

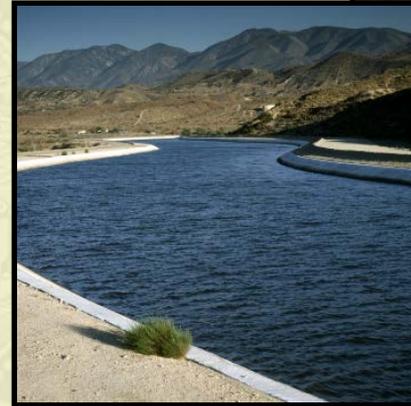
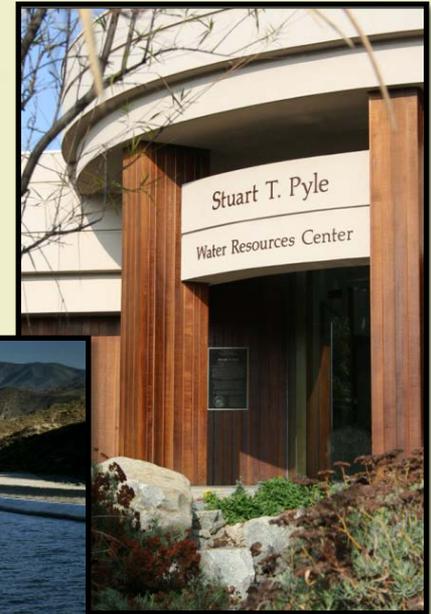


# An Overview of the Kern County Water Agency's Improvement District No. 4 For MWQI

*David Beard | July 30, 2014*

# About the Kern County Water Agency

- ❖ Created by the Legislature and approved by Kern County voters in 1961.
- ❖ Governed by a 7-person voter-elected board of directors serving 4-year terms.
- ❖ Created primarily to serve as the local contracting entity for the State Water Project (SWP).
- ❖ Discretionary activities:
  - Groundwater
  - Flood control and dams
  - Hydroelectric power



# Kern County's State Water Project Supplies

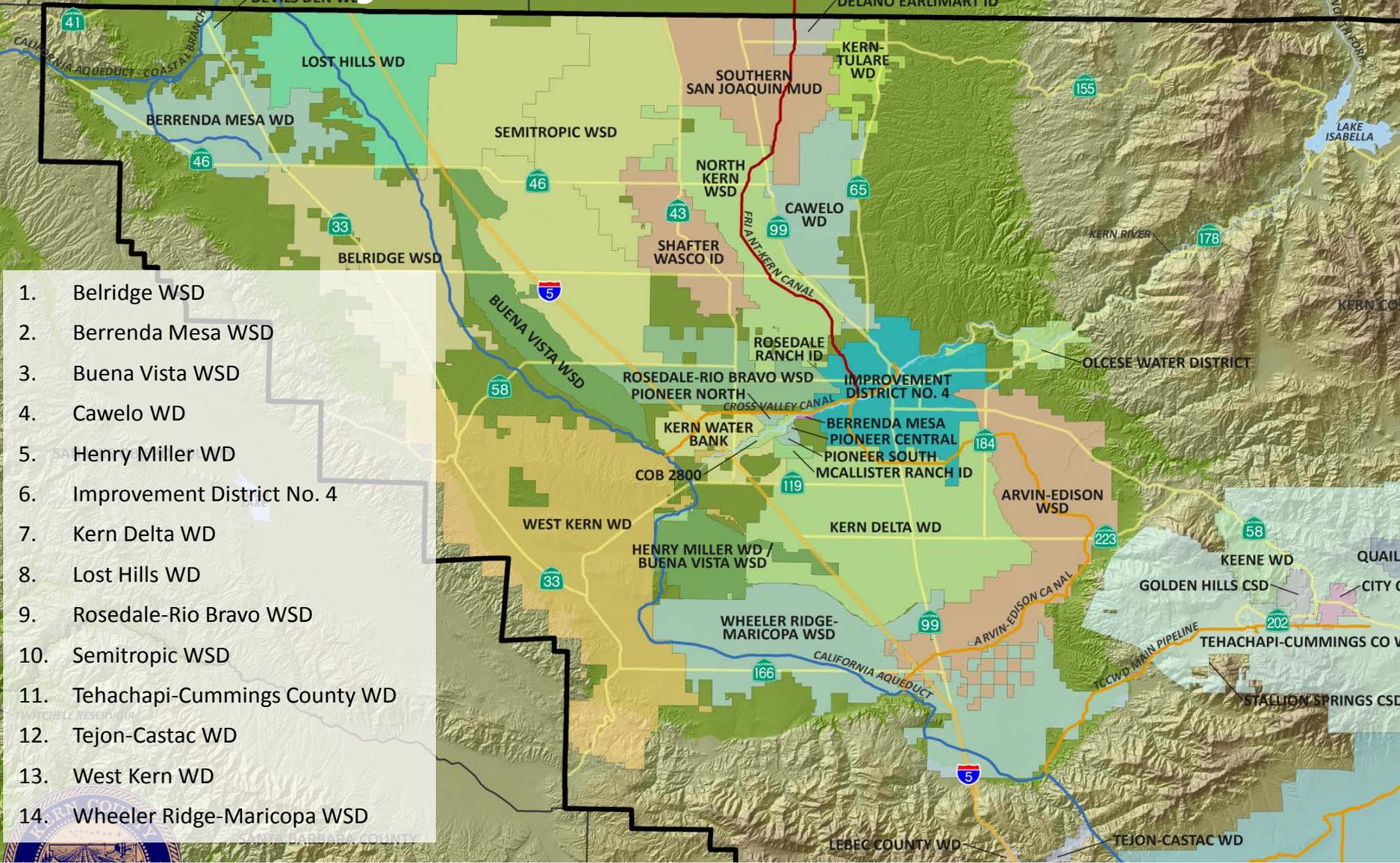
## *Kern County Water Agency SWP Facts:*

- ❖ Largest ag contractor
- ❖ 5th largest urban contractor
- ❖ Annual contracted Table A supply is about 1 million acre-feet:
  - 863,730 af – Agriculture
  - 119,000 af – M&I
- ❖ Represents about 24% of the SWP

# California Water Facilities



# Kern County Water Districts



1. Belridge WSD
2. Berrenda Mesa WSD
3. Buena Vista WSD
4. Cawelo WSD
5. Henry Miller WSD
6. Improvement District No. 4
7. Kern Delta WSD
8. Lost Hills WSD
9. Rosedale-Rio Bravo WSD
10. Semitropic WSD
11. Tehachapi-Cummings County WSD
12. Tejon-Castac WSD
13. West Kern WSD
14. Wheeler Ridge-Maricopa WSD

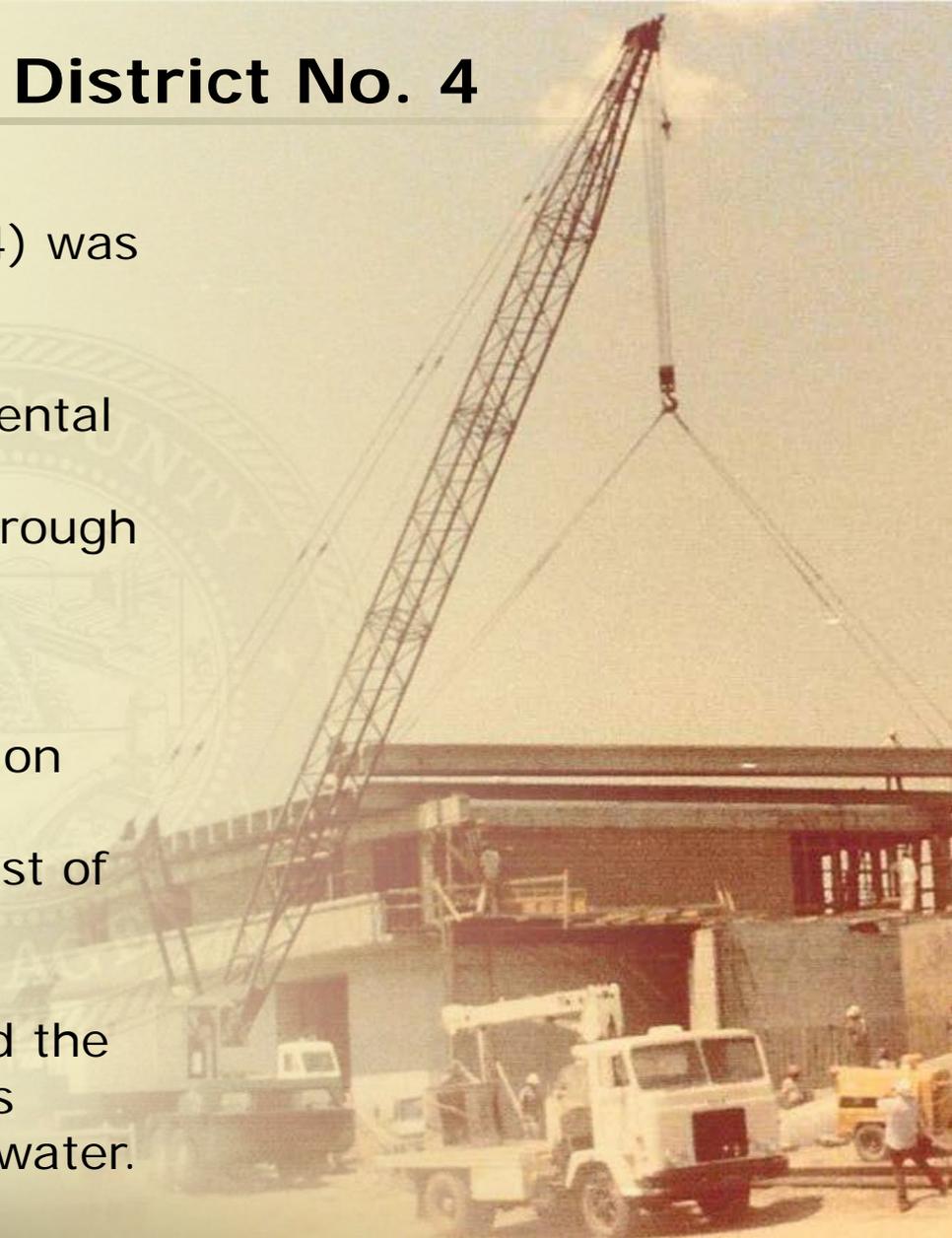
An Overview of Improvement District No. 4

# Kern County Water Agency Member Unit State Water Project Contract Amounts (*acre-feet*)

District / Agency	Agriculture	Municipal and Industrial	Total
Belridge Water Storage District	121,508		121,508
Berrenda Mesa Water District	92,600		92,600
Buena Vista Water Storage District	21,300		21,300
Cawelo Water District	38,200		38,200
Henry Miller Water District	35,500		35,500
Improvement District No. 4	5,946	77,000	82,946
Kern County Water Agency	8,000		8,000
Kern Delta Water District	25,500		25,500
Lost Hills Water District	119,110		119,110
Rosedale-Rio Bravo Water Storage District	29,900		29,900
Semitropic Water Storage District	155,000		155,000
Tehachapi-Cummings County Water District	4,300	15,000	19,300
Tejon-Castac Water District	3,278	2,000	5,278
West Kern Water District	6,500	25,000	31,500
Wheeler Ridge-Maricopa Water Storage District	197,088		197,088
<b>TOTAL:</b>	<b>863,730</b>	<b>119,000</b>	<b>982,730</b>

# History of Improvement District No. 4

- ❖ Improvement District No. 4 (ID4) was formed in 1971.
- ❖ Purpose is to provide a supplemental water supply for portions of the metropolitan Bakersfield area through the importation of SWP water.
- ❖ Original financing included the construction of a water purification plant, related water conveyance facilities, and a portion of the cost of the Cross Valley Canal (CVC).
- ❖ Prior to the formation of ID4 and the primary water supply for all uses within ID4 was pumping groundwater.



# ID4's Operations and Functions

- ❖ 82,946 af of State Water Project supply
  - 77,000 af M&I and 5,946 af agricultural
  - Recharge local groundwater table
  - Delivery of treated surface water to areas of deficient groundwater quality and/or quantity
  
- ❖ Provides treated water to:
  - California Water Service Company
  - City of Bakersfield
  - East Niles Community Services District
  - North of the River Municipal Water District
  - Oildale Mutual Water Company

# ID4 Water Supply Operations

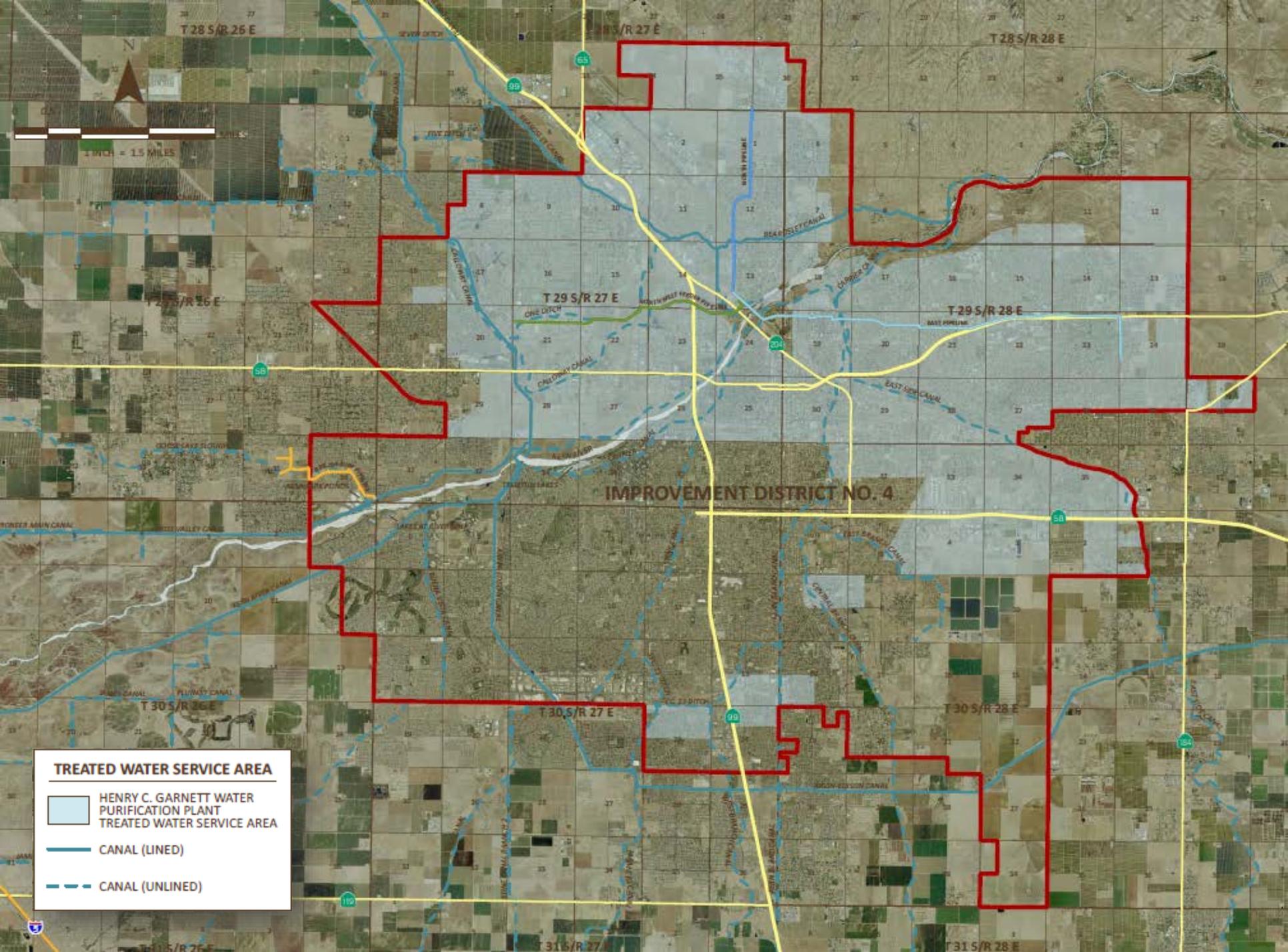
- ❖ Annual surface water exchanges with Kern River Interests
- ❖ Other supplies are acquired depending on availability and need: Article 21 water, Section 215 water, Kern River water
- ❖ Participation in groundwater banking programs: Kern Water Bank Authority, Pioneer Banking Project, and City of Bakersfield 2800 Acres Facility



# Henry C. Garnett Water Purification Plant

- ❖ Serves approximately 185,000 people in Metropolitan Bakersfield
- ❖ Originally constructed in 1977 with capacity of 38 million gallons per day (mgd)
- ❖ Expanded to 72 mgd in 2010
- ❖ Utilizes a conventional water treatment process





**TREATED WATER SERVICE AREA**

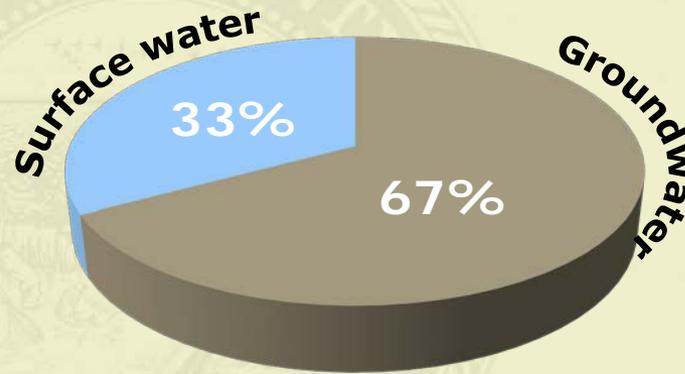
-  HENRY C. GARNETT WATER PURIFICATION PLANT TREATED WATER SERVICE AREA
-  CANAL (LINED)
-  CANAL (UNLINED)

IMPROVEMENT DISTRICT NO. 4

# Drought Impacts to ID4: Water Supply

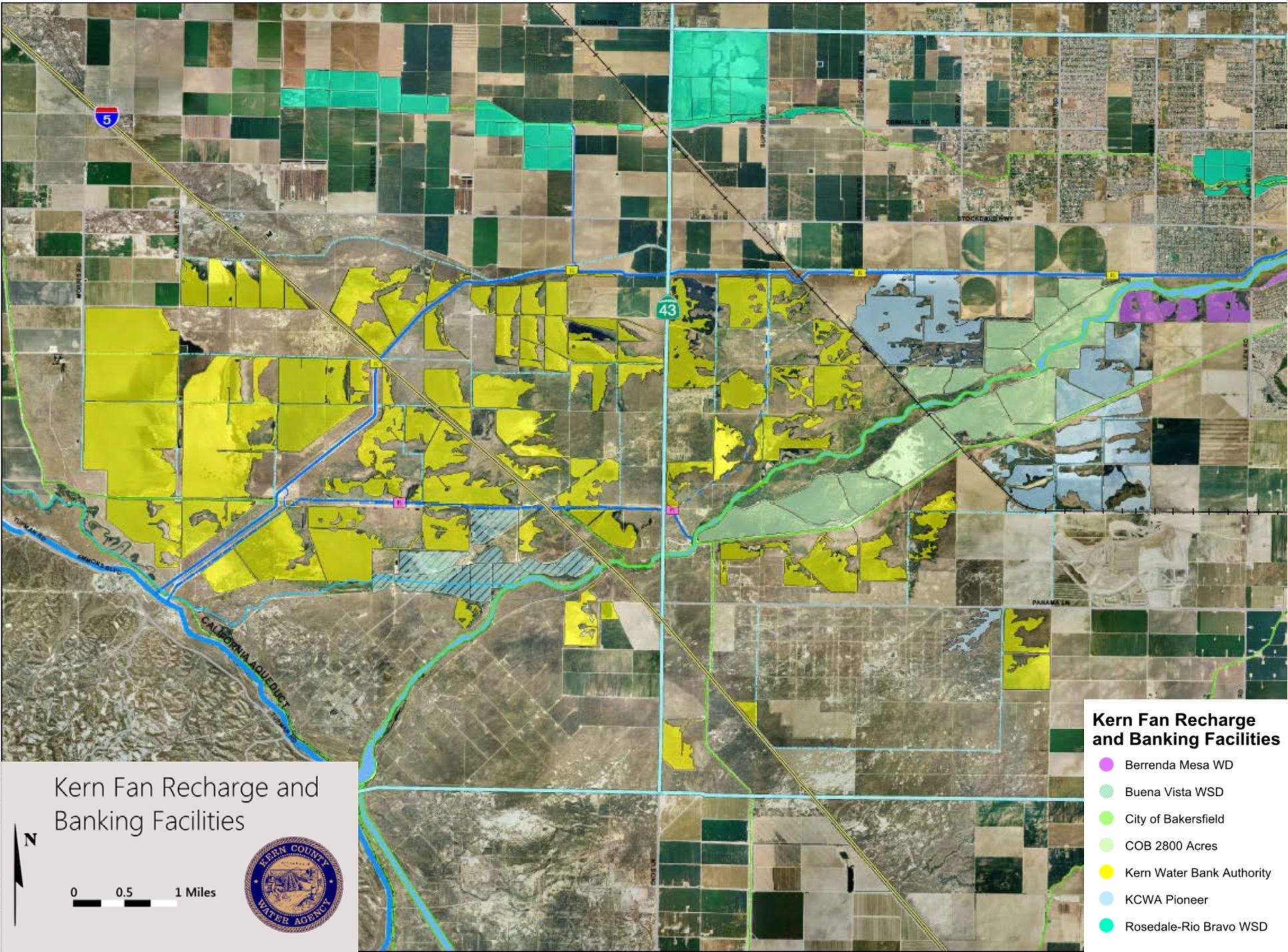
## 2013-2014

- ❖ ID4 delivered approximately 33,000 af of treated water.
- ❖ The sources used were:



## 2012-2013

- ❖ ID4 delivered approximately 40,000 af of treated water
- ❖ Source used was surface water (100%)



# Kern Fan Recharge and Banking Facilities



0 0.5 1 Miles

## Kern Fan Recharge and Banking Facilities

- Berrenda Mesa WD
- Buena Vista WSD
- City of Bakersfield
- COB 2800 Acres
- Kern Water Bank Authority
- KCWA Pioneer
- Rosedale-Rio Bravo WSD

# Drought Impacts to ID4: Water Quality

Analyte	Units	Aqueduct May-14	CVC June-14	Kern River April-14
Arsenic	ug/l	4.0	2.0	5.6
Bromide	ug/l	400	80	20
Total Chromium	ug/l	1.0	1.0	<1.0
Hexavalent Chromium	ug/l	0.3	ND	ND
Nitrate (as NO3)	mg/l	0.3	6.5	ND
Total Dissolved Solids	mg/l	418	164	116
D. Organic Carbon	mg/l	7.3	-	-
T. Organic Carbon	mg/l	-	2.3	2.2
Sulfate	mg/l	72.0	22.5	22.8
Chloride	mg/l	122.0	21.9	8.2

# Looking Forward

- ❖ Continual mix of sources used at the Henry C. Garnett Water Purification Plant based on hydrology, surface water exchange opportunities and water banking program operations.
- ❖ ID4 customer treated water contract amounts total 53,000 af in 2034-35.
- ❖ Increase in percentage of SWP supply delivered for treatment at Henry C. Garnett Water Purification Plant.
- ❖ Possibility of constructing additional facilities to augment current water treatment techniques.