

WATER 1A BRIEFING



2011 Kern Economic Summit

*California Water and Its Effect on
Kern County's Economy*



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.
- ❖ Discretionary activities:
 - Groundwater
 - Flood control and dams
 - Hydroelectric power

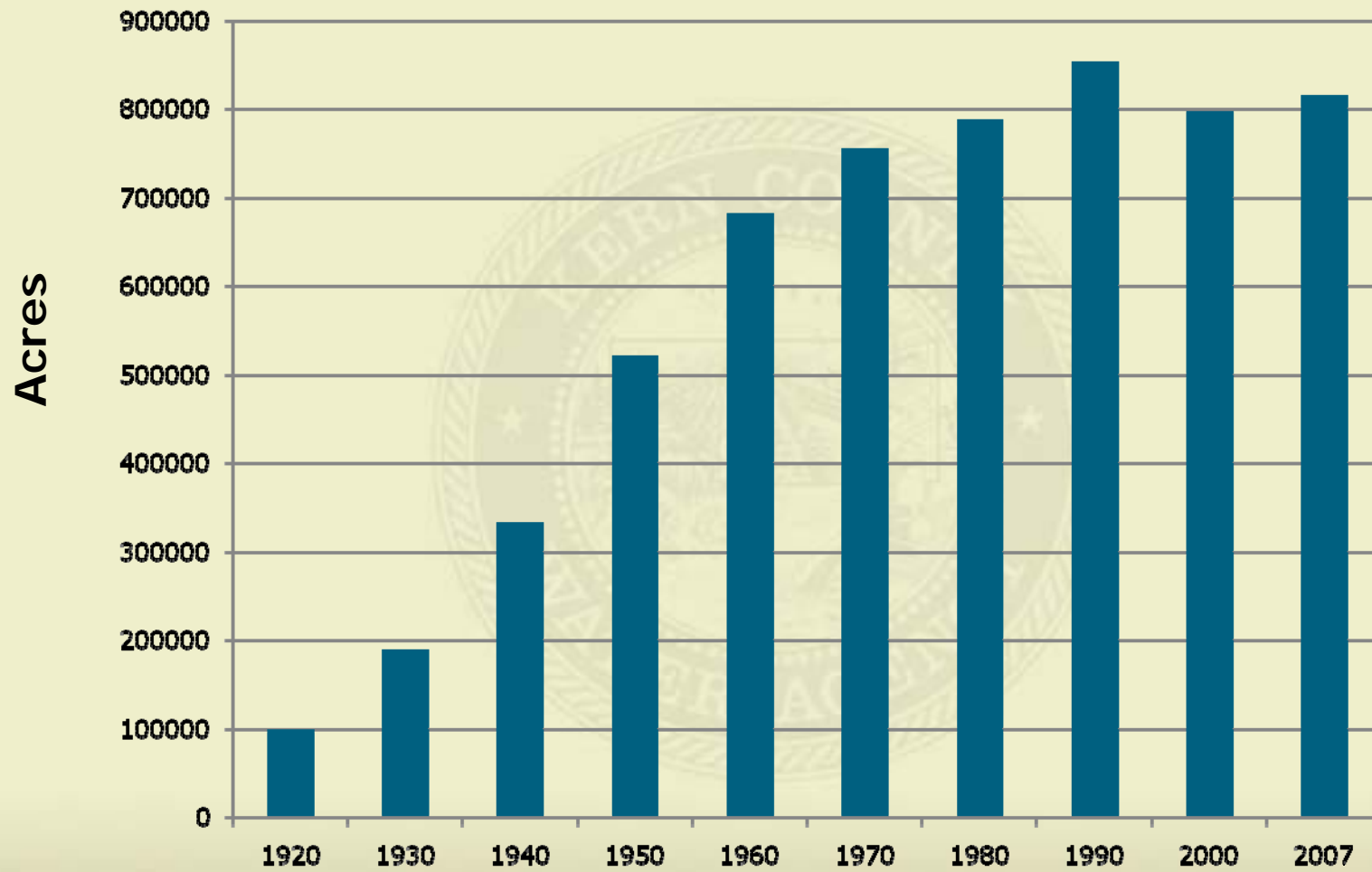


Kern County Agriculture



- ❖ About one-third of Kern's area is on the valley floor, which is intensively cultivated.
- ❖ **There are 850,000 irrigated acres on the valley floor, one-third of which were permanent crops, in process of expanding permanent and decreasing annual.**
- ❖ Kern consistently ranks 3rd or 4th in the state in value of production.

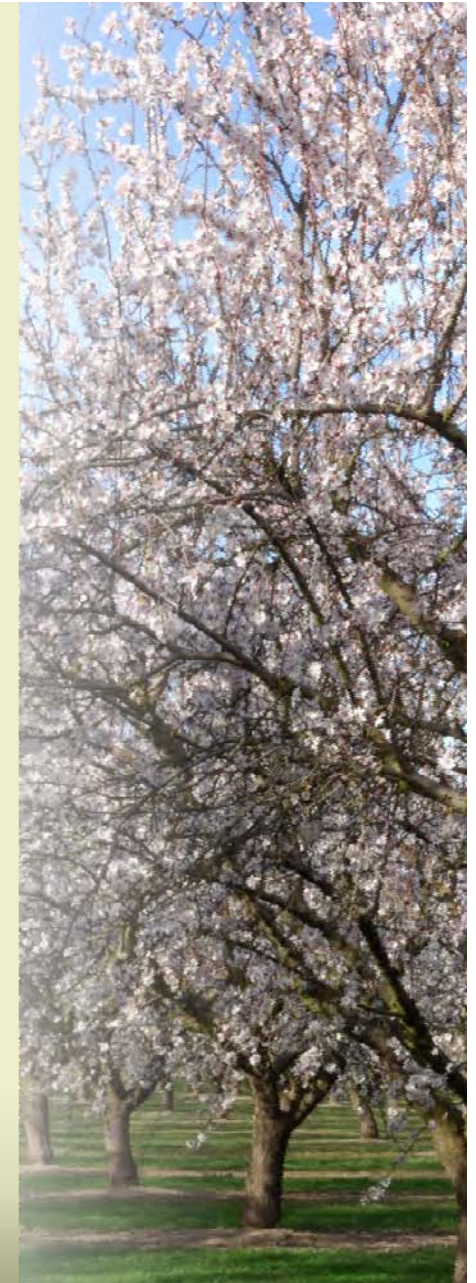
Irrigated Acreage



Top Ten Commodities in Kern County

1984

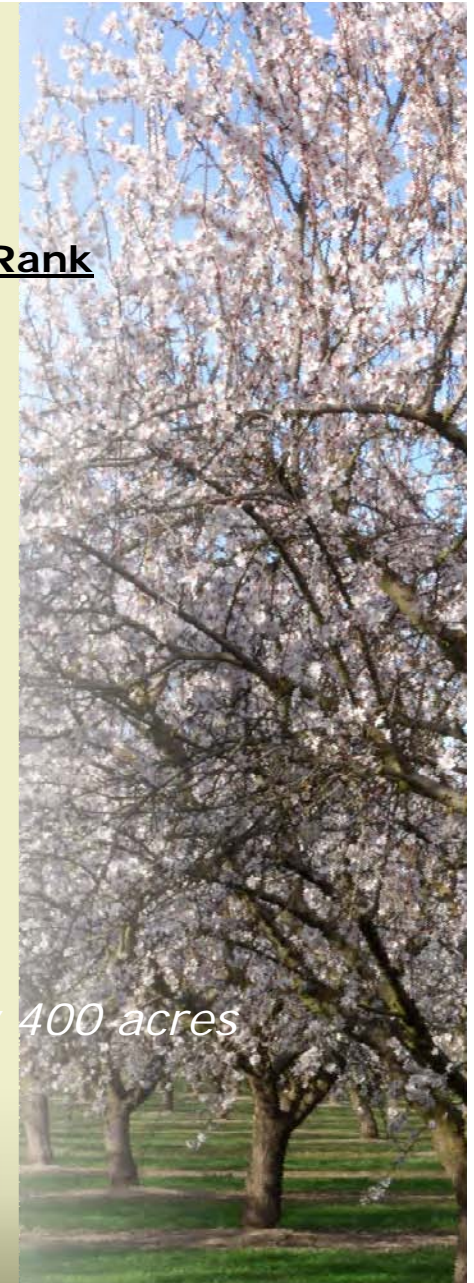
	<u>Millions</u>
1. Cotton, Including Cottonseed	\$ 270
2. Grapes	\$ 153
3. Potatoes	\$ 131
4. Almonds, Including By-Products	\$ 103
5. Citrus	\$ 72
6. Hay, Alfalfa	\$ 56
7. Nursery	\$ 49
8. Pistachios	\$ 36
9. Milk, Market & Manufacturing	\$ 36
10. Carrots	\$ 33



Top Ten Commodities in Kern County

2009

	<u>Millions</u>	<u>1984 Rank</u>
1. Grapes, all	\$ 664	2
2. Milk, Market & Manufacturing	\$ 438	9
3. Almonds (including by-products)	\$ 435	4
4. Carrots (fresh & processing)	\$ 343	10
5. Citrus, all	\$ 333	5
6. Pistachios	\$ 331	8
7. Cattle & Calves	\$ 174	11
8. Hay, Alfalfa	\$ 106	6
9. Potatoes, all	\$ 100	3
10. Pomegranates (fresh & processing)	\$ 99	<i>Only 400 acres</i>



What is an Acre-Foot?

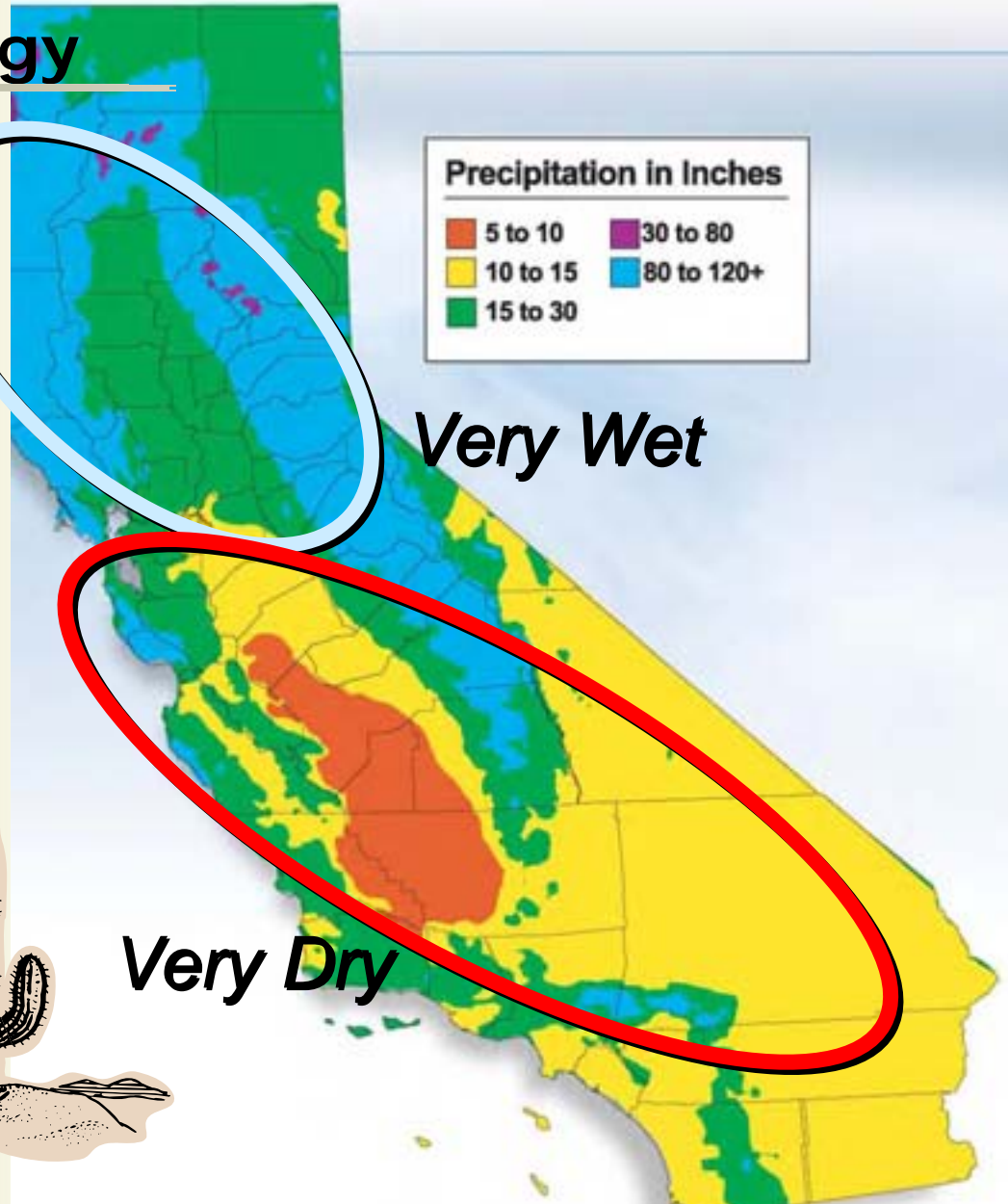
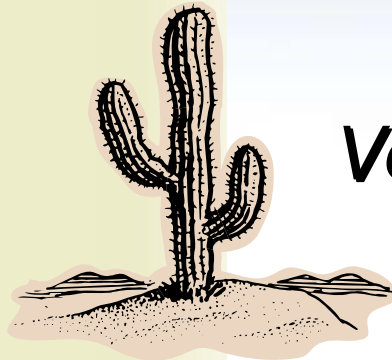
325,851 Gallons, or a football field covered with 1 foot of water.



California's Hydrology



- ❖ Rain does not fall where people live



Very Wet

Very Dry

Where is Kern County?



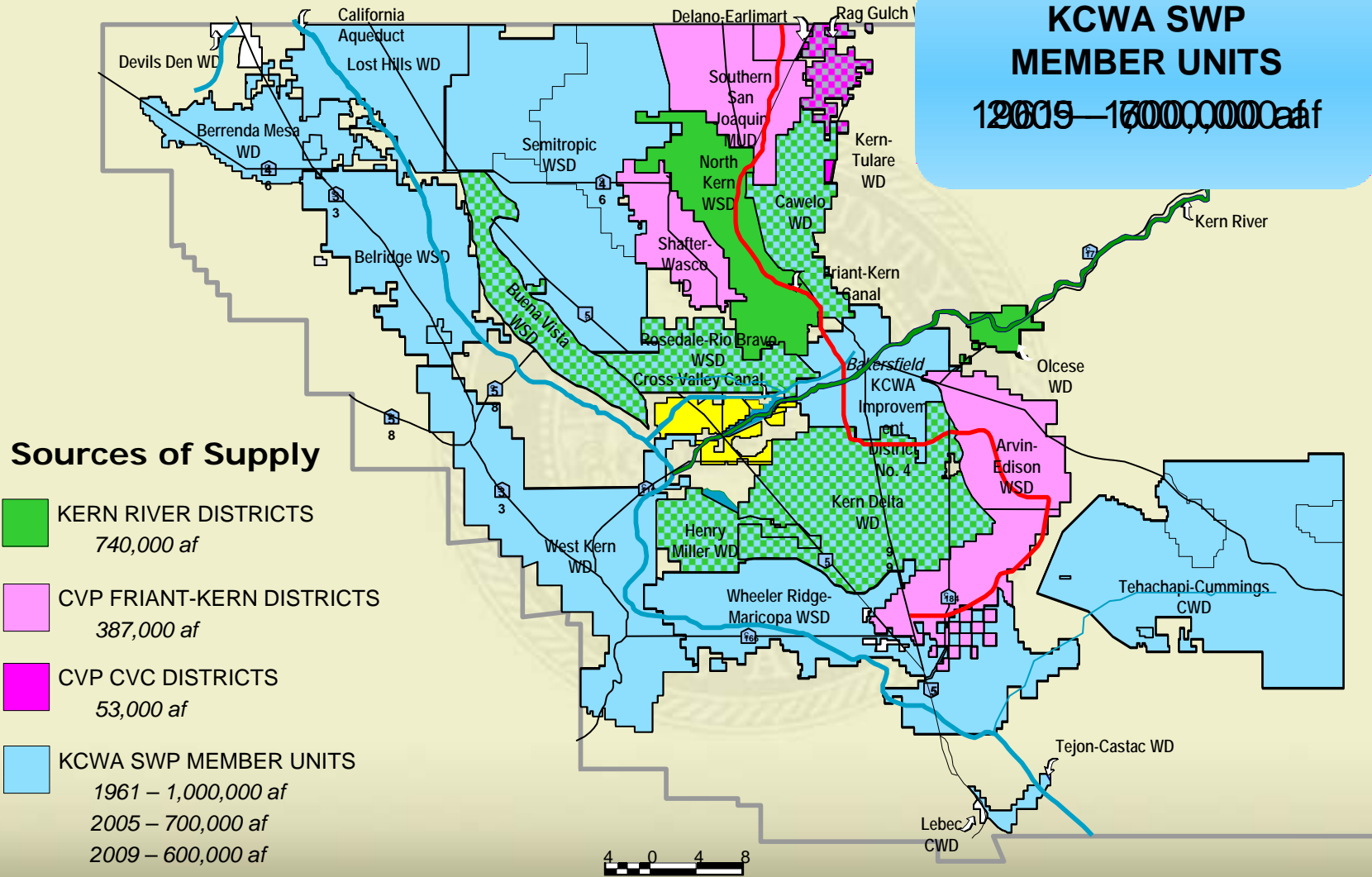
State Water Project Supplies

- ❖ KCWA is the largest agricultural State Water Project (SWP) contractor, and the fourth-largest urban SWP contractor.
- ❖ KCWA's annual SWP contracted Table A supply is about 1,000,000 acre-feet a year.
 - 880,000 af per year for Agriculture
 - 119,000 af per year for Municipal & Industrial
- ❖ KCWA represents about 25% of the SWP.



Kern County Water Districts

**KCWA SWP
MEMBER UNITS**
1961 – 1,000,000 af



Kern County Water Sources

	<i>Average Year</i>	
	<u>Percent</u>	<u>AF/Year</u>
Kern River	21%	700,000
State Water Project ¹	21%	700,000
Federal (CVP)	12%	400,000
Local Streams and other sources	15%	500,000
Groundwater		
<i>Landowner/Districts (Basin)</i>	31%	1,100,000
<i>In-County Banking</i>		
Conservation/Fallowing		
TOTAL	100%	3,400,000 ³

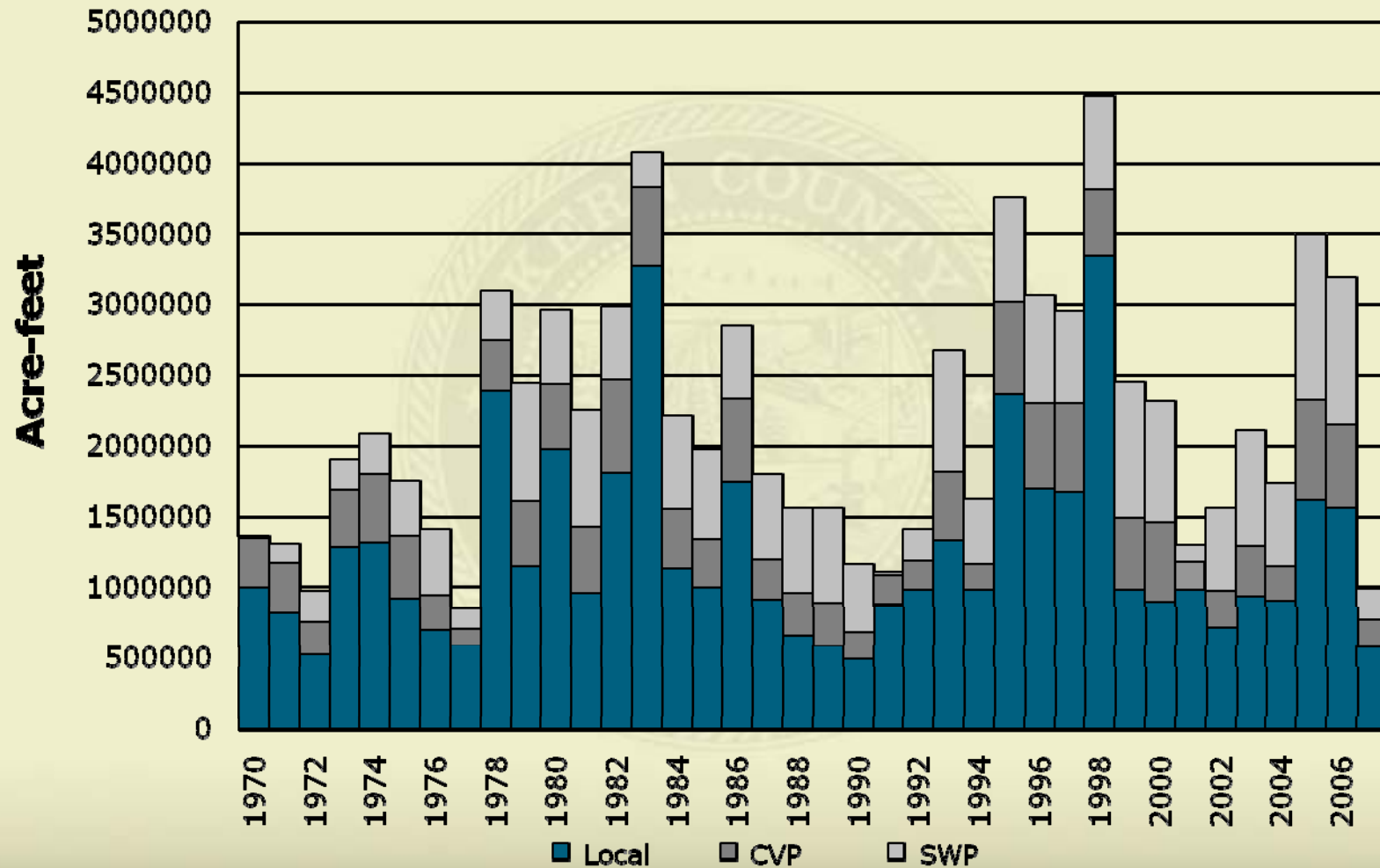


¹ Maximum annual State Water Project allocation of Table A water is about 1,000,000 acre-feet (AF)

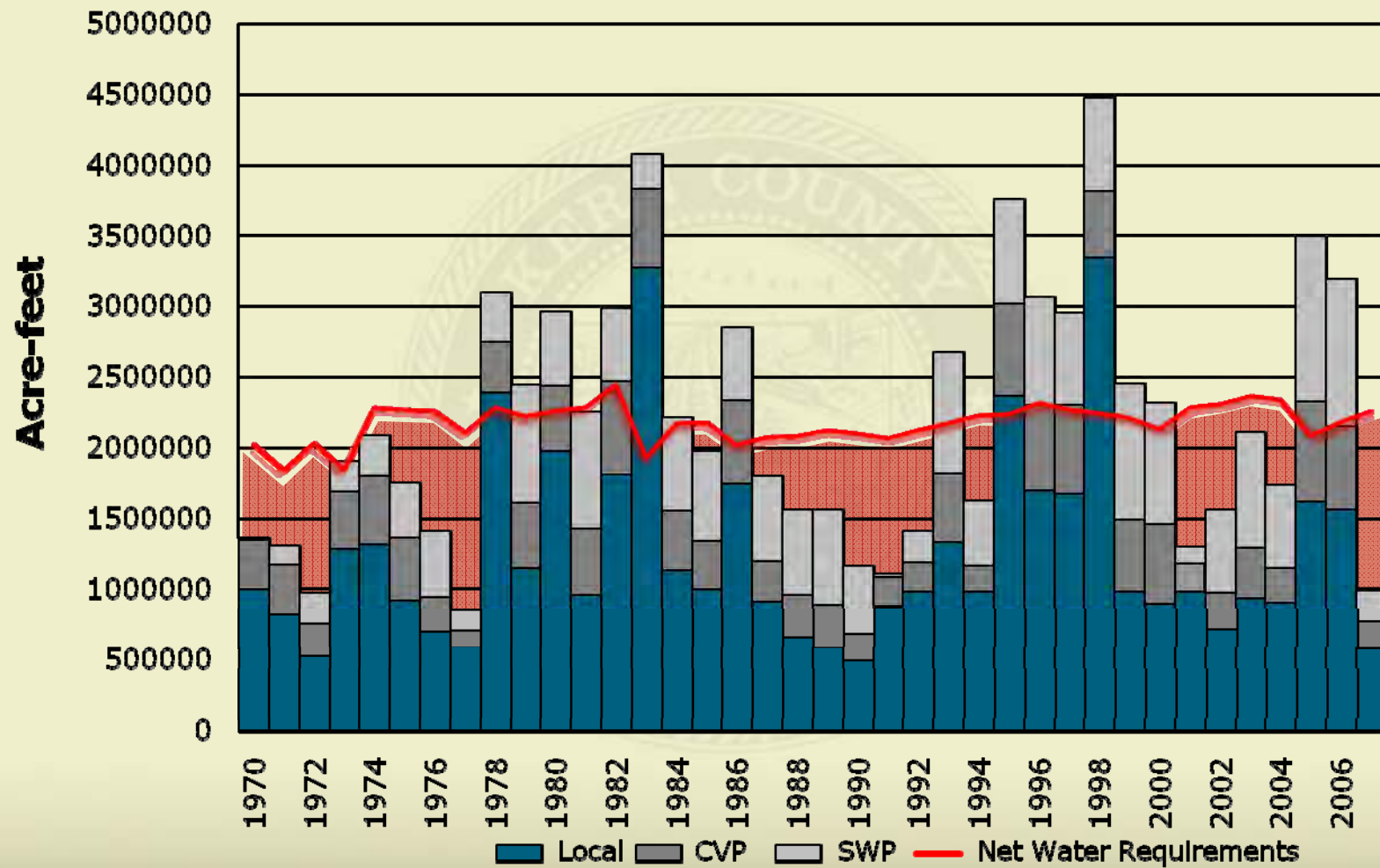
² State Water Project allocation for 1977 (4% of Table A water)

³ Applied water

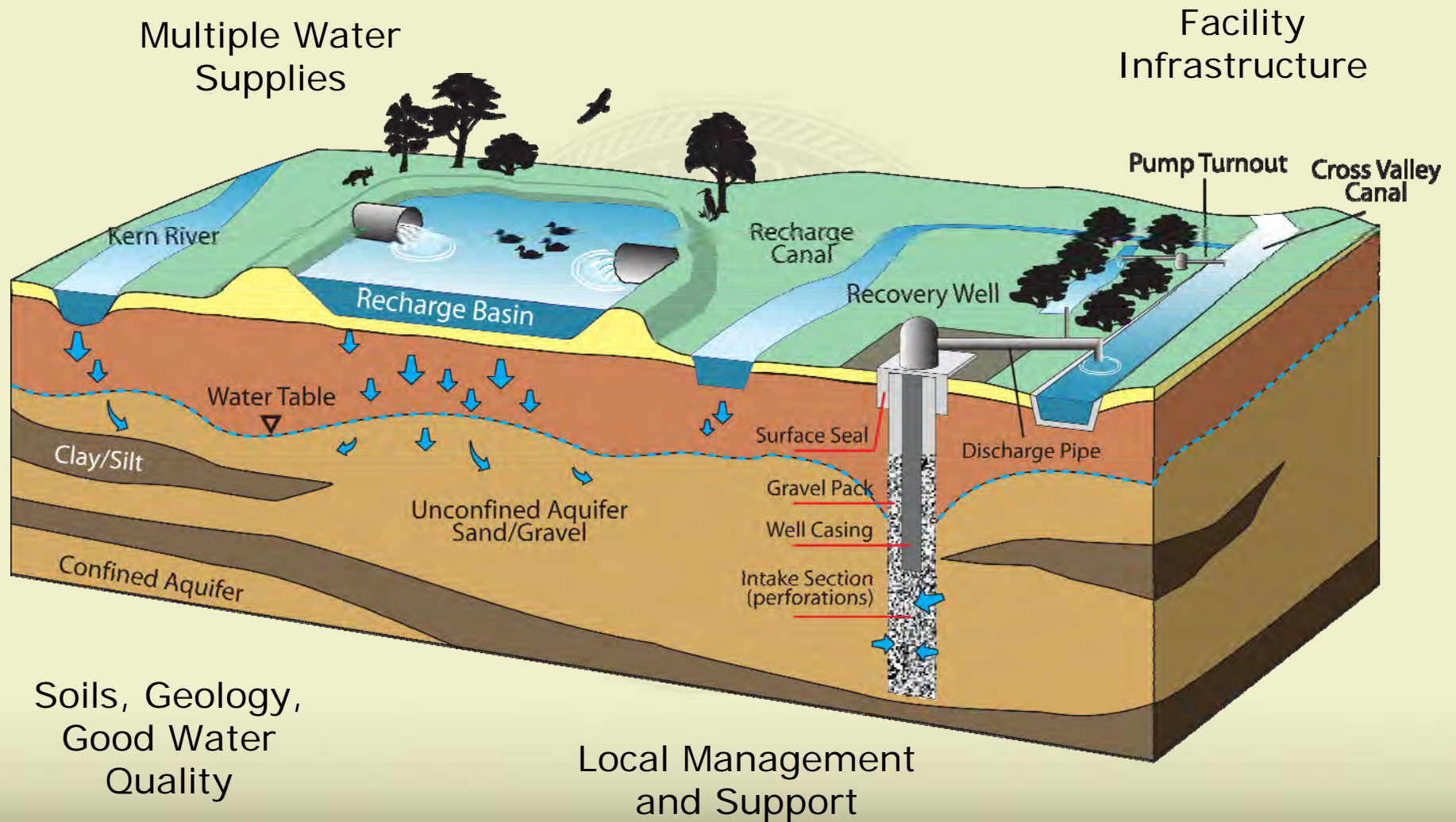
Water Supplies and Demands, SJV Portion of Kern



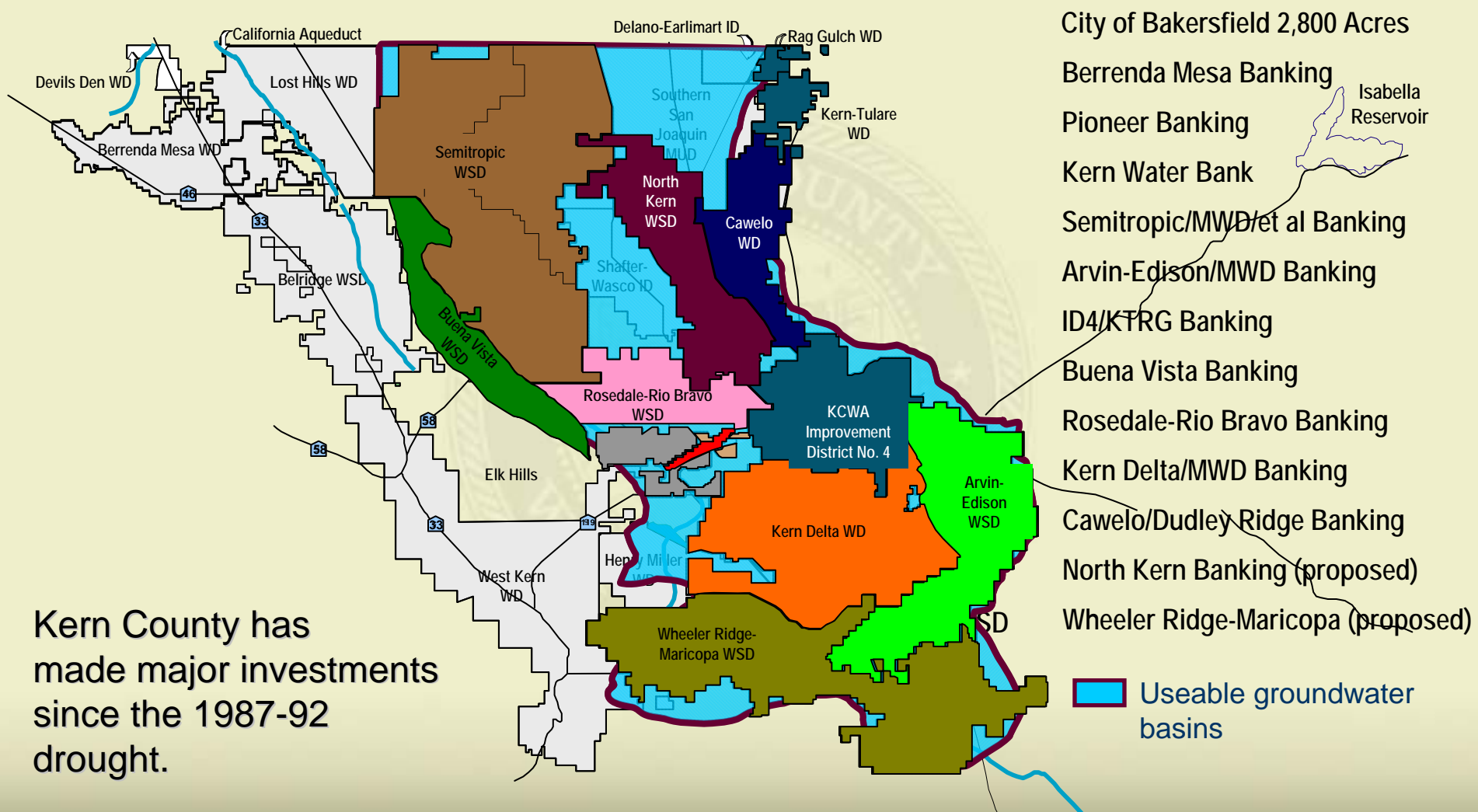
Water Supplies and Demands, SJV Portion of Kern



Four Keys to Success with Groundwater Banking



Kern County Groundwater Banking Programs



Kern County has made major investments since the 1987-92 drought.

Groundwater Banking Development

❖ Large Operation

- From 1978-2010...

Total **Recharge**: 5,700,000 af

Total **Recovery**: 3,400,000 af

Current Storage: 2,300,000 af



Kern Fan Banking Projects 2005

❖ Groundwater Banking Investments

- 1977-2005 capital investment > \$300 million

Kern Fan Groundwater Banking Projects

Facing East



California's Water and Its Effect on Kern County's Economy

Kern Fan Groundwater Banking Projects

Facing Southwest



California's Water and Its Effect on Kern County's Economy

Berrenda Mesa / Kern County Water Agency

Joint Groundwater Banking Project – Basin 1



Recovery Well Delivery



California's Water and Its Effect on Kern County's Economy

2011 Water Supply Update

Kern River	143%	660,000 acre-feet (af)
State Water Project	70%	700,000 af
Central Valley Project		
South of the Delta Agriculture	25%	475,000 af
Friant Division – Class 1	100%	295,000 af
Friant Division – Class 2	20%	95,000 af
In-County Banking		150,000 af
Estimated Total		2,375,000 af

Where is the Delta?

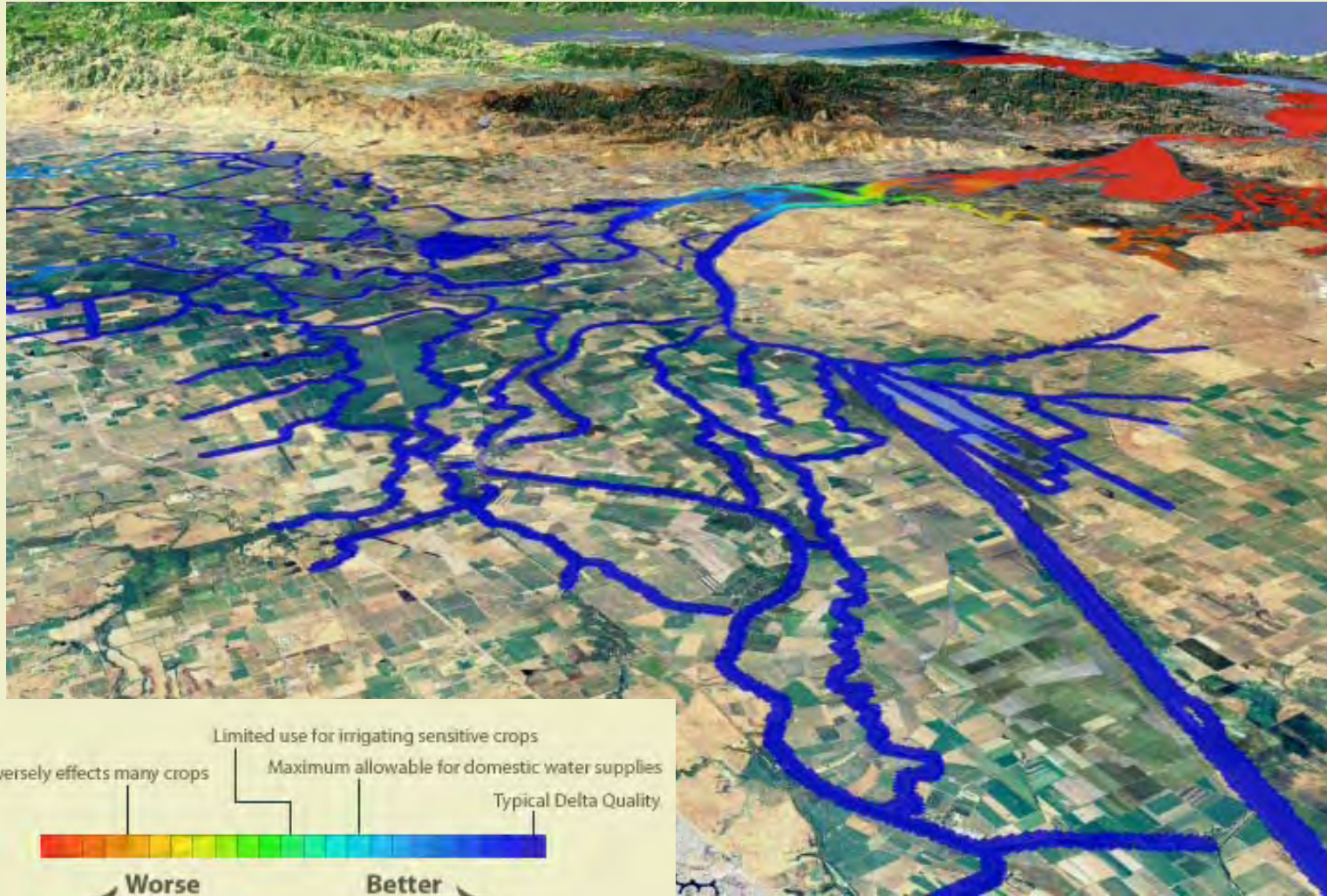


Protecting California from a Catastrophic Loss of Water

- ❖ **California depends on fresh water from the Sacramento-San Joaquin Delta to:**
 - Supply more than 25 million Californians, plus industry and agriculture
 - Support \$400 billion of the state's economy
- ❖ **A loss of water from the Delta impacts the economy:**
 - Total costs to California's economy could be \$30 to \$40 billion in the first five years
 - Total job loss could exceed 30,000



6.5 Earthquake – Resulting in 20 Islands Being Flooded



A Better Approach is Needed to Protect Our Delta Water Supplies

Building conveyance around the Delta will reduce risk

- ❖ Eliminate levee failure as a threat to water supplies
- ❖ Improve water quality
- ❖ Better protection for Delta fish
- ❖ Flexibility to address potential impacts of climate change on water supply
- ❖ Protect local investments

Two main options:
(1) 42 mile-long canal around the Delta

Or...
(2) 36 mile-long tunnel through the Delta



Factors Contributing to the Delta's Ecosystem Decline

- ❖ Effluent Discharge to the Sacramento River
- ❖ Predation
- ❖ Invasive species
- ❖ Toxin Discharge to the Sacramento River
- ❖ Other Diversions Within the Delta

Actions Going Forward:

Long-Term Measures

❖ **Peripheral Canal**

Recommended by:

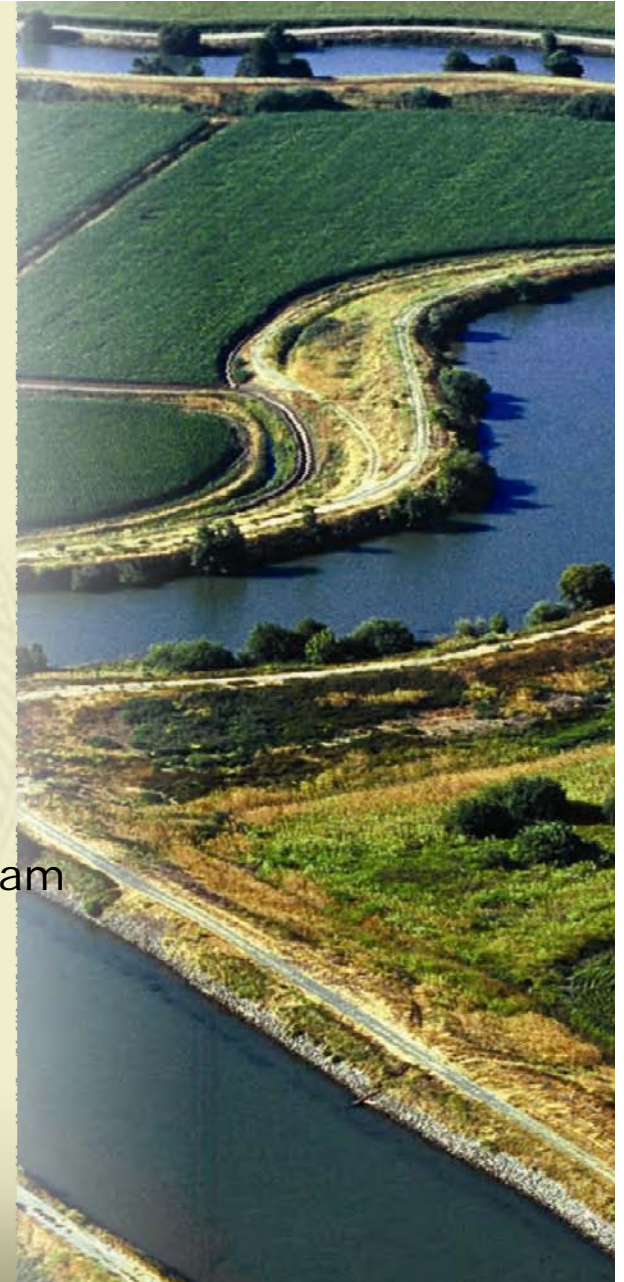
- Governor's Delta Vision Task Force
- Public Policy Institute of California Report
- The Nature Conservancy

Processes:

- Bay Delta Conservation Plan
- Delta Habitat Conservation and Conveyance Program

❖ **Convey and capture more wet year water**

- Create additional groundwater banking
- Build additional surface storage



BDCP Process

- ❖ Bay Delta Conservation Plan
- ❖ Started in 2006
- ❖ Focus on restoring habitat for the fisheries within the Sacramento-San Joaquin Delta
- ❖ BDCP Strategies and Goals
 - Identify conservation strategies to improve the overall ecological health of the Delta
 - Identify ecologically friendly ways to move fresh water through and around the Delta
 - Identify actions to address other stressors
 - Provide a framework to implement the plan over time
- ❖ Products
 - Habitat Conservation Plan (HCP)
 - Natural Communities Conservation Plan (NCCP)

DHCCP Process

- ❖ Delta Habitat Conservation and Conveyance Program
- ❖ Formed in 2008
- ❖ Governor's call for Action
- ❖ Lead Agencies:
 - California Department of Water Resources
 - Bureau of Reclamation
 - U.S. Fish and Wildlife Service
 - National Marine Fisheries Service
 - California Department of Fish and Game

Instability in California's Water System:

Regulatory and Hydrologic Impacts for Kern County

❖ Allocation

2007	60%
2008	35%
2009	40%
2010	50%
2011	70%

❖ "Regulatory" Water Losses SWP

2007	EWA, b2
2008	509,000 af
2009	251,000 af
2010	780,000 af
2011	200,000 est.

❖ Cost for Undelivered Water Losses

2007	\$16.9 M
2008	\$35.5 M
2009	\$32.3 M
2010	\$34.0 M
2011	\$20.5 M

Unemployment Rates in Kern County

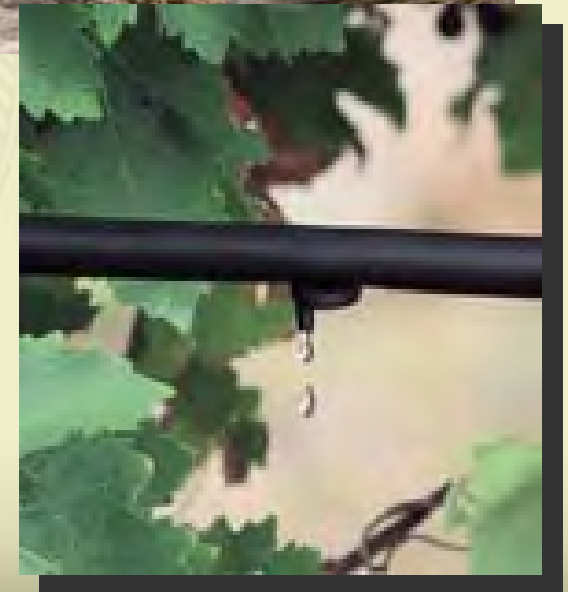
❖ Kern County	16.9%
❖ Bakersfield	12.0%
❖ Ag Communities	
• Arvin	40.9%
• Delano	39.6%
• Lost Hills	31.2%
• McFarland	33.3%
• Weedpatch	30.1%



*Unemployment Data from Employment Development Department
Labor Market Info Report – Accessed March 2011*

Survival Strategies

- ❖ Fallowing and deficit irrigation
- ❖ Heavier reliance on groundwater
- ❖ Significant increase in well drilling
- ❖ The Average Irrigation Efficiency in Kern County is **78%**
- ❖ Work on a long-term Delta solution



Conclusion

- ❖ Fix the Delta
- ❖ Conserve water
- ❖ Support a Comprehensive Water Bond
- ❖ Local business leaders play an important role in supporting change

Our way of life is at stake.



Contact Information

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