

RIVERSIDE'S WATER STORY

Public Utilities Department

City Council

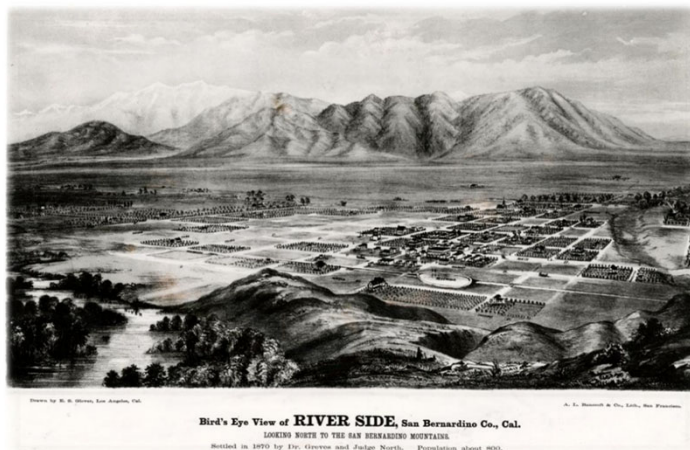
May 23, 2023

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HISTORY-RIVERSIDE'S DOMESTIC WATER SYSTEM

1. In **1887**, Riverside Water Company (RWC) began development of the domestic water system
2. In **1913**, Riverside issued a bond to establish the water department
3. In **1959**, Riverside acquires the Riverside Water Company
4. In **1964**, State of California Board of Public Health issues Riverside a potable drinking water system operation permit



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HISTORY-EARLY RPU

1. In **1965**, the City acquires the Gage Canal Company
2. In **1969**, after 7 years of litigation, Court Judgments and settlements for water rights between San Bernardino, Riverside, Orange Counties and over 4,000 individual parties adjudicates water rights for all parties throughout the watershed
3. Riverside still operates under these court judgments today to supply water to its domestic and agricultural customers



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RPU WATER SYSTEM



Established
1913



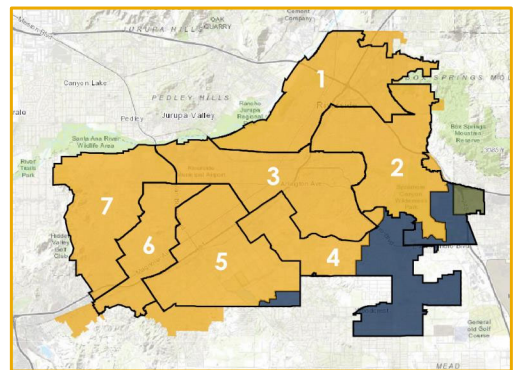
66K
Service
Connections



100%
of the City's
potable (drinking)
water has been
supplied from local
groundwater
sources since 2009



**Highest State
operational
classification
rating** due to
size and
complexity

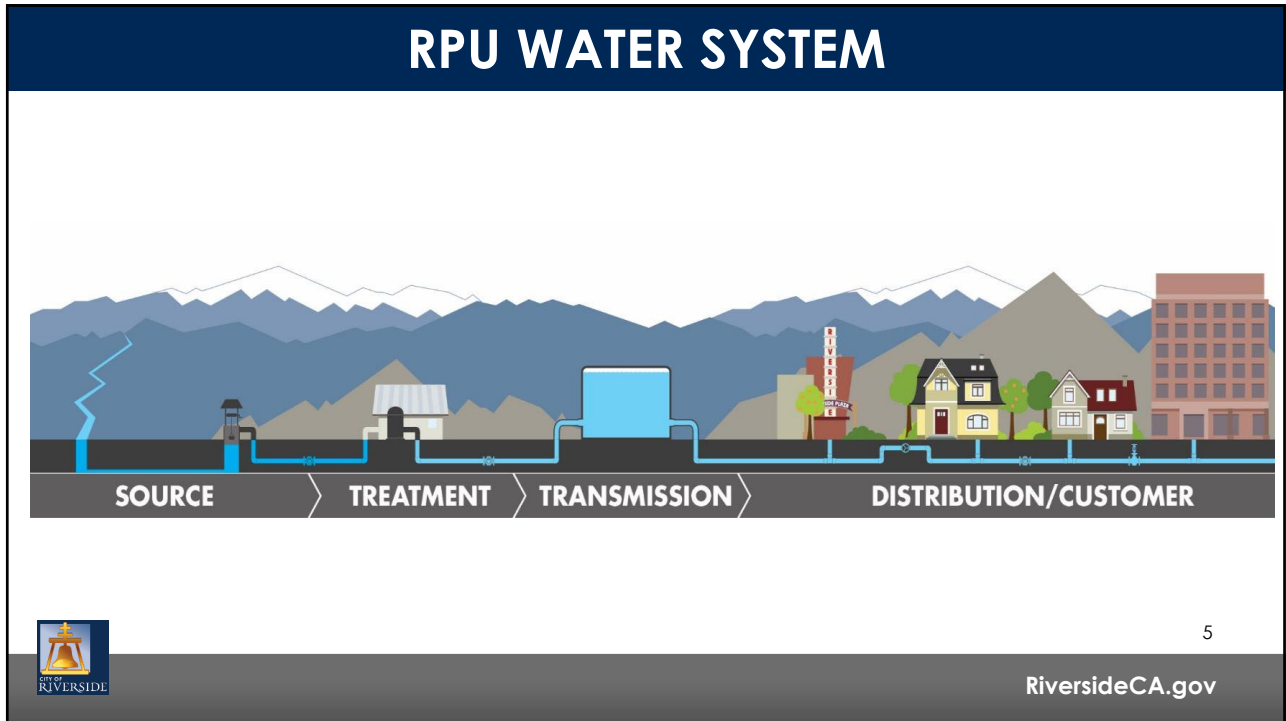


■ Riverside Public Utilities
 ■ Western Municipal Water District
 ■ Eastern Municipal Water District



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RPU WATER SYSTEM FACILITIES



50
Domestic
Wells



60
Pressure
Stations

6
Water Treatment
Facilities

16
Reservoirs

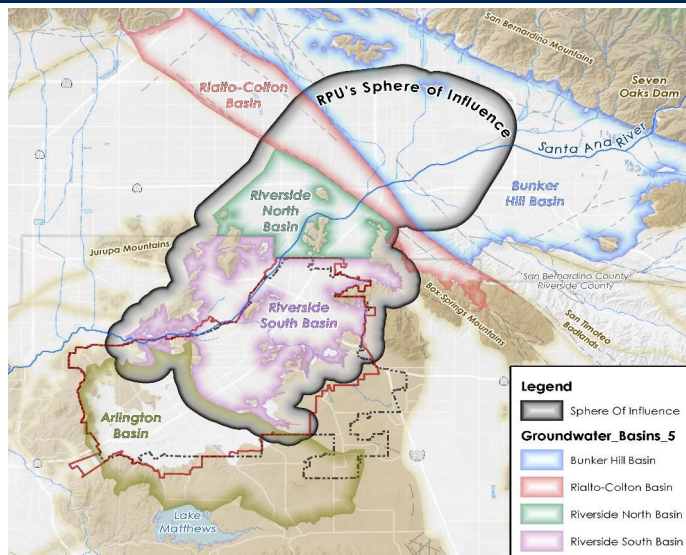
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SOURCE-GROUNDWATER BASINS

- San Bernardino (Bunker Hill)
- Rialto-Colton
- Riverside North
- Riverside South Basins

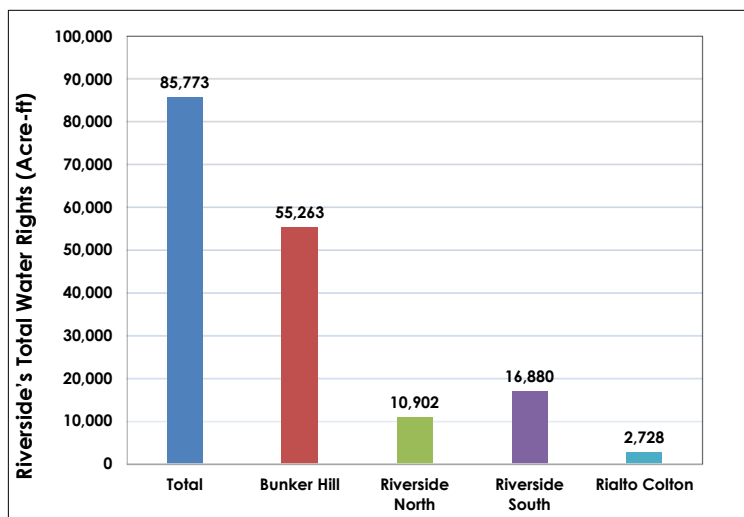


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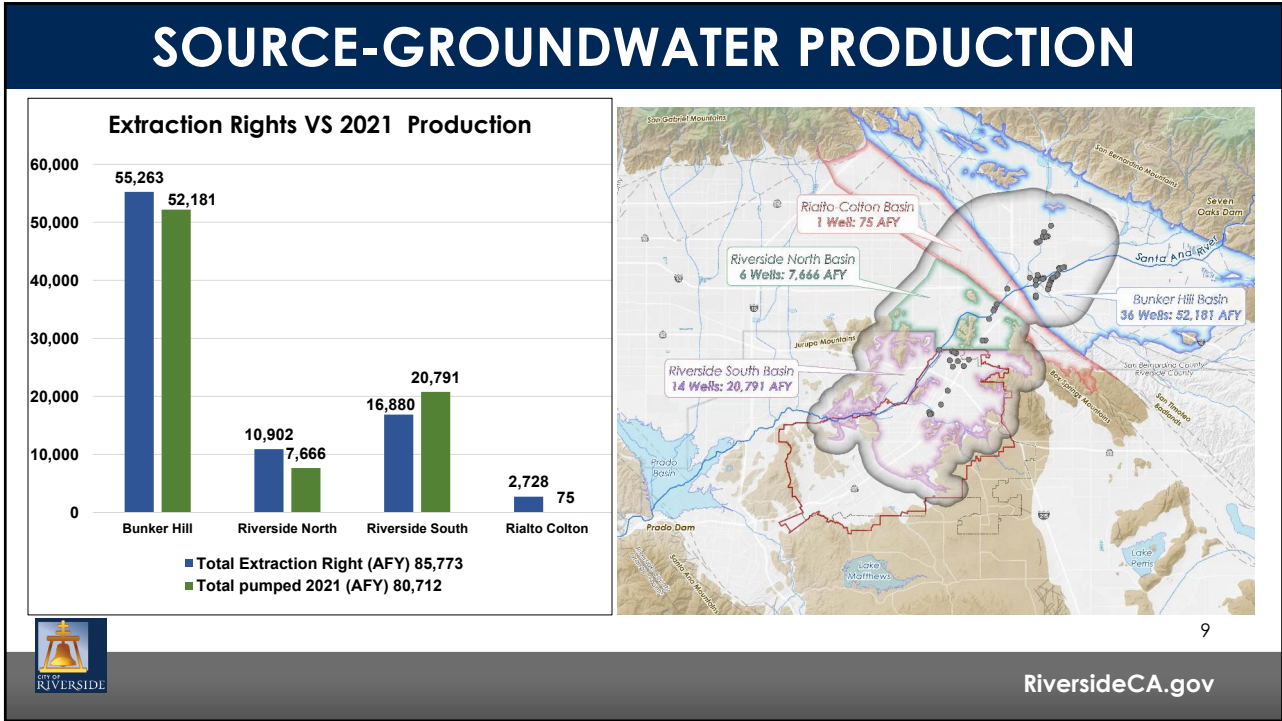
SOURCE- WATER SOURCES

Riverside's Total Water Rights by Groundwater Basin

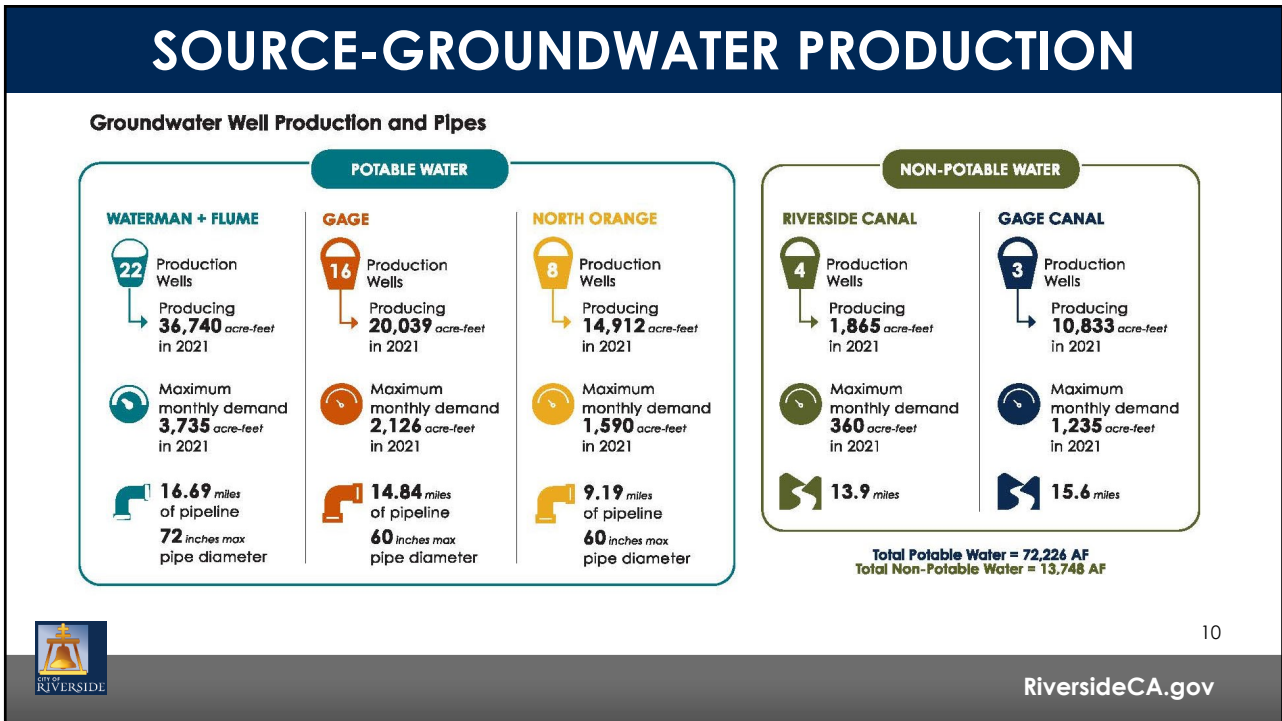


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SOURCE-RECYCLED WATER SYSTEM

- Drought-proof water supply for non-potable uses
- City required Santa Ana River discharge = 25,000 acre-feet (AF) of water per year
- Estimated annual available recycled water supply = 3,000 AF



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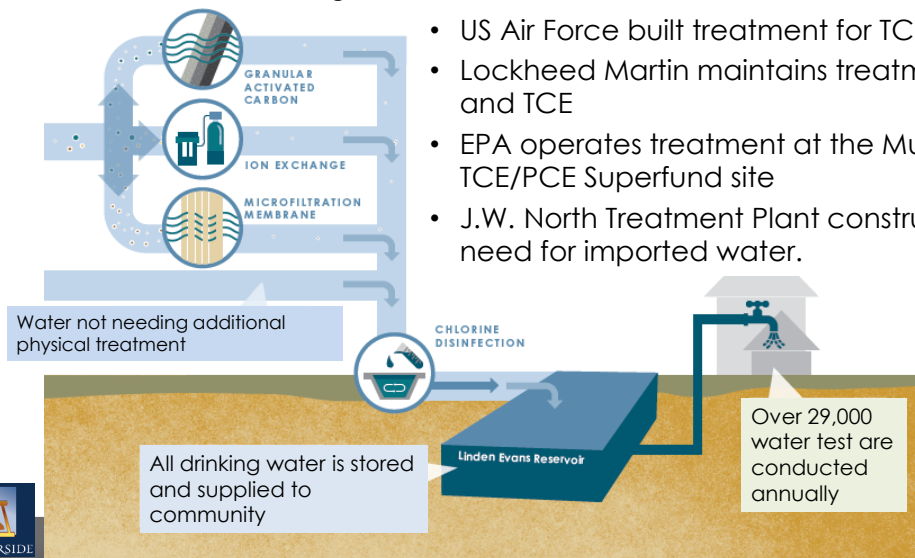


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TREATMENT

Treatment Technologies



- Shell Oil and Dow Chemical built treatment for DBCP
- US Air Force built treatment for TCE
- Lockheed Martin maintains treatment for Perchlorate and TCE
- EPA operates treatment at the Muscoy-Newmark TCE/PCE Superfund site
- J.W. North Treatment Plant constructed eliminating need for imported water.

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TRANSMISSION



System "Arteries"
(16-72 inches)

28 Miles
of Supply
Pipeline

97 Miles
of Transmission
Pipeline

820 Miles
of Distribution
Pipeline



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CHALLENGES

Sustainability Challenges to Riverside Requiring Vital Solutions



**Water Rights
& Supply**



**Climate
Change**



**Water Quality
Compliance**



**Aging
Infrastructure**



**City of
Riverside
Growth**



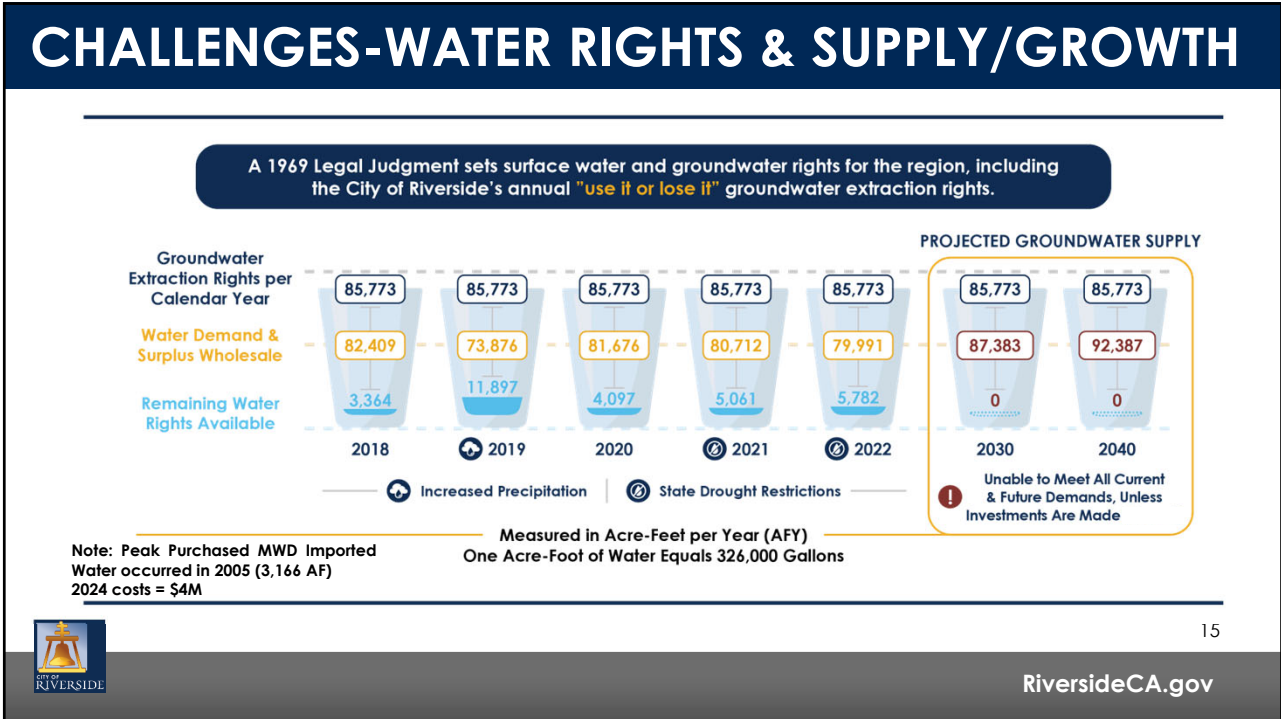
**2040 Potable &
Recycled Water
Demand**



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CHALLENGES

Sustainability Challenges to Riverside Requiring Vital Solutions

Water Rights & Supply

City of Riverside Growth

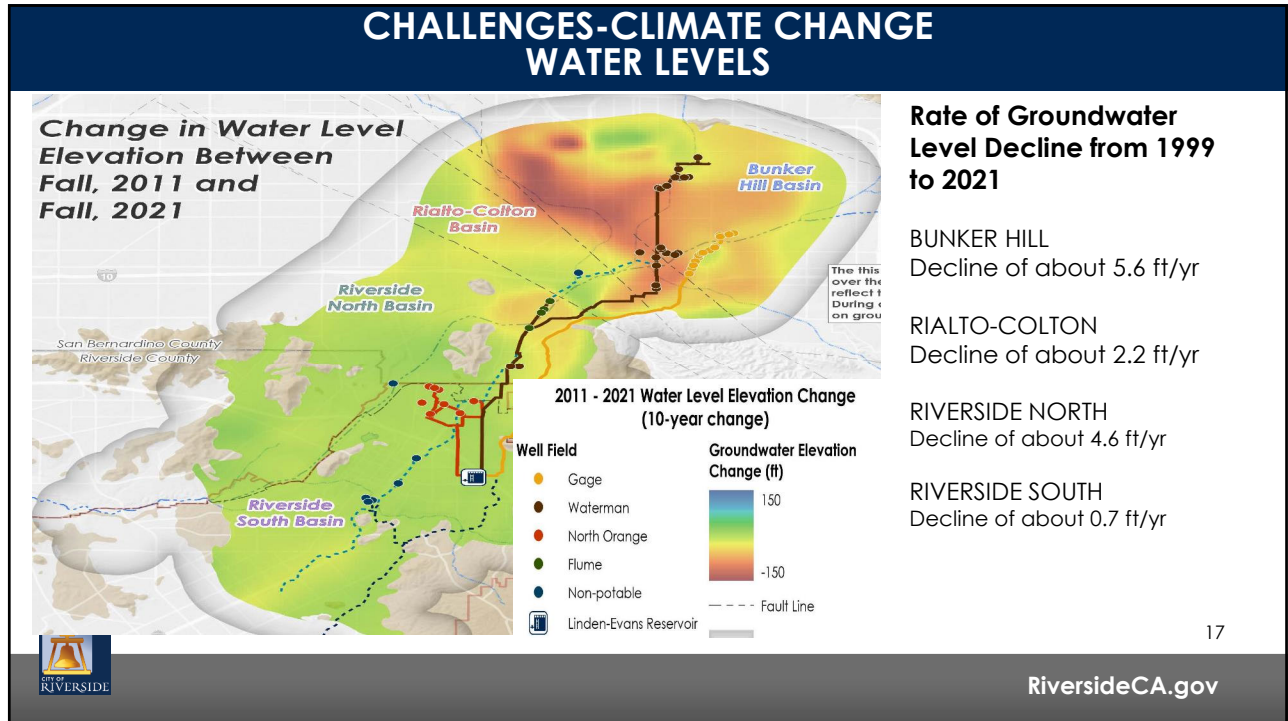
2040 Potable & Recycled Water Demand

- Prepare annual water demand vs supply assessments
- Advocate for development of regional plan for basin water production
- Oppose all proposals to consider a recalculation of groundwater basin Safe Yields
- Set targets for Per Capita Per Day water use
- Questions/Feedback/Additional Options?

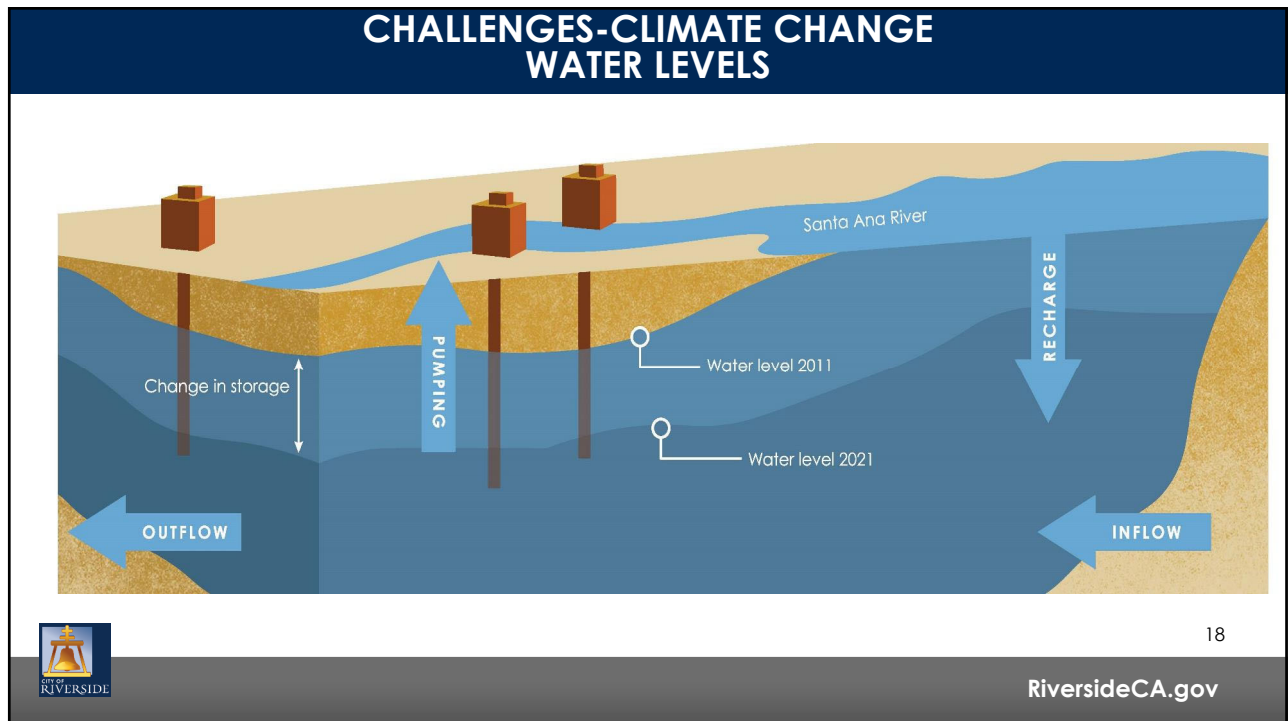
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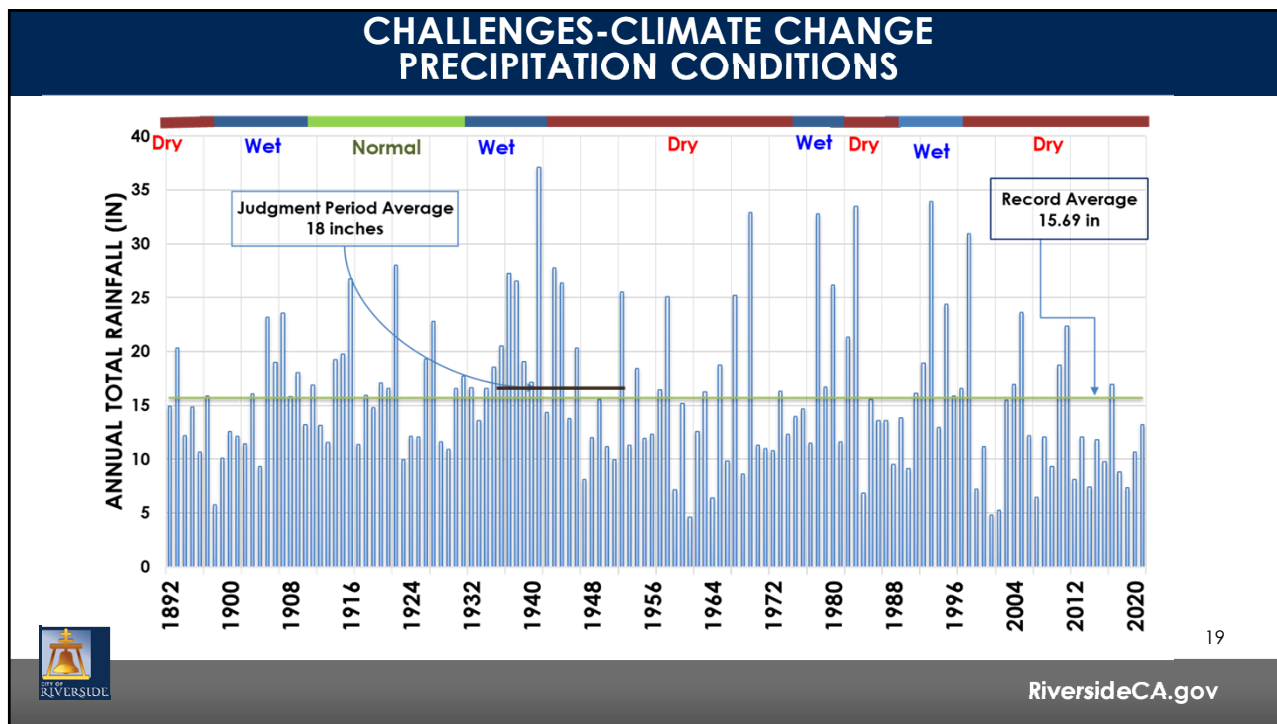
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CHALLENGES

Sustainability Challenges to Riverside Requiring Vital Solutions



Climate Change

- **Protect facilities in high fire risk and flood areas**
- **Develop new landscape strategies for more purposeful use of water to enhance shade, local food production, soil health and natural habitats**
- **Develop a transition plan to decarbonize the water production operations of the utility**
- **Consider sustainability in all procurement decisions**
- **Questions/Feedback/Additional Options?**

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CHALLENGES-WATER QUALITY COMPLIANCE

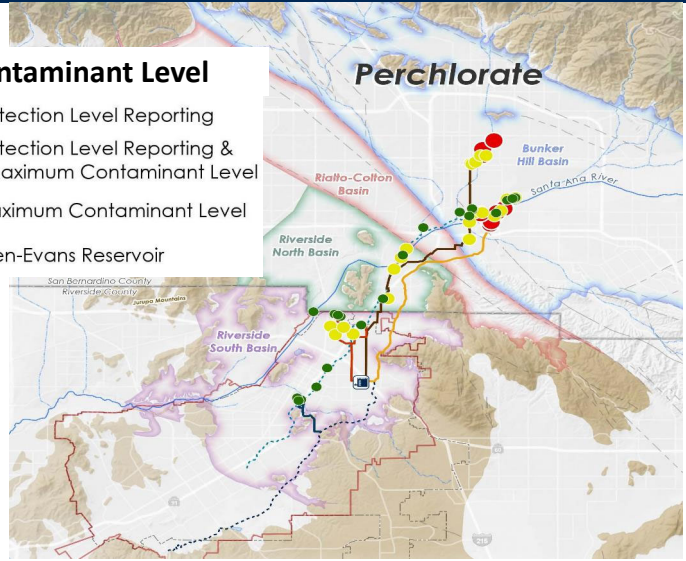
Perchlorate-Source

Solid rocket propellant, aerospace operations, fireworks, explosives, and matches.

- 50 wells sampled
- 46 potable water
- 4 non-potable water

Well Contaminant Level

- < Detection Level Reporting
- > Detection Level Reporting & ≤ Maximum Contaminant Level
- > Maximum Contaminant Level
- 📍 Linden-Evans Reservoir



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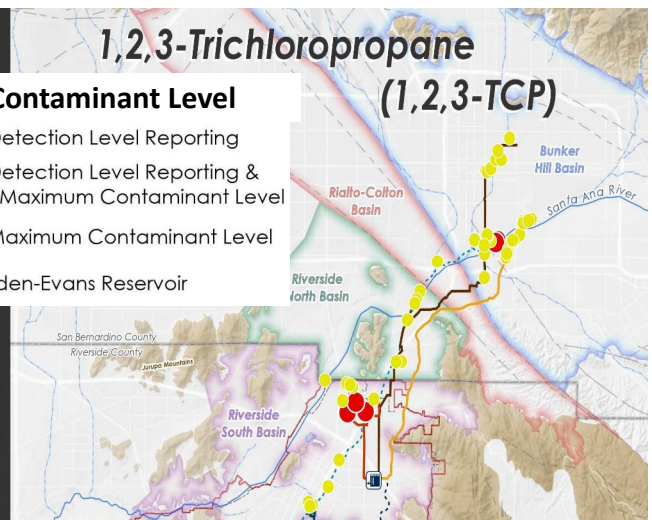
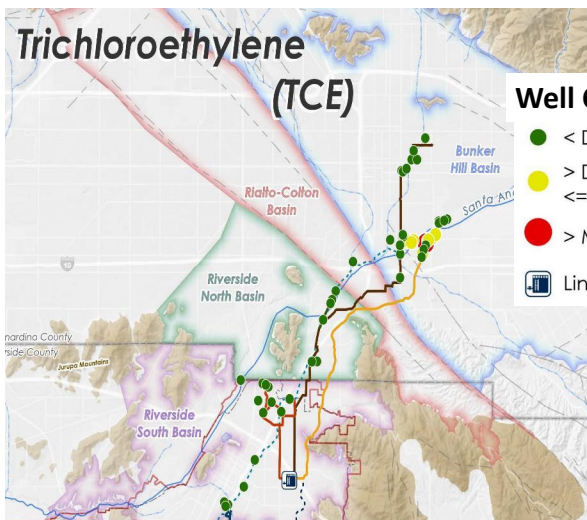
CHALLENGES-WATER QUALITY COMPLIANCE

Trichloroethylene (TCE)

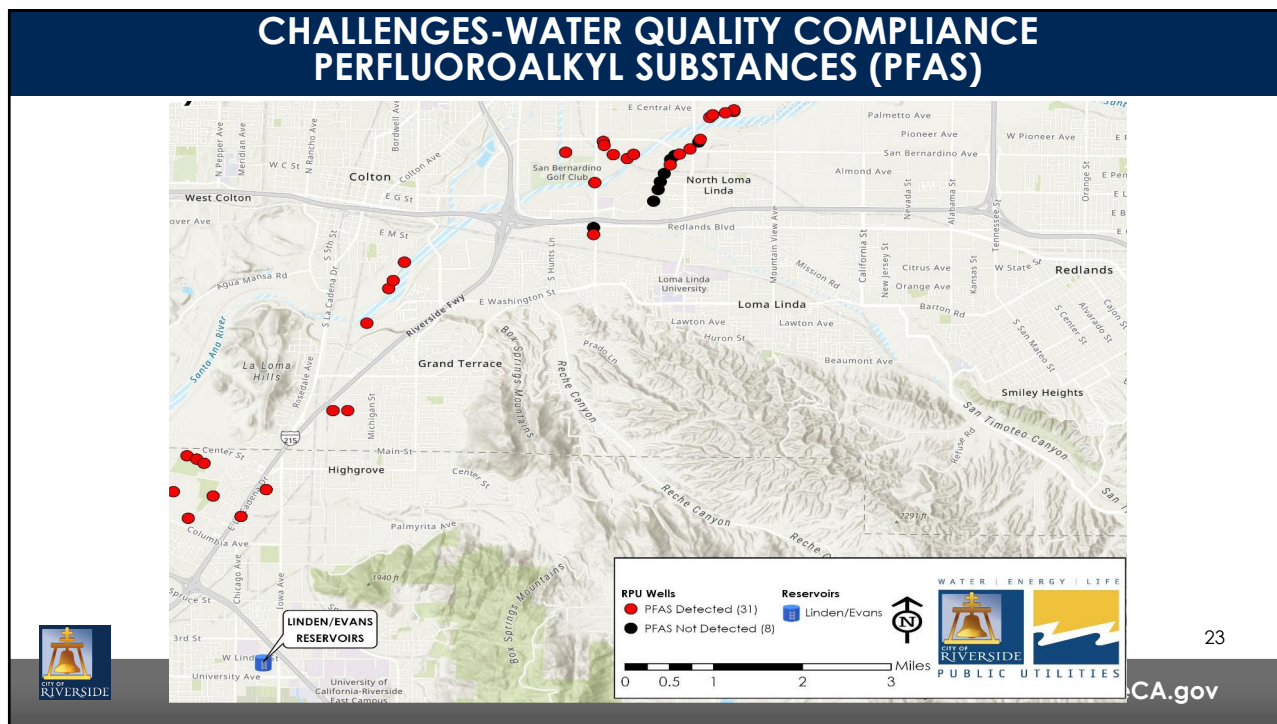
1,2,3-Trichloropropane (1,2,3-TCP)

Well Contaminant Level

- < Detection Level Reporting
- > Detection Level Reporting & ≤ Maximum Contaminant Level
- > Maximum Contaminant Level
- 📍 Linden-Evans Reservoir




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CHALLENGES

Sustainability Challenges to Riverside Requiring Vital Solutions



Water Quality Compliance

- Follow the City Council's adopted Water Quality Principles
- Develop treatment strategies for contaminants of concern
- Identify and pursue responsible parties for treatment and cleanup
- Seek funding for new water treatment works
- Questions/Feedback/Additional Options?

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CHALLENGES-AGING INFRASTRUCTURE

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CHALLENGES-AGING INFRASTRUCTURE

Maintain & Replace

Reservoirs (16): **12-87 years**

Boosters (38): **2-89 years**

Wells (50): **2-95 years**

Pipeline (945 miles): **1-130 years**
*Average replacement rate= 2.8 miles per year
 (300 year life cycle)*

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CHALLENGES

Sustainability Challenges to Riverside Requiring Vital Solutions

Aging Infrastructure

- Conduct continuous condition assessments of facilities
- Complete infrastructure Master Plan for facilities replacement
- Maintain facilities through preventative maintenance programs
- Construct facilities with high quality and long lasting materials
- Questions/Feedback/Additional Options?



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STRATEGIC PLAN ALIGNMENT

This items contributes to all 2025 Envision Strategic Plan Priorities and Cross-Cutting Threads.



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RECOMMENDATION

That the City Council receive and file an update on the status of the City's water systems.



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