Santa Ana Water Board Update

Clean Water SoCal – Committee Day

Jayne Joy, Executive Officer

AGENDA

- Recycled Water as a Priority
- Indirect/Direct Potable Reuse Options
- PFAS Update

CALIFORNIA Water Boards

State Water Resources Control Board and Nine Regional Water Quality Control Boards (Collectively California Water Boards)

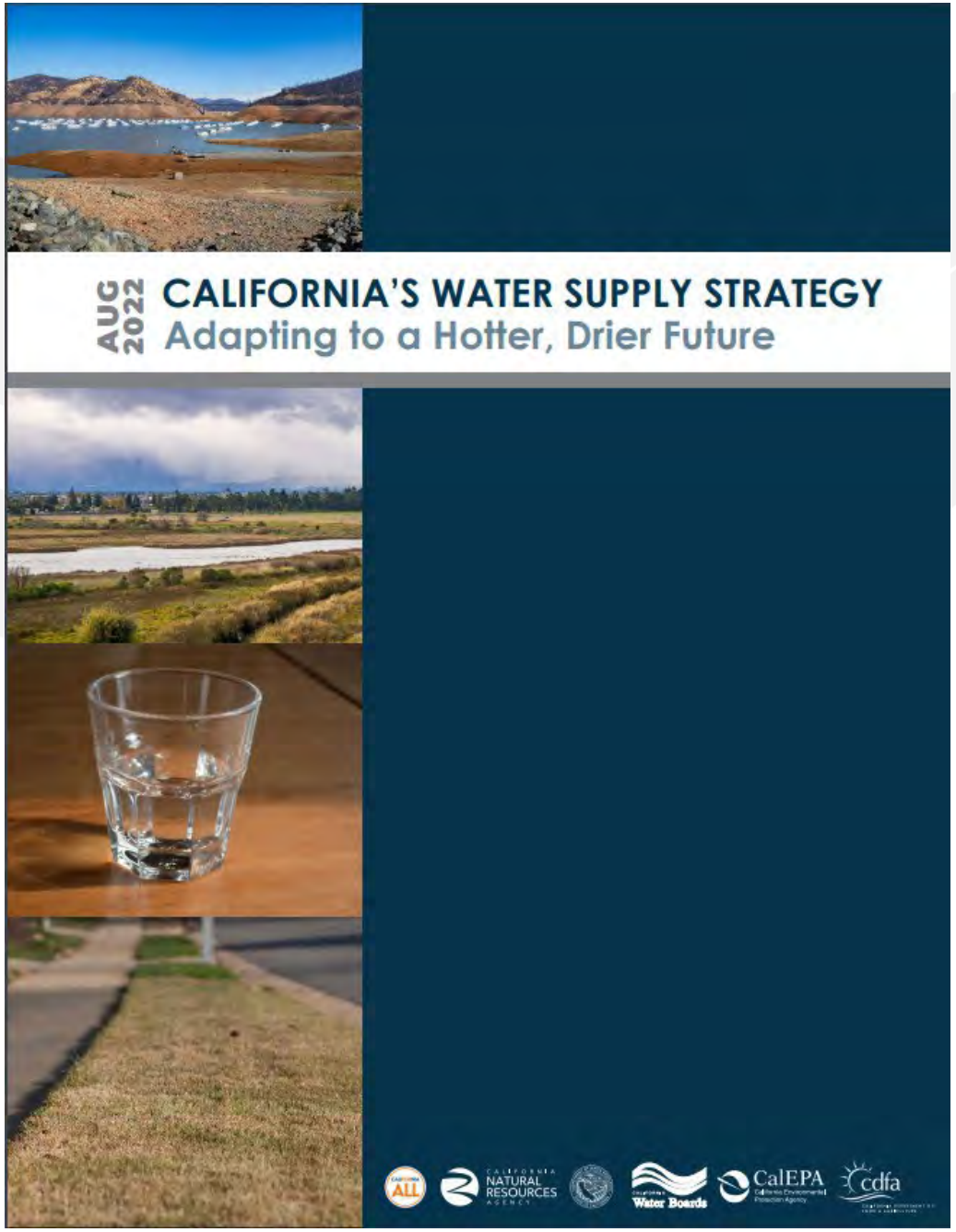
Region 8
Santa Ana Regional
Water Quality Control Board

Vision:

A sustainable California made possible by clean water and water availability for both human uses and environmental resource protection.

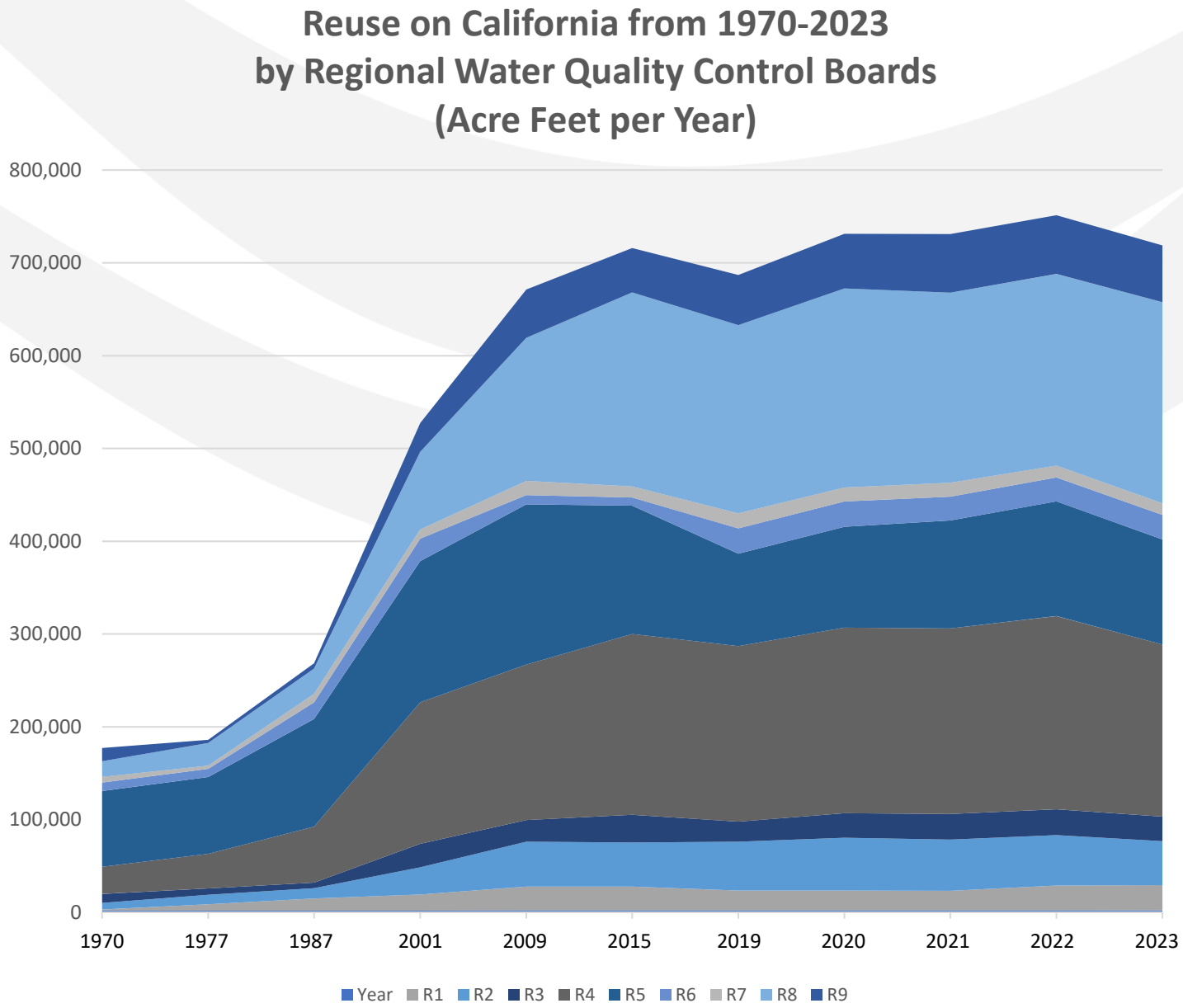
California's Water Supply Strategy

- State has the goal of recycling and reusing at least 800,000 acre-feet of water per year (AFY) by 2030.
- Regulatory agencies are encouraged to facilitate water reuse projects as a major component of expanding supply.

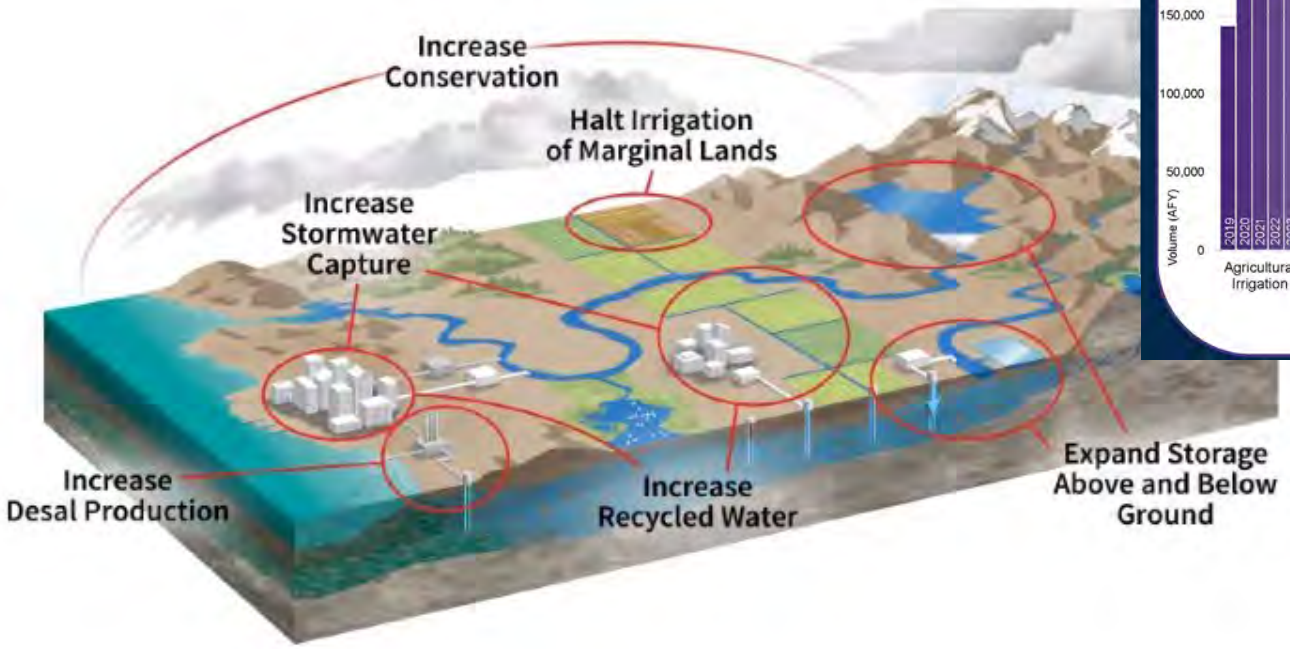


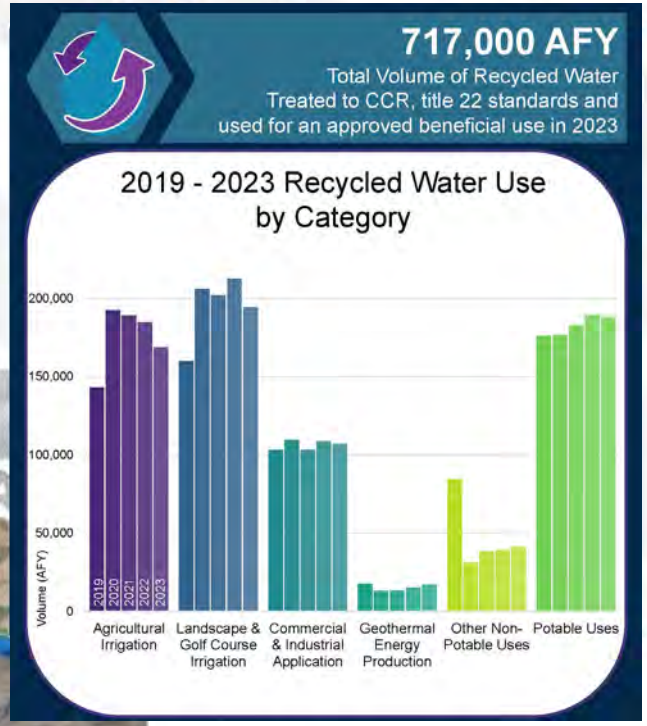
Water Reuse Trends in California

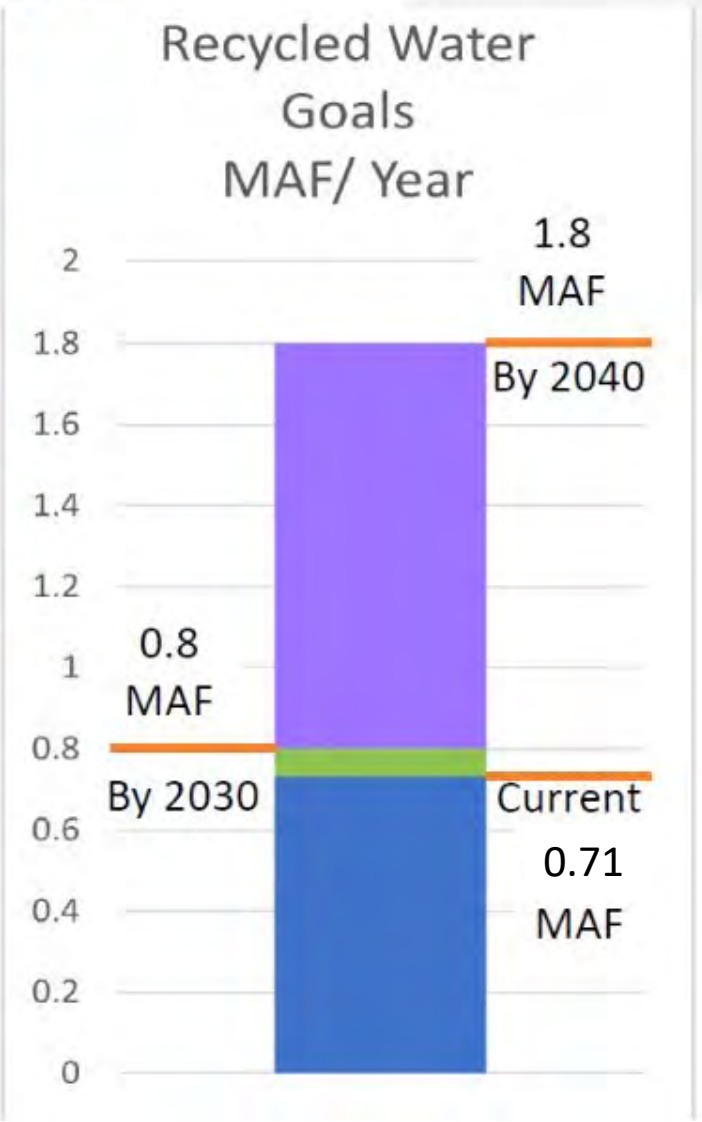
- North Coast (R1)
- San Francisco Bay (R2)
- Central Coast (R3)
- Los Angeles (R4)
- Central Valley (R5)
- Lahontan (R6)
- Colorado River Basin (R7)
- Santa Ana (R8)
- San Diego (R9)

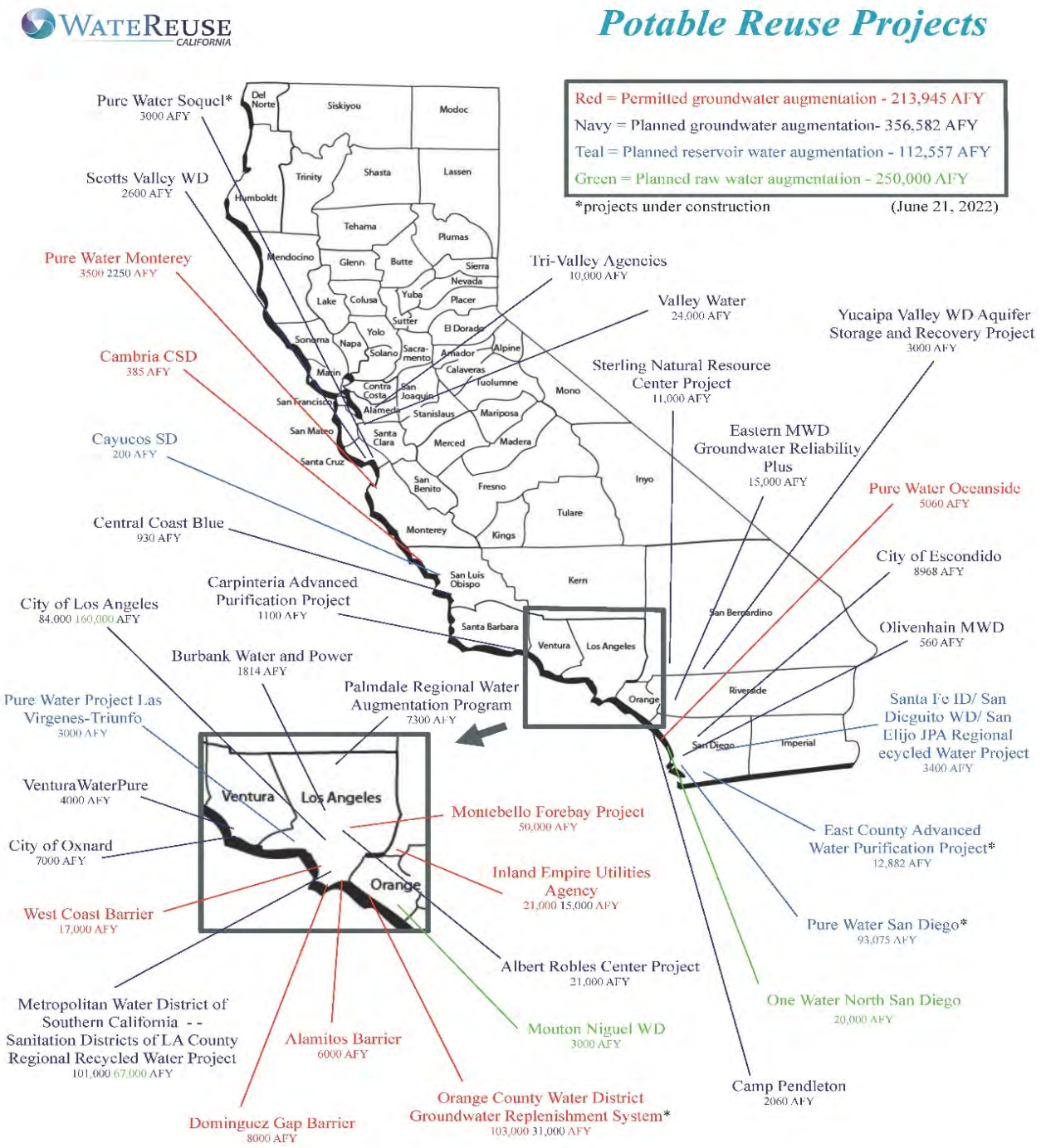


California's Water Supply Strategy





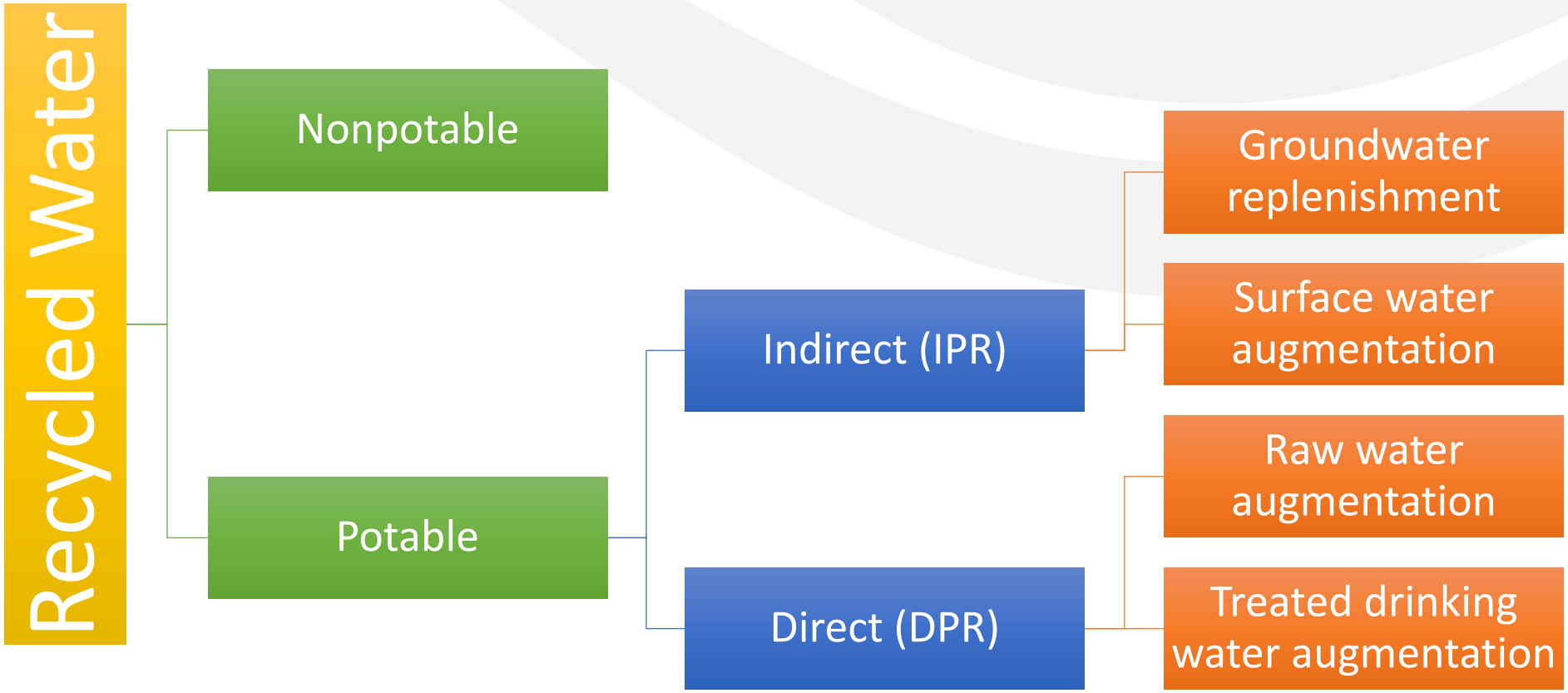




Permitted and Planned Reuse Projects in California

Red = Permitted groundwater augmentation - 213,945 AFY
Navy = Planned groundwater augmentation- 356,582 AFY
Teal = Planned reservoir water augmentation - 112,557 AFY
Green = Planned raw water augmentation - 250,000 AFY
*projects under construction
(June 21, 2022)

Recycled Water Scenarios



Indirect Potable Reuse (IPR)

- Indirect Potable Reuse: planned use of recycled water to replenish drinking water supplies with a *suitable environmental barrier*
- Two types of IPR projects:
  - Groundwater replenishment: planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system
  - Surface water augmentation: planned placement of recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water system

Direct Potable Reuse (DPR)

- Direct potable reuse: planned introduction of recycled water either directly into a public water system or into a raw water supply immediately upstream of a water treatment plant *(No environmental barrier used)*
- DPR includes, but is not limited to, the following:
  - Raw water augmentation: planned placement of recycled water into a system of pipelines or aqueducts that deliver raw water to a drinking water treatment plant that provides water to a public water system
  - Treated drinking water augmentation: planned placement of recycled water into the water distribution system of a public water system

And lastly PFAS …

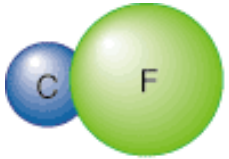
Per- and Polyfluoroalkyl Substances (PFAS)

Group of man-made chemicals resistant to heat, water, and oil

Thousands of compounds including the two sub-categories:

- Perfluorooctanoic acid **(PFOA)**
- Perfluorooctanesulfonic acid **(PFOS)**

One of the strongest bonds in chemistry, leads to **environmental persistence**



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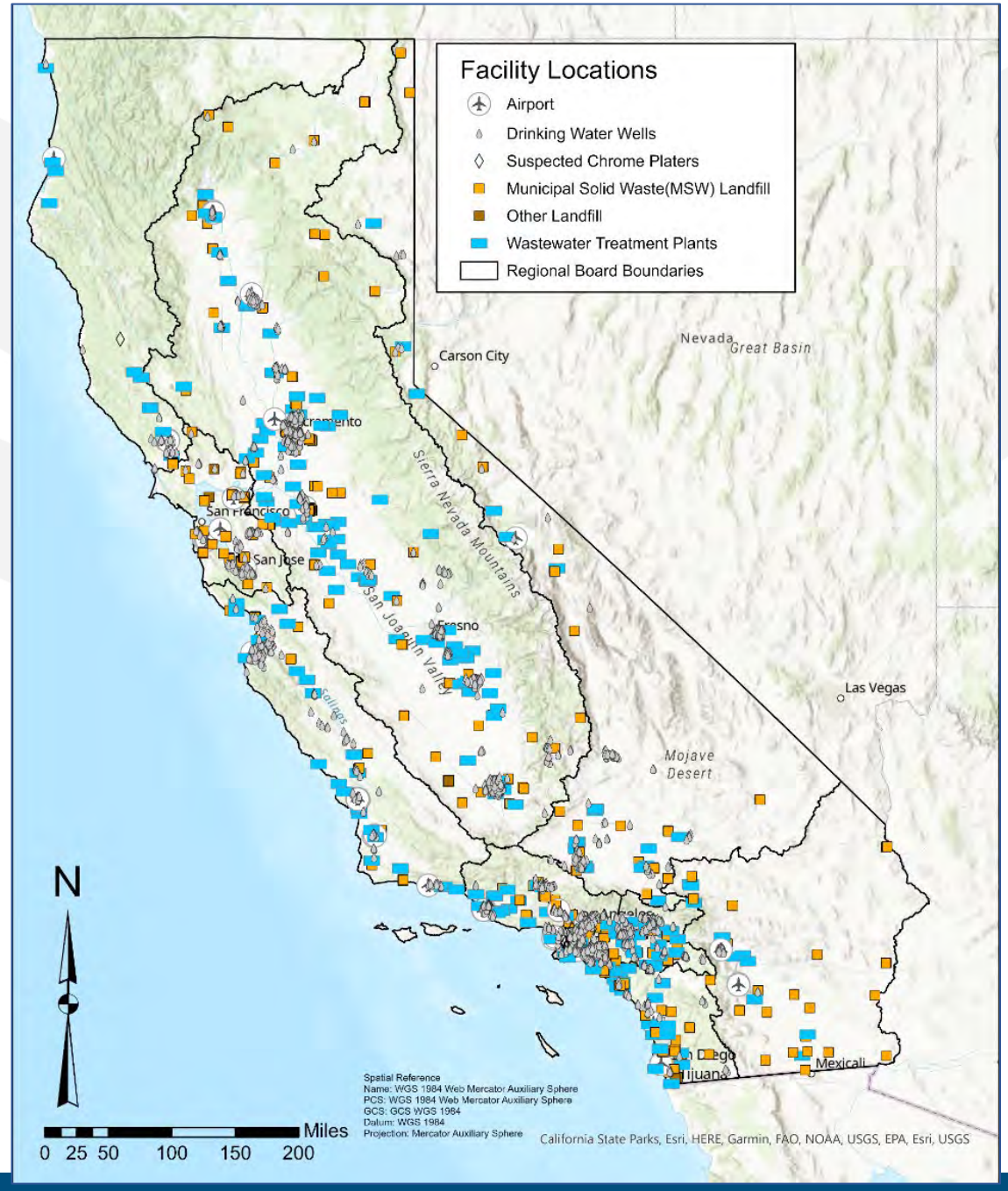
Approach to PFAS …

State-Wide PFAS Investigations

Since 2019, investigative orders issued to the following industries:

- Drinking water supply wells
- Municipal solid waste landfills
- Commercial airports
- Chromium plating facilities
- Refineries and bulk terminals
- Wastewater treatment plants



Drinking Water Supply Wells in Santa Ana Region

LEGEND:

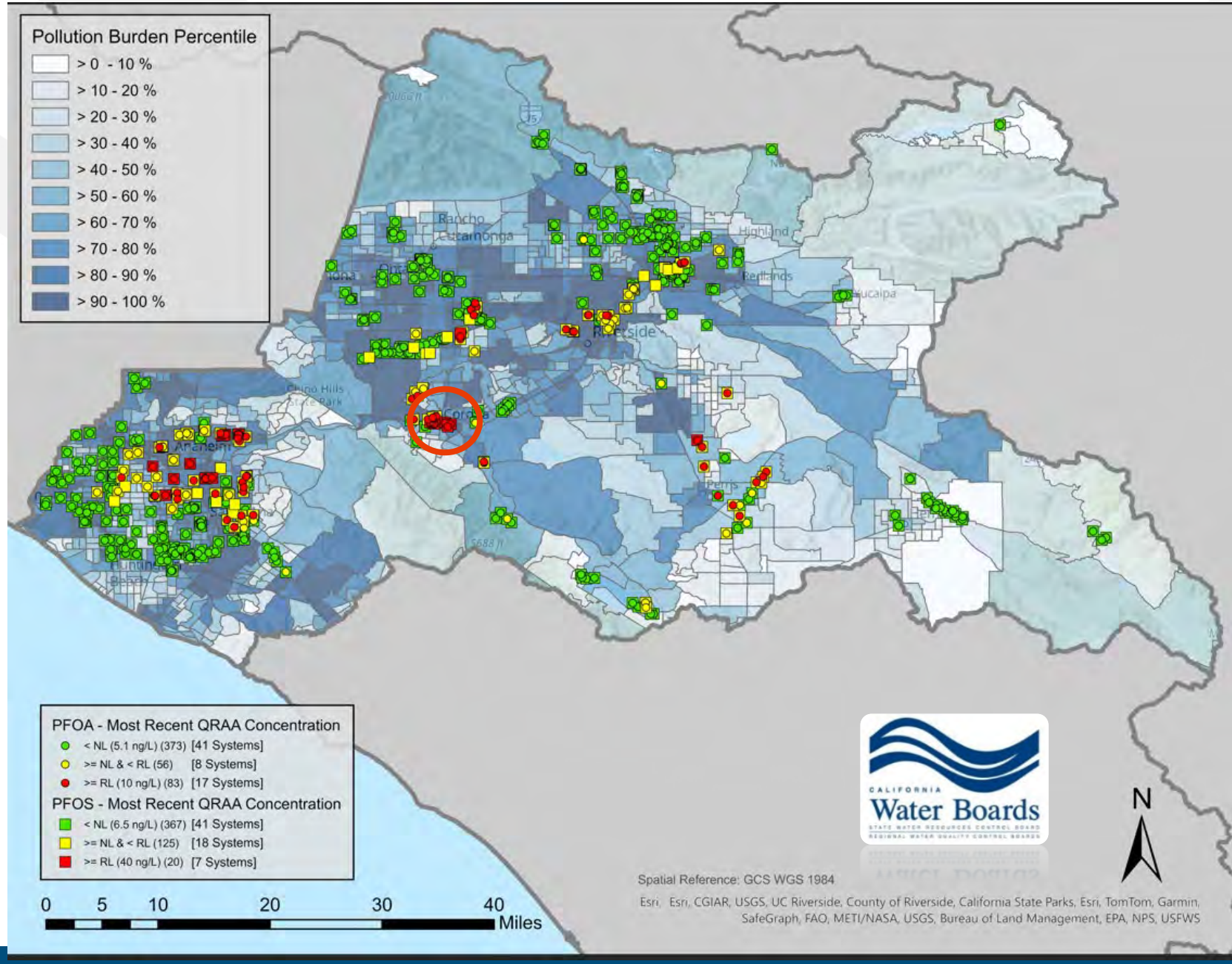
- **= < NL**
- **= > NL and < RL**
- **= > RL**

PFOA Circles

PFOS Squares

Data downloaded in **Feb. 2024**:

- Raw water results
- QRAA = Quarterly Running Annual Average
- PFOA and PFOS analyzed using EPA Method 537.1/533
- PFOA: NL = 5.1 ng/L, RL = 10 ng/L
- PFOS: NL = 6.5 ng/L, RL = 40 ng/L



Regulatory Levels: EPA and State Water Board

PFAS Compounds (ppt=parts per trillion)	US EPA			CA State Water Board		
	Health Advisory Level	Final MCLG	Final MCL	Public Health Goals	Notification Level	Response Level
PFOA	0.004 ppt	Zero	4.0 ppt	0.007 ppt	5.1 ppt	10 ppt
PFOS	0.02 ppt	Zero	4.0 ppt	1.0 ppt	6.5 ppt	40 ppt
PFHxS		10 ppt	10 ppt		3 ppt	20 ppt
PFNA		10 ppt	10 ppt			
HFPO-DA (GenX Chemical)	10 ppt	10 ppt	10 ppt			
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, & PFBS		1.0 Hazard Index	1.0 Hazard Index			

Questions