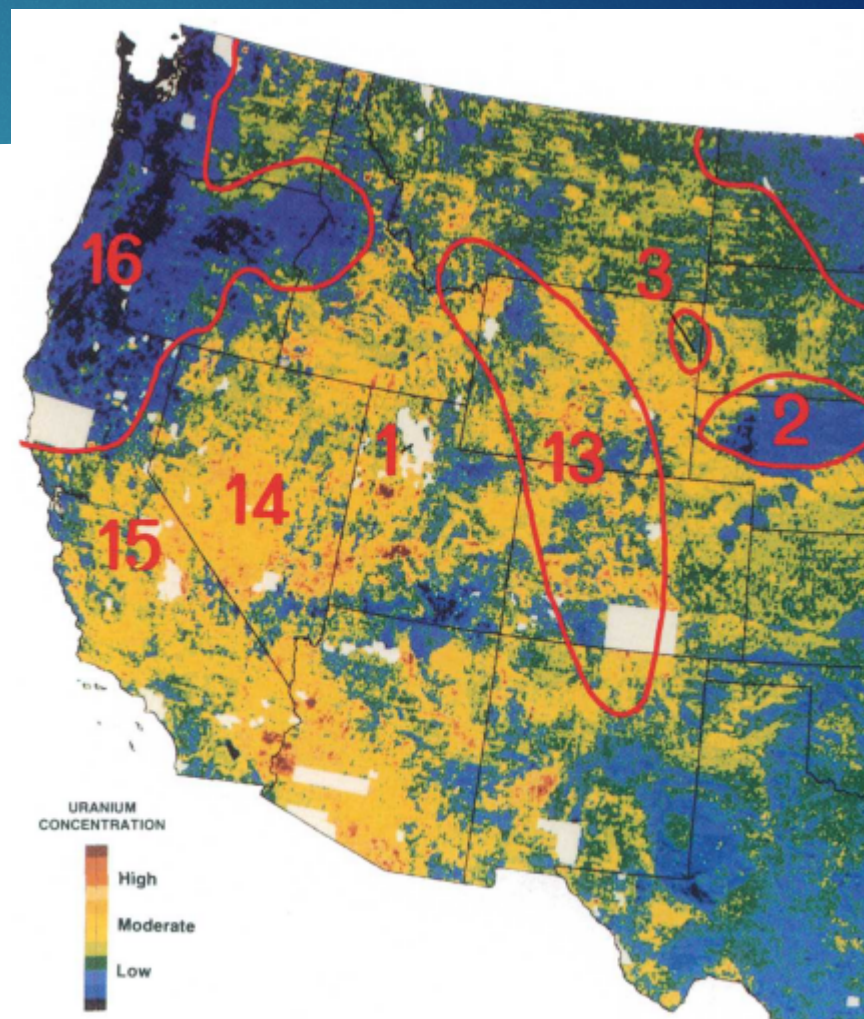
- Includes contaminants from:
  - Agriculture
    - Herbicides, pesticides, insecticides
  - Industrial/chemical factories
- Longest list of regulated drinking water contaminants



# Radionuclides



- Uranium, radium, alpha & beta particles
  - Strontium and tritium also regulated in CA
- Gross alpha activity and gross beta activity are screening measurements
- Most come from erosion of natural deposits (earth's surface)



# Disinfectants



- Prevent waterborne disease due to microorganisms
- Water disinfection considered one of the most important advances in public health
- Maintaining a residual helps protect against microorganisms in pipes
- But, should be kept below a certain level to avoid negative impacts
  - Maximum Residual Disinfectant Level (MRDL)





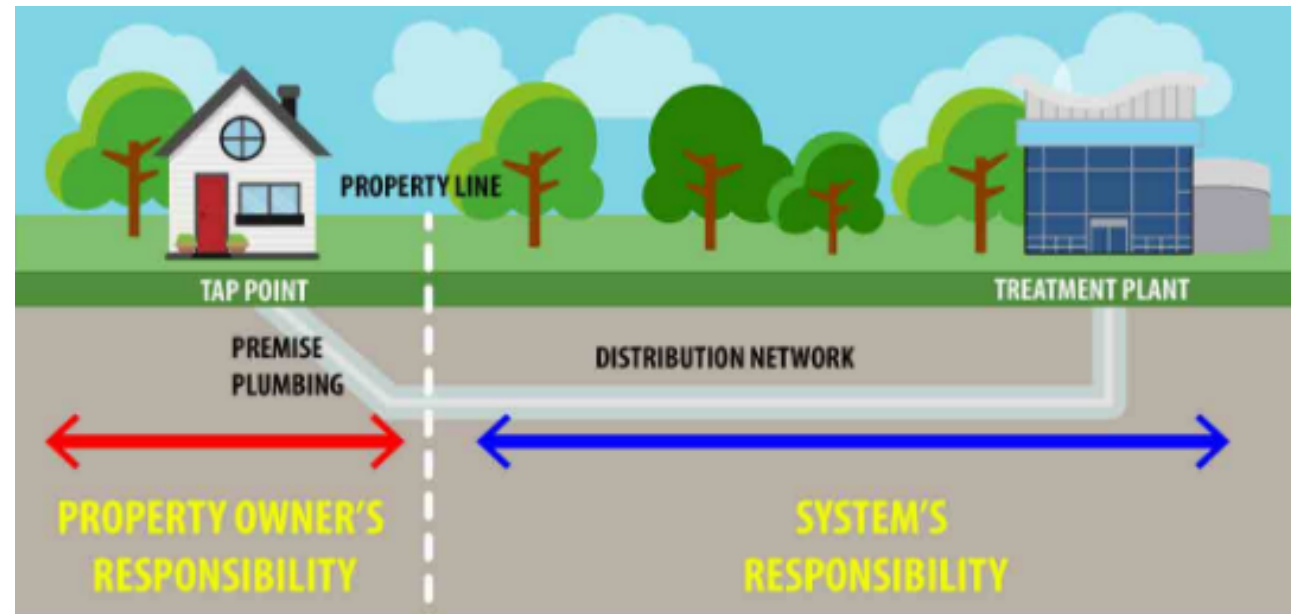
# Disinfection Byproducts (DBPs)

- Bromate, chlorite, haloacetic acids (HAA5), and total trihalomethanes (TTHMs)
- Disinfectants prevent waterborne disease, but water must be adequately clean before disinfectant is added
  - Groundwater wells must be maintained or have treatment
  - Surface water must be filtered or have adequate source water protection
- Type of disinfectant used can impact DBP formation potential



# Lead and Copper Rule

- Established action level (AL) based on 90th percentile level of tap water samples (1)
- Potential actions if AL exceeded:
  - Corrosion control treatment
  - Source water monitoring and treatment
  - Lead service line replacement
  - Public education



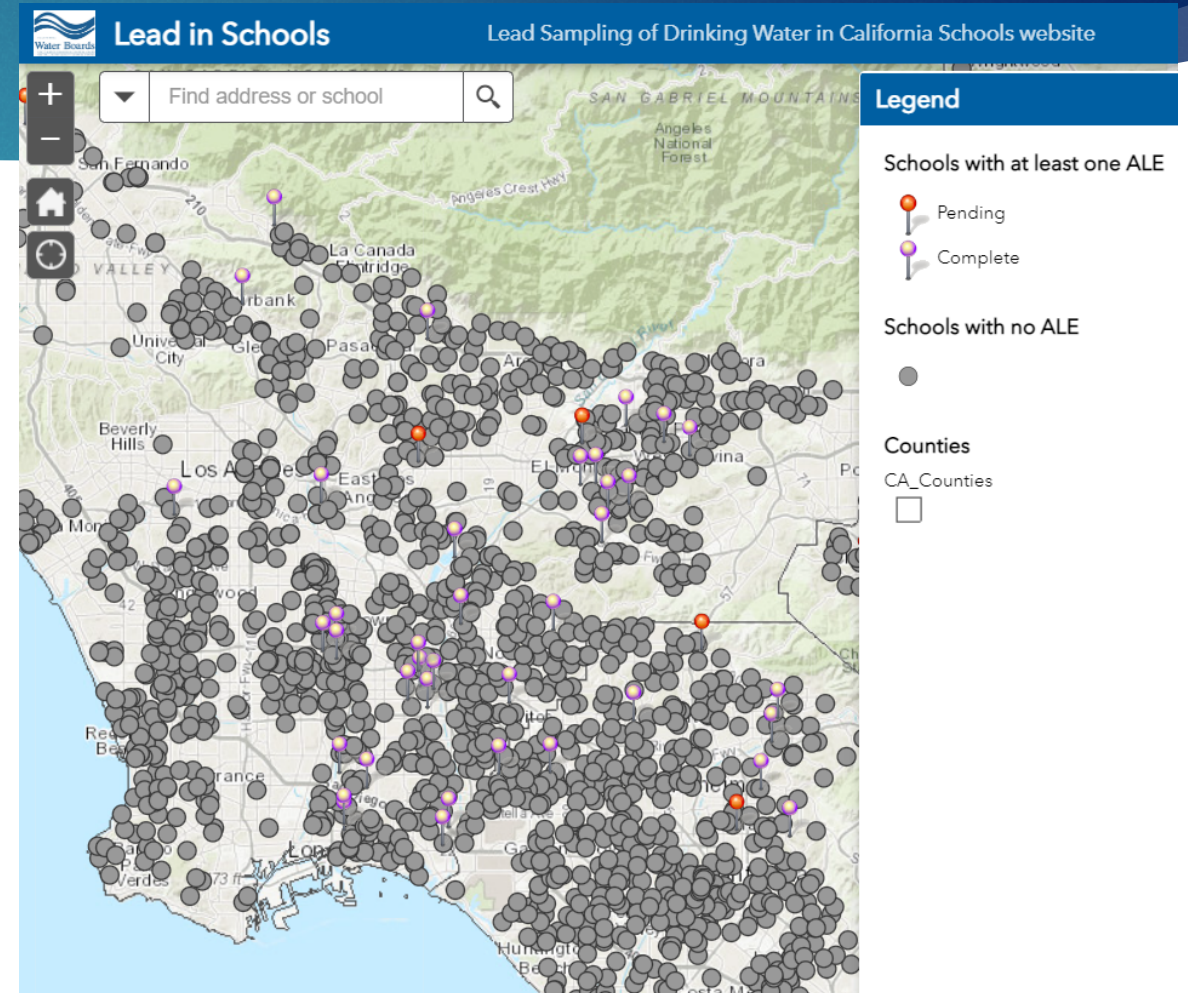
(1) EPA Lead and Copper Rule Quick Reference Guide: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=60001N8P.txt>  
Figure source: Pierce, Gonzalez, and Amstutz, 2020. Reducing Lead in Drinking Water in California's Childcare Facilities. <https://innovation.luskin.ucla.edu/reducing-lead-in-drinking-water-in-californias-childcare-facilities-2/>



# Lead and Copper – CA actions



- Testing requirement for K-12 public schools and licensed childcare facilities constructed before 2010 (1) (2)
- Community water system requirement to provide inventory of lead or unidentified user service lines, and timeline for replacement (3)
- Series of laws preventing use of plumbing materials containing lead



(1) Lead Sampling of Drinking Water in California Schools: [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/leadsamplinginschools.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/leadsamplinginschools.html)  
(2) State Water Board, 2021. California Safe Drinking Water Plan. [https://www.waterboards.ca.gov/drinking\\_water/safedrinkingwaterplan/docs/ExecSumPlan\\_Report.pdf](https://www.waterboards.ca.gov/drinking_water/safedrinkingwaterplan/docs/ExecSumPlan_Report.pdf)  
(3) Lead Service Line Inventory: [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/lead\\_service\\_line\\_inventory\\_pws.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/lead_service_line_inventory_pws.html)



# Manganese



- Secondary MCL is 0.05 mg/L
  - “a standard established to address issues of aesthetics (discoloration), not health concerns”
- Notification Level – 0.5 mg/L
  - Added to protect people from very high levels of manganese
- ~30% of California drinking water sources that monitor for manganese have reported detections





# Upcoming Potential Regulations

- Emerging contaminants
  - Per- and polyfluoroalkyl substances (PFAS) (1)
  - 1,4-dioxane (2)
  - Hexavalent chromium (3)
- EPA and State Water Board monitoring for new contaminants
  - Unregulated Contaminant Monitoring Rule (UCMR) (4)
- Revision of manganese notification and response levels (5)

(1) State Water Board PFAS webpage: <https://www.waterboards.ca.gov/pfas/>

(2) State Water Board 1,4-dioxane webpage: [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/14-Dioxane.html#:~:text=In%201988%2C%201%2C4%2D,dioxane%20is%20an%20emerging%20contaminant.](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/14-Dioxane.html#:~:text=In%201988%2C%201%2C4%2D,dioxane%20is%20an%20emerging%20contaminant.)

(3) State Water Board Hexavalent Chromium Rulemaking webpage: [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/Chromium6.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Chromium6.html)

(4) EPA Unregulated Contaminant Monitoring Rule webpage: <https://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule>

(5) State Water Board Notification Levels webpage: [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/NotificationLevels.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/NotificationLevels.html)

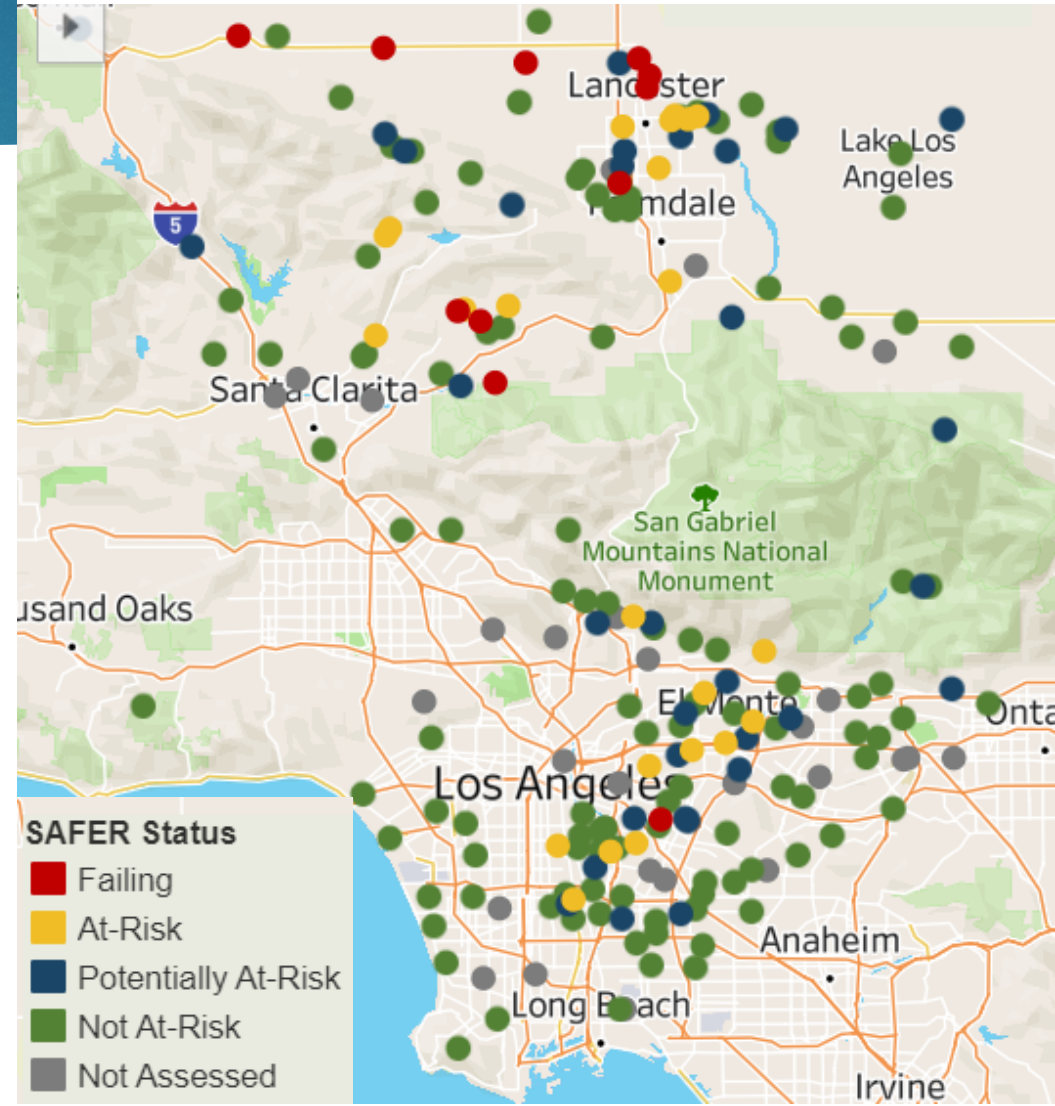




# CA Drinking Water Needs Assessment

- First statewide assessment of drinking water systems completed in 2021
- 2022 Needs Assessment substantially expanded the water systems assessed
- Guides the State Water Board in prioritizing resources and attention
  - But isn't able to tell the full story of a water system

Total Count of Systems: 210. Total Population: 10,210,747



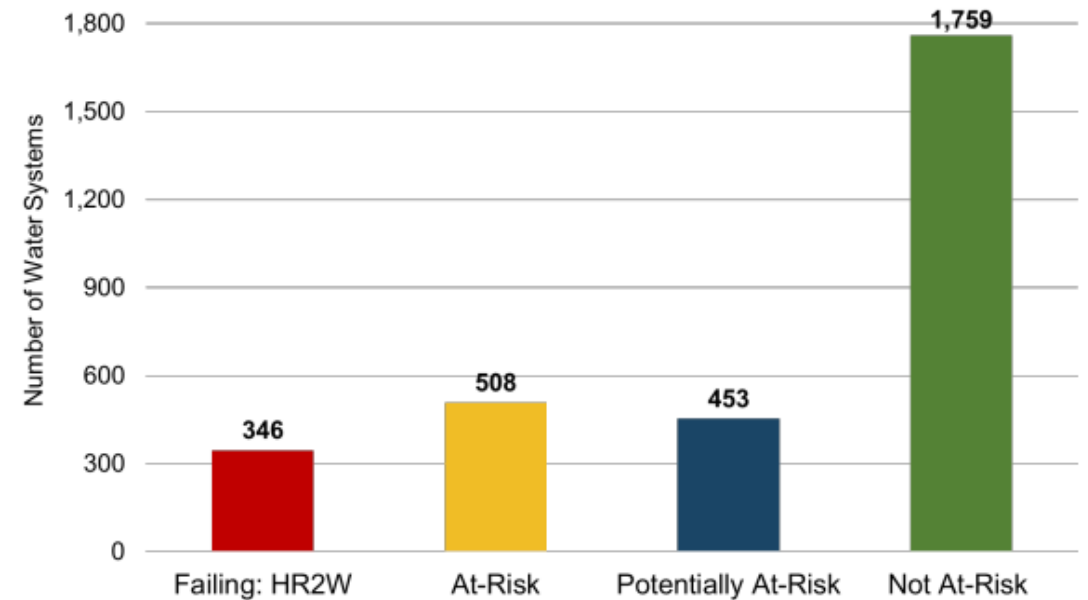




# “Human Right to Water List”

- Also referred to as failing water systems, and abbreviated as HR2W
- Criteria for inclusion on the
  - Primary MCL Violation\*
  - Secondary MCL Violation\*
  - E. Coli (bacteria) Violation\*
  - Treatment Technique Violations
  - Monitoring and Reporting Violations

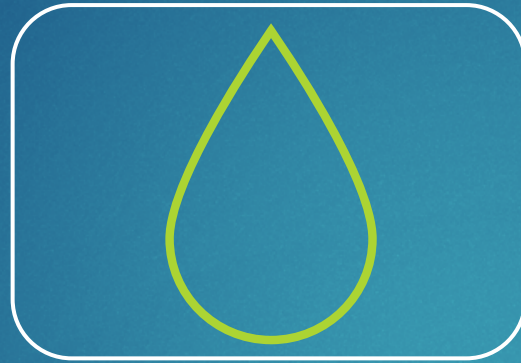
**Figure 9: Number of Community Water Systems and K-12 Schools At-Risk and Potentially At-Risk (n=3,066)**



\*with an open Enforcement Action



# Water System Risk Indicator Categories



Water  
Quality



Accessibility



Affordability



TMF\*  
Capacity

\*TMF = Technical,  
Managerial, Financial





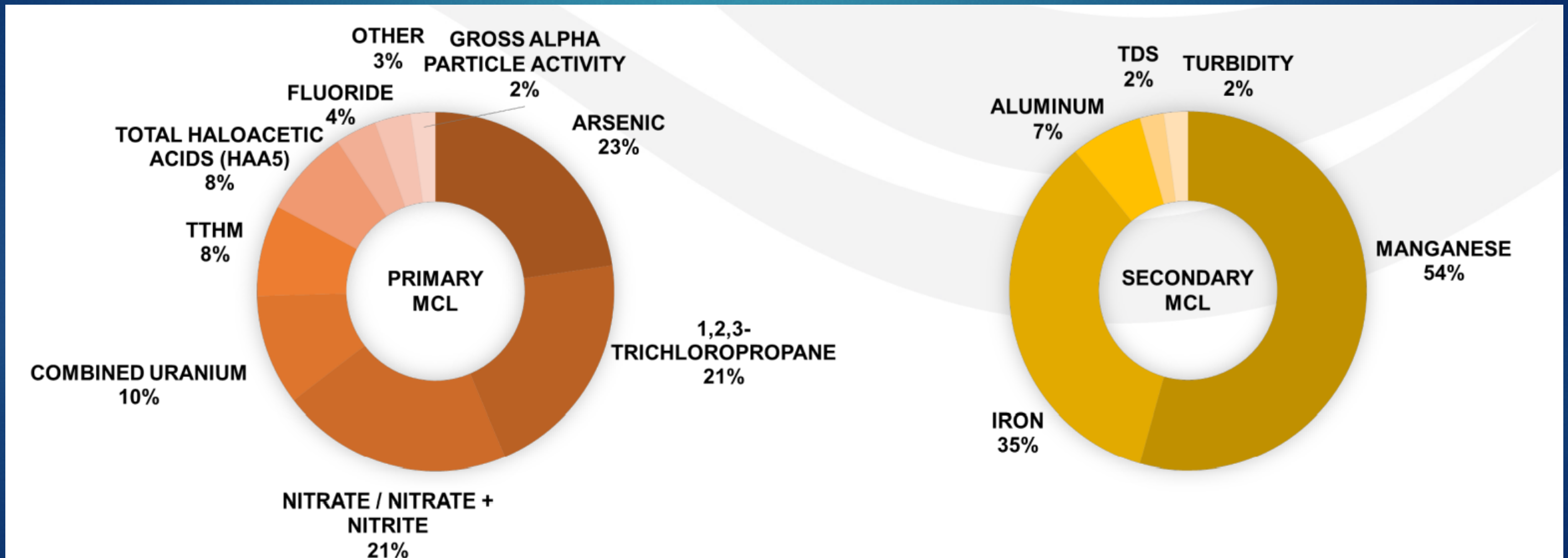
# Risk Indicators for Water Systems (Detailed)

WATER QUALITY	ACCESSIBILITY	AFFORDABILITY	TMF CAPACITY
E. Coli Presence	Number of Sources	% Median Household Income	<del># of Service Connections</del>
Increasing Presence of Water Quality Trends Towards MCL	Absence of Interties	Extreme Water Bill	Operator Certification Violations
Treatment Technique Violations	<del>Water Source Types</del>	<del>% Shut-Offs</del>	Monitoring and Reporting Violations
Past Presence on the HR2W List	DWR – Drought & Water Shortage Risk Assessment Results	% of Residential Arrearages	Significant Deficiencies
<del>Maximum Duration of High Potential Exposure (HPE)</del>	Critically Overdrafted Groundwater Basin	Residential Arrearage Burden	<del>Extensive Treatment Installed</del>
Percentage of Sources Exceeding an MCL	Bottled or Hauled Water Reliance		Income
Constituents of Emerging Concern	Source Capacity Violations		Operating Ratio
			Days Cash on Hand





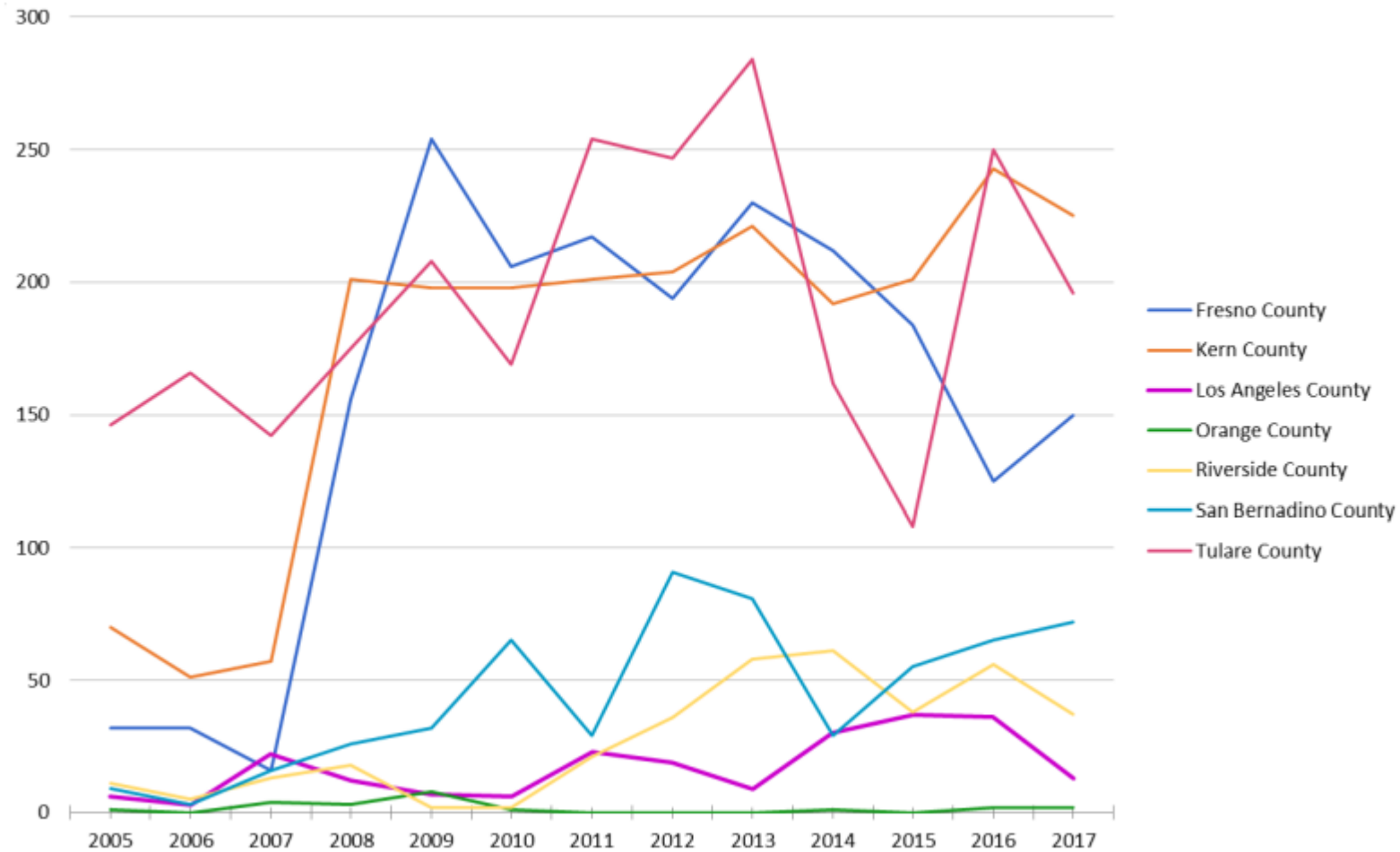
# Violation Contaminants for HRTW Systems





# Frequency of primary MCL violations

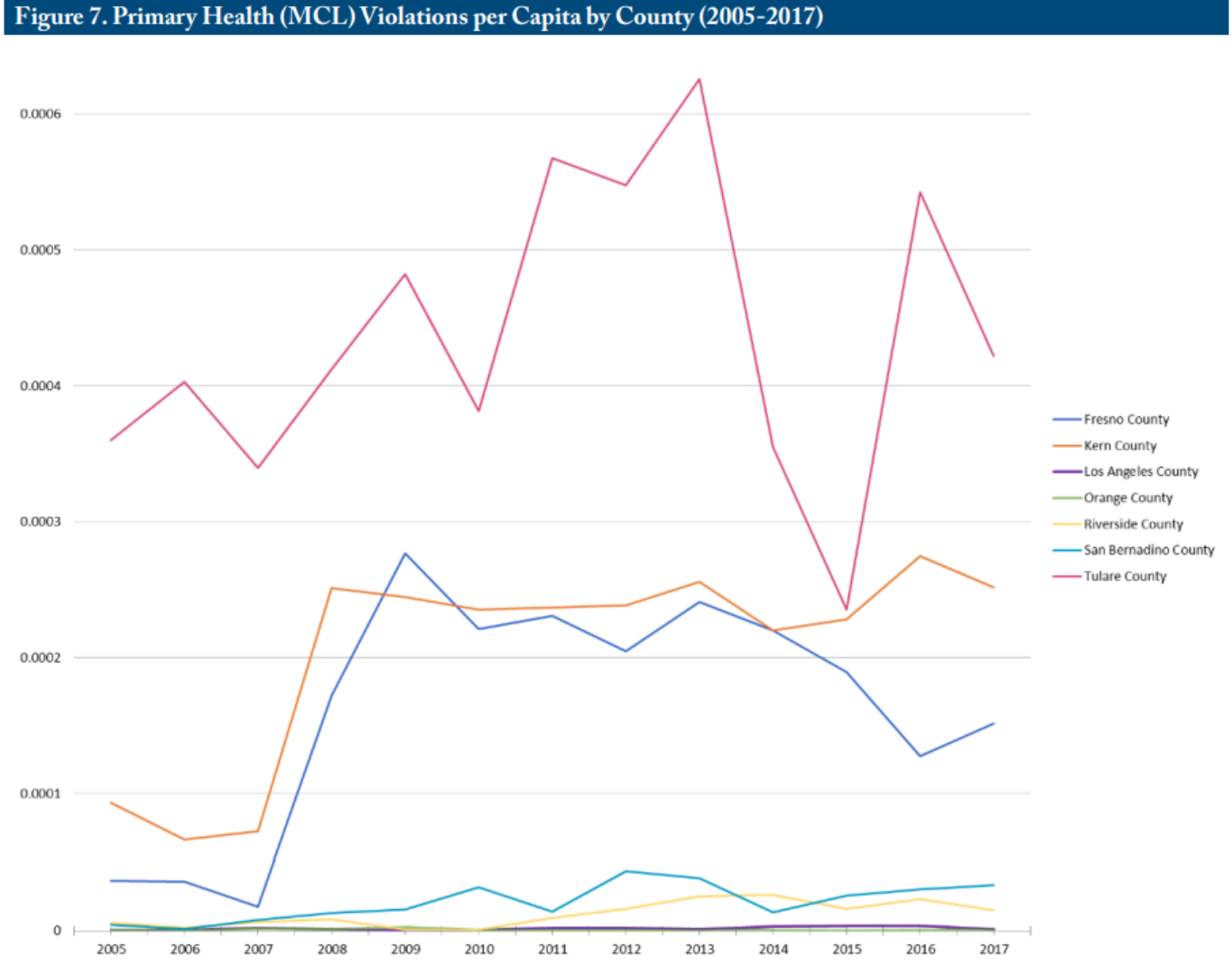
Figure 6. Primary Health (MCL) Violations by County (2005-2017)







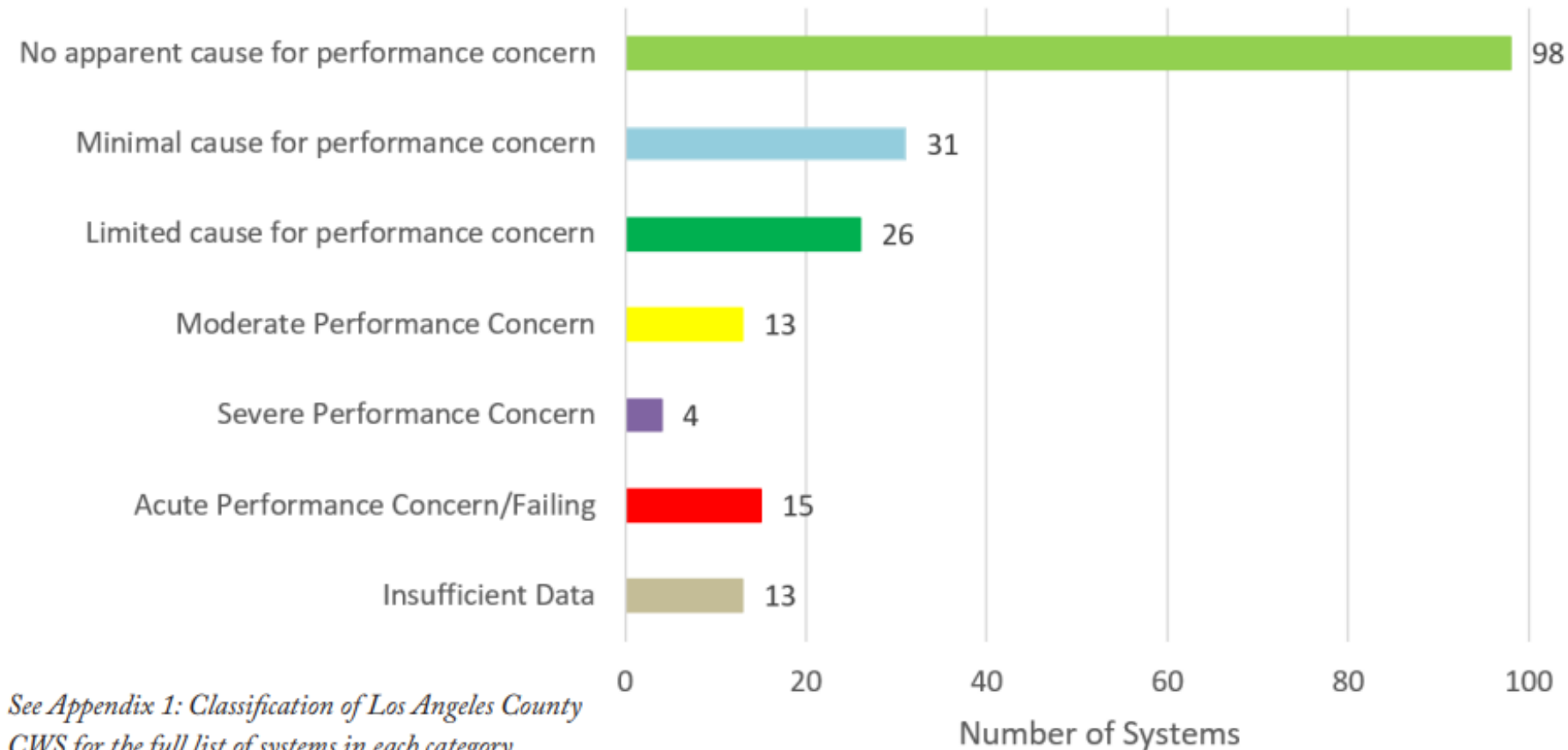
# Frequency of primary MCL violations – per capita





# LA County – UCLA Assessment

**Figure 17. Los Angeles CWS Performance Classification (n=200)**





# Thinking About Drinking Water Solutions

- Water system partnerships
- Funding for infrastructure
- Representative leadership, transparent decision-making
- Capacity building for water system staff
- Affordability programs



# For final drinking water quality workshop...



What do you  
want to delve  
deeper into?





# More Resources

- Drinking water quality data:
  - My Water Quality: <https://mywaterquality.ca.gov/>
  - Human Right to Water: [https://www.waterboards.ca.gov/water\\_issues/programs/hr2w/](https://www.waterboards.ca.gov/water_issues/programs/hr2w/)
  - Drinking Water Watch: <https://sdwis.waterboards.ca.gov/PDWW/>
- Affordability resources:
  - NRDC Water Affordability Toolkit: <https://www.nrdc.org/resources/water-affordability-advocacy-toolkit>

# Tap Water Quality Testing Program: 3 Possible Approaches



**Concept update:** Met with Bay Area Program, CBE, Simple Labs, LADWP, COFEM to help gain knowledge to develop possible approaches.

Educational efforts to increase water quality awareness

Potential to include premise plumbing assessments in the case of water quality exceedances during testing

## Enhance LADWP + COFEM Efforts

COFEM currently promotes LADWP's Residential Tap Water Testing Program

- Deepen education & trust building
- Ensure CBOs see residential tap water sampling results

**Project proponents:**



**Next Steps:** Connect with LADWP on partnership opportunities

## Smaller Water System Pilot Program

Take LADWP + COFEM current partnership and create a pilot program with a smaller water system and potential CBO

**Project proponents:**



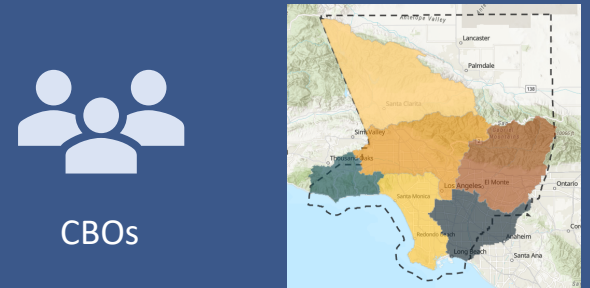
**Next Steps:** Identify small water system(s) + potential CBO

## Regional Education + Testing Program

Partner with third-party lab to provide residential testing program

No single water service supplier

**Project proponents:**



**Next Steps:** Connect with Bay Area IRWM program

# PATH TO TAP

## IMPORTED WATER

Currently, most of L.A. County's water supply is imported. Importing surface water is energy-intensive, vulnerable to climate change impacts and earthquakes, and involves the continued taking of ancestral waters of Indigenous peoples.

## WATER TREATMENT PLANT

Imported water and groundwater must be treated before it is consumed. Treatment is designed based on the source water quality to kill or remove harmful bacteria, viruses, metals, and/or organic compounds.

## GROUNDWATER BASINS

Some water systems are entirely reliant on groundwater. To make L.A. County more resilient, there are efforts to remediate groundwater basins that were contaminated by *industrial pollution* and to infiltrate more stormwater to replenish groundwater basins.

## UNDERGROUND PIPE SYSTEM

To deliver safe, clean water, a distribution system requires maintenance that includes replacing old pipes and maintaining consistent non-corrosive water chemistry.

*Corrosion* is the gradual deterioration of metal surfaces and can impact water quality. Pipe material and key water chemistry components like pH impact the rate of corrosion in distribution systems.

## PREMISE PLUMBING

Premise plumbing refers to the pipes within a property line with direct connection to the drinking water supply system. Water flows from underground pipes onto premises such as homes. At this point, water quality becomes the property owner's responsibility.

## SOME ISSUES

Iron and manganese are minerals that give water an unpleasant taste, odor and reddish-brown color.

Groundwater can include iron and manganese, and iron can leach in the water supply from corroded iron pipes.

Lead is another concern. When water passes through old, corroded lead pipes and pipe fittings, lead can leach into drinking water.

## WATER QUALITY AT THE TAP

Tap water quality can be impacted by everything upstream—premise plumbing, distribution system piping, treatment system, and water source.

## SOLUTIONS INCLUDE

- ✓ School lead testing and school water infrastructure makeovers
- ✓ Regional tap water testing
- ✓ Well water treatment to reduce iron and manganese
- ✓ Training and active support for water distribution system flushing, leak detection, treatment, and more, to support ongoing operation of water systems.

WATER  
talks

TreePeople