



PALMDALE WATER DISTRICT  
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# Water Quality (WQ) Regulatory Overview

Joe Marcinko  
Operations Manager

# Environmental Protection Agency (EPA)

## EPA

- Formed in 1970
- Develops and Enforces Regulations (Regs)
- Protects Air, Land & Water through Regs



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# Water Quality Regulations

- In 1974, EPA created Safe Drinking Water Act (SDWA)
- Protects Water Quality through Health Based Reg's & Std's
- California Division of Drinking Water (DDW): Primacy Agency for CA
- DDW Enforces EPA's SDWA Regs
- PWD in DDW's District 7 Jurisdiction

*Safe Drinking Water Act*



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# Water Quality Regulations

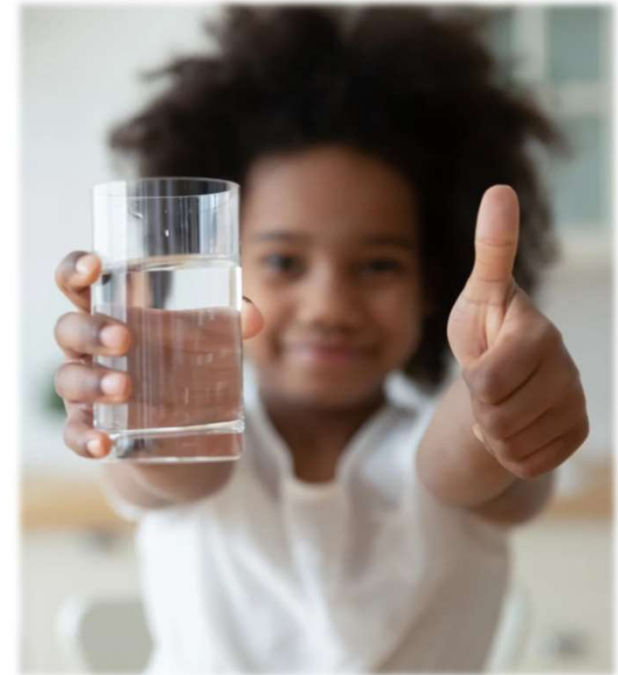
- DDW Follows EPA's Stds or sets CA specific DW Stds
- DDW Ensures CA Water Districts follow EPA and CA Stds
- DDW Monitors WQ Data and conducts Physical Inspections



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# Water Quality Regulations

- EPA & DDW set treatment requirements and maximum contaminant levels (MCL's)
- MCL's set at levels to protect human health
- EPA & DDW Regulate >90 contaminants in water
- Use best available technologies (BAT's)



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# Water Quality Regulations

## Water Quality Categories:

- Microorganisms
- Inorganic Chemicals
- Organic Chemicals
- Radionuclides
- Disinfectant Residuals
- Disinfection Byproducts



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# Water Quality Regulations

- EPA & DDW Set WQ Monitoring Schedules

Continuously

Daily

Weekly

Monthly

Quarterly

Annually

Triennially

Every 6 years

Every 9 years



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# Water Quality Monitoring

- Raw Surface Water- Lake Palmdale ( Little Rock Dam & CA Aqueduct Water)
- Raw Ground Water- PWD's 22 Individual Well Water
- Treated Settled Water
- Treated Filtered Water
- Treated Disinfected Water
- Distribution System Water



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# Water Quality Reports

## Content:

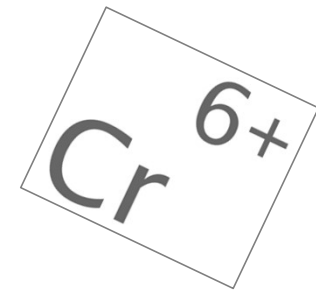
- Source Water
- Treatment Process
- Finished Drinking Water
- Distribution System



## Frequency:

- Monthly
- Quarterly
- Annually (e.g., CCR)
- Triennially (e.g., PHG)

# Drinking Water Regulations



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# Leslie O. Carter Water Treatment Plant *Laboratory*

Amanda Thompson  
Water Quality and Regulatory Affairs Supervisor

# PWD Laboratory Staff

- Water Quality & Regulatory Affairs Supervisor, Amanda Thompson
- Laboratory Analyst II, Audel Narez
- Laboratory Analyst II, Anthony Myrick
- Laboratory Analyst I, Rosa Guerra



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# Role: Water Quality Laboratory

- Collect Samples, Test and Verify WQ Data
- Compare WQ Results to Water Quality Regs
- Coordinate with Operations & Facilities on WQ
- Advise PWD on Compliance related to WQ Regs & Stds

**WQ Lab Staff ensure the water is safe to drink!**



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# Role: Water Quality & Regulatory Affairs Supervisor

- Prepare lab budget
- Maintain lab accreditation
- Develop schedules to meet monitoring requirements
- Establish and implement standard operating procedures
- Prepare and/or oversee preparation of water quality reports
- Provide WQ information to the customers and public
- Evaluate operations and recommend improvements



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# Role: Laboratory Analysts

- Collect water quality samples (>4,000 samples/year)
- Perform tests on water quality (>18,000 analyses)
- Identify problems with procedures or test results
- Operate and maintain laboratory equipment
- Maintain inventory of laboratory supplies
- Enter laboratory data & generate assigned reports



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# Sample Collection

- Source Water Monitoring Locations
  - Surface Water: Littlerock Dam, Aqueduct, Palmdale Lake
  - Groundwater: 22 active wells
- Water Treatment Plant Process
- Distribution System Monitoring Locations
  - State required: 30 designated sites
  - Additional tanks/interties: 10 sites

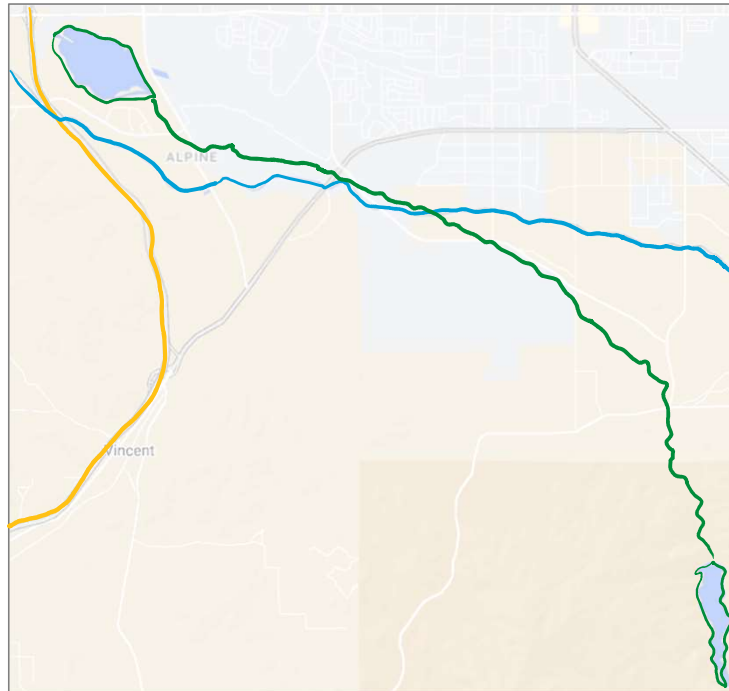


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# Surface Water

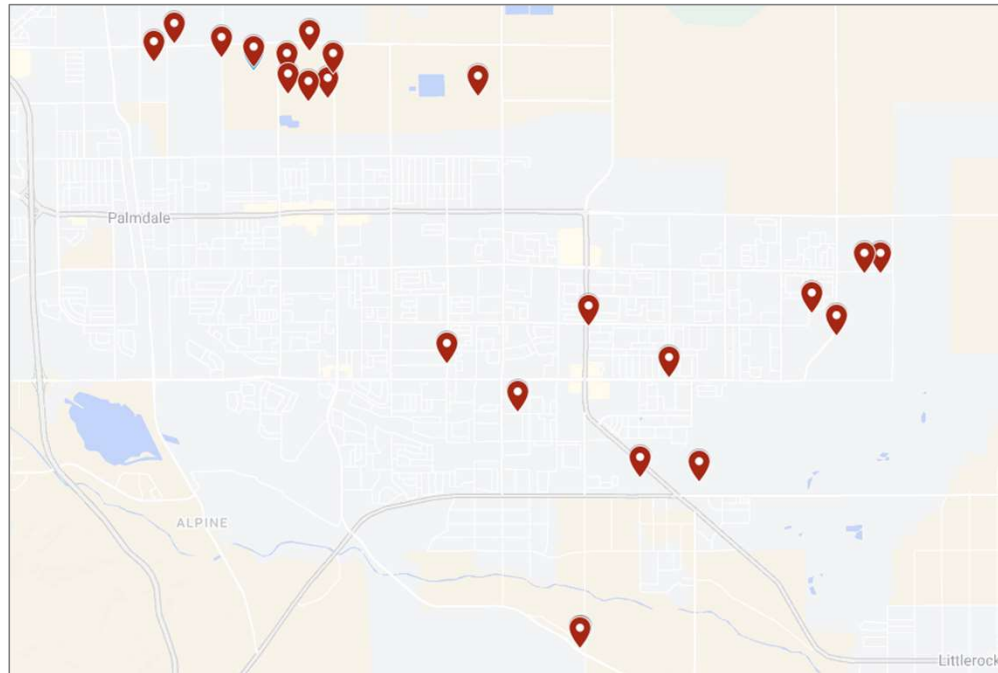
- California Aqueduct
- Littlerock Dam
- Littlerock Ditch
- Palmdale Lake



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# Groundwater

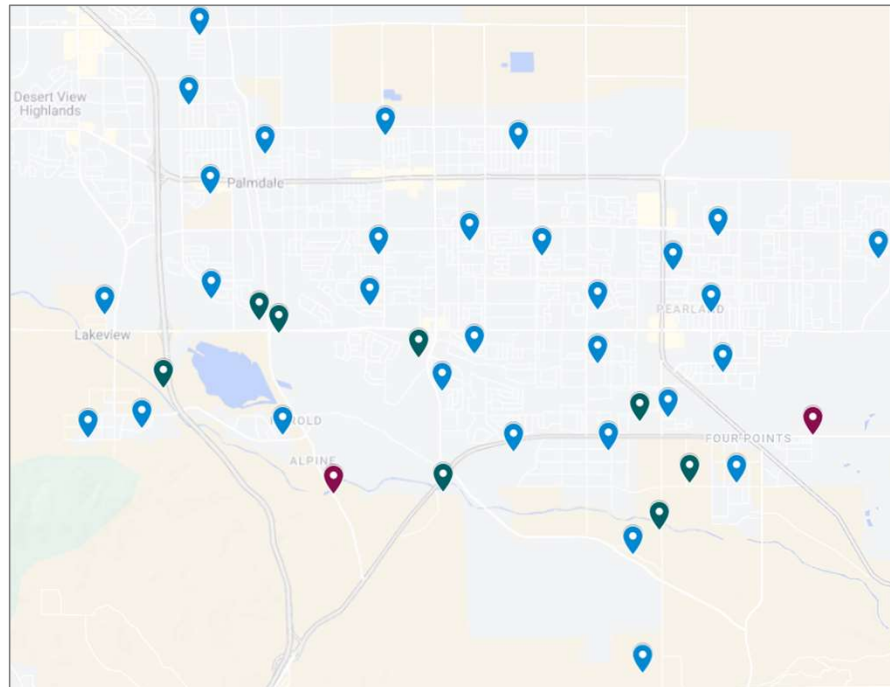
- 22 Active Wells



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# Distribution System

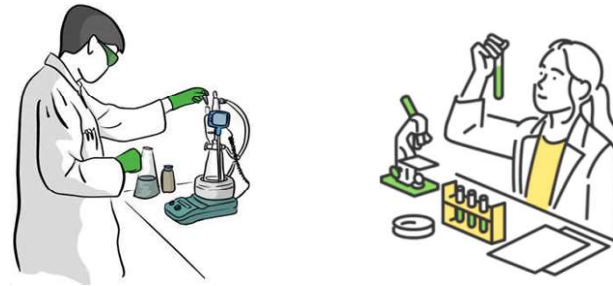
- Regulatory Sites = 30
- Reservoirs = 8
- Interties = 2



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# Sample Testing

- Testing performed by qualified analysts using approved methods
  - Certified water treatment operators perform color, odor, turbidity, pH, temperature, and disinfectant residual tests
  - PWD's Lab- State accredited for microbiological and chemical testing



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# Sample Testing

- Testing PWD cannot perform contracted to state accredited laboratories
- Samples must be properly prepared for shipment to maintain integrity
- Samples must meet strict criteria to ensure validity of results



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# PWD Certified Laboratory

- State Water Resource Control Board Environmental Laboratory Accreditation Program (ELAP)
- Certification renewed every 2 years
- On-site assessment every 2 years
- Field of Accreditations (FOAs) methods Lab is accredited to perform



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# PWD Certified Laboratory

## Field of Accreditation: 101 – Microbiology of Drinking Water

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101.010	002	Heterotrophic Bacteria	SimPlate
101.050	001	Total Coliform P/A	SM 9223 B Colilert
101.050	002	E. coli P/A	SM 9223 B Colilert
101.050	003	Total Coliform (Enumeration)	SM 9223 B Colilert
101.050	004	E. coli (Enumeration)	SM 9223 B Colilert



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# PWD Certified Laboratory

## Field of Accreditation: 102 – Inorganic Chemistry of Drinking Water

Field of Accreditation:102 - Inorganic Chemistry of Drinking Water			
102.030	001	Bromide	EPA 300.0
102.030	003	Chloride	EPA 300.0
102.030	005	Fluoride	EPA 300.0
102.030	006	Nitrate (as N)	EPA 300.0
102.030	007	Nitrite (as N)	EPA 300.0
102.030	009	Sulfate (as SO4)	EPA 300.0
102.100	001	Alkalinity	SM 2320 B-1997
102.121	001	Hardness	SM 2340 C-1997
102.130	001	Specific Conductance	SM 2510 B-1997
102.148	001	Calcium	SM 3500-Ca B-1997
102.260	001	Organic Carbon-Total (TOC)	SM 5310 B-2000
102.261	001	Dissolved Organic Carbon (DOC)	SM 5310 B-2000



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# QUESTIONS?



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