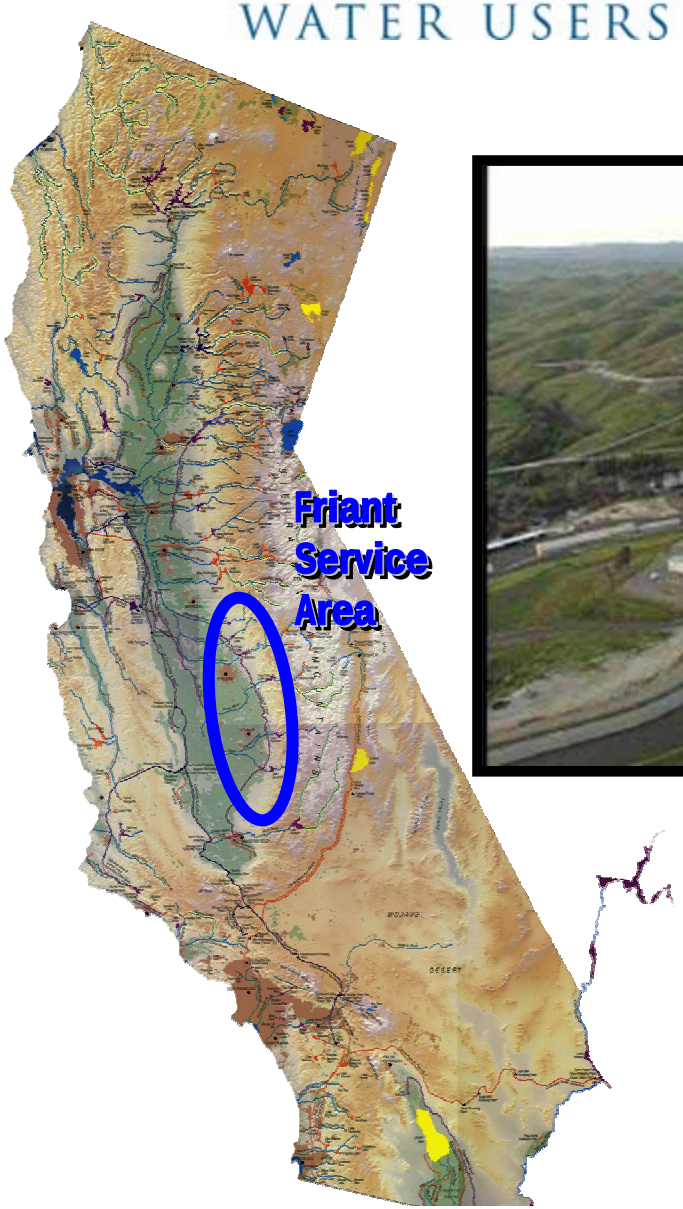
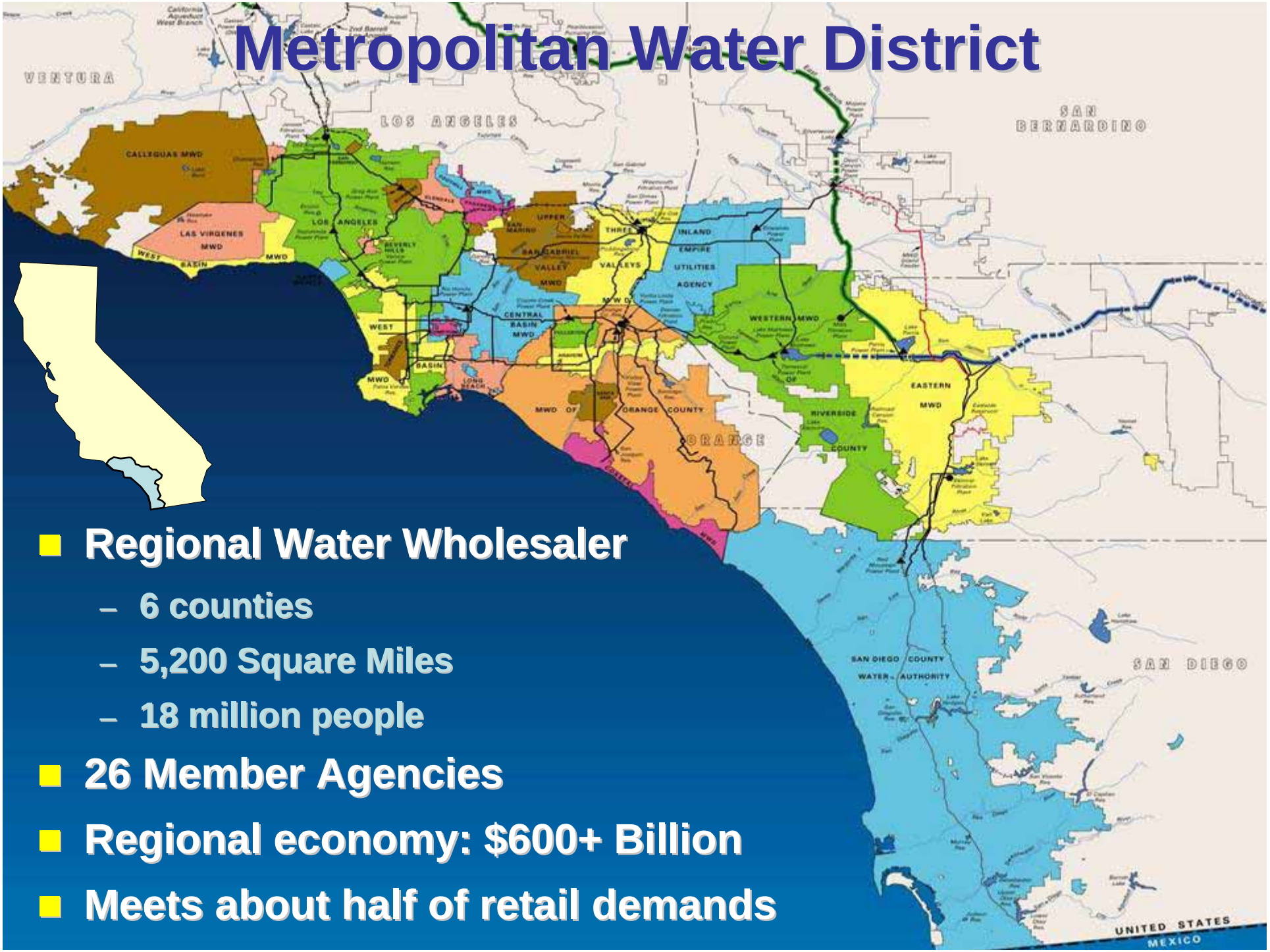
FRIANT
WATER USERS AUTHORITY

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



FWUA & MWDSC
Water Management Partnership
July 22, 2005

Metropolitan Water District



- Regional Water Wholesaler
  - 6 counties
  - 5,200 Square Miles
  - 18 million people
- 26 Member Agencies
- Regional economy: $600+ Billion
- Meets about half of retail demands

Integrated Water Quality Strategy

Bay Delta Watershed:

Delta Improvements Package
Central Valley Drinking Water Policy

San Joaquin Valley:

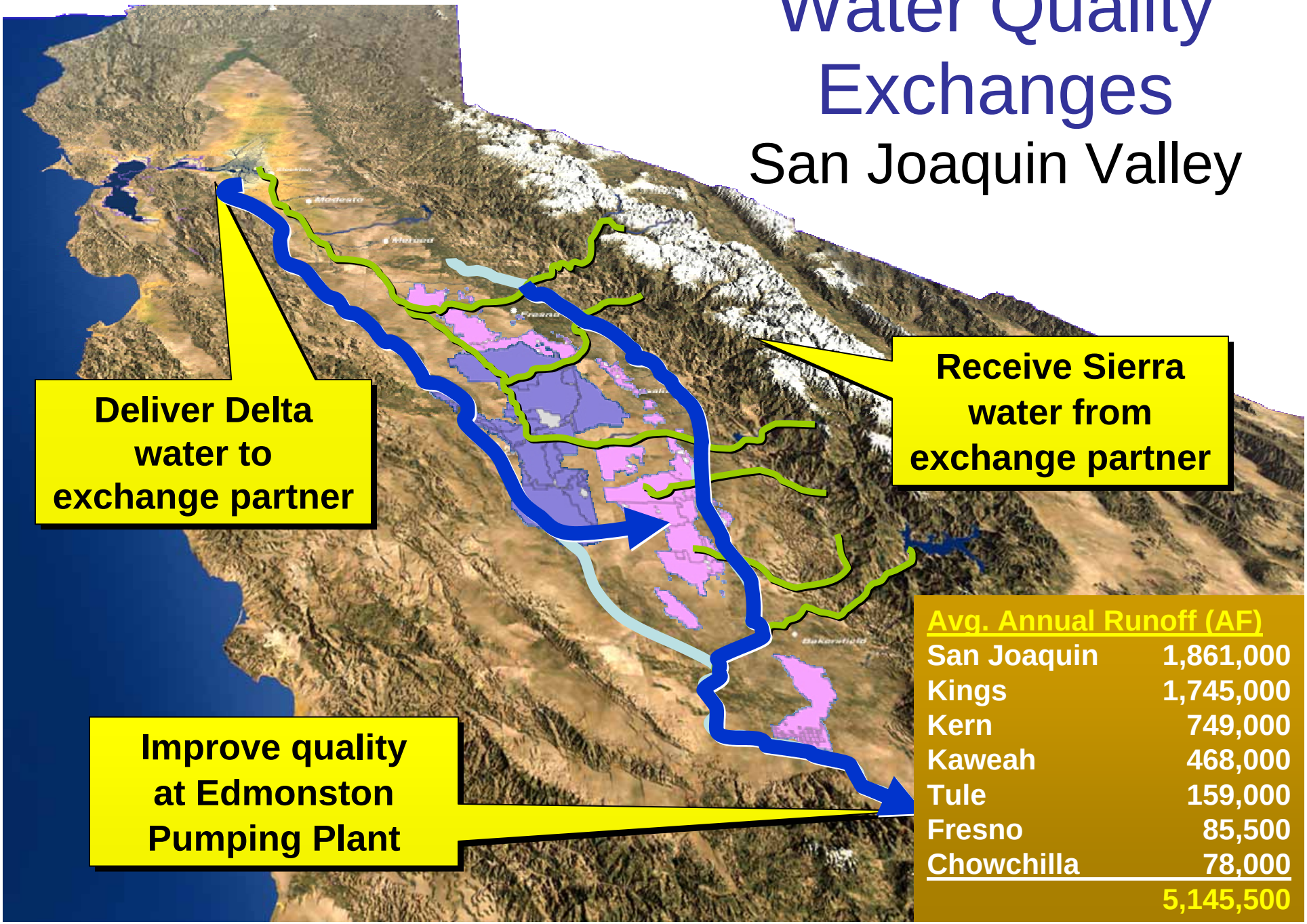
WQ Exchanges
Blending / Water Mgmt

Southern California:

Treatment Technologies
Local Water Resources Projects

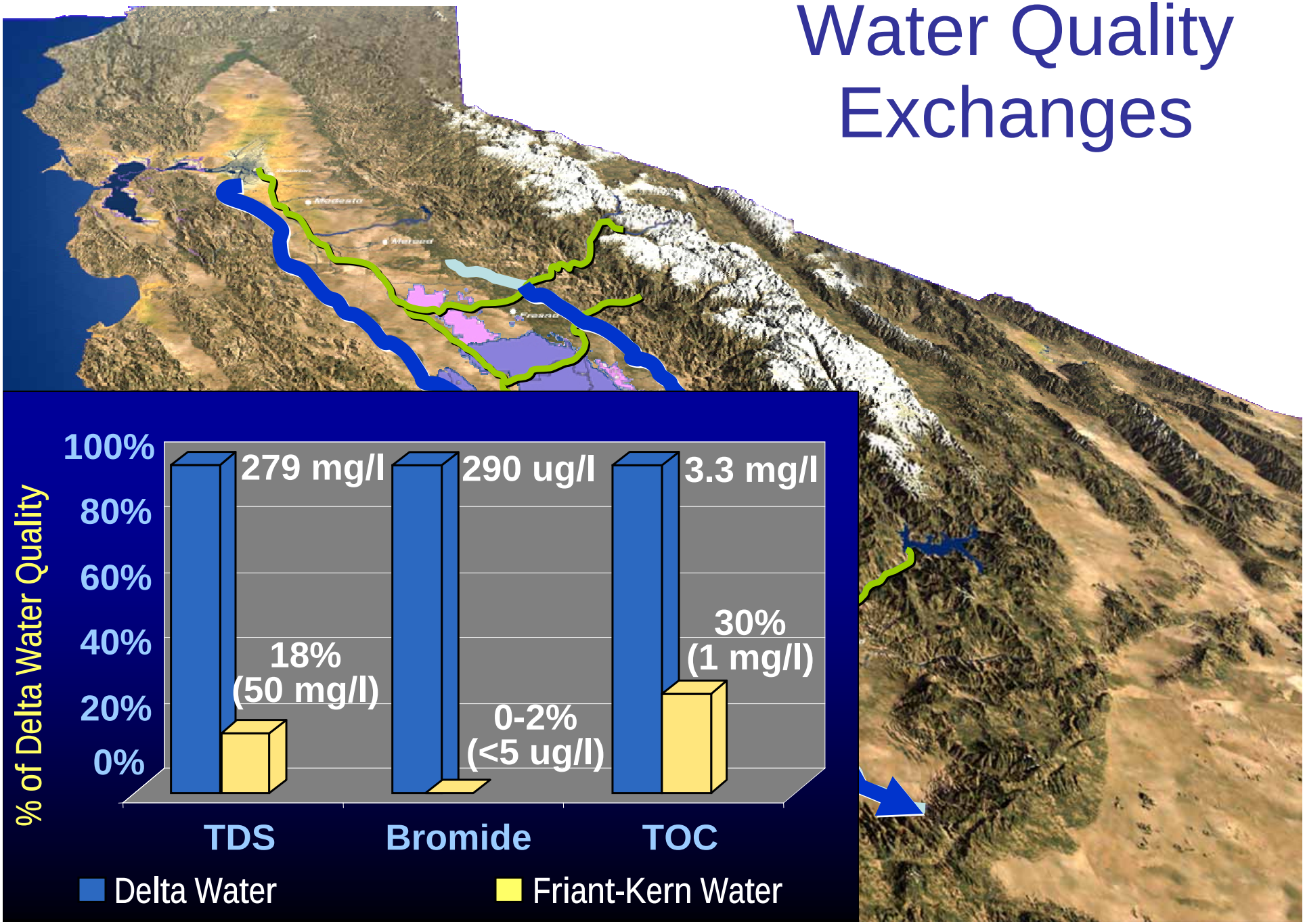
Water Quality Exchanges

San Joaquin Valley



Avg. Annual Runoff (AF)	
San Joaquin	1,861,000
Kings	1,745,000
Kern	749,000
Kaweah	468,000
Tule	159,000
Fresno	85,500
Chowchilla	78,000
	5,145,500

Water Quality Exchanges

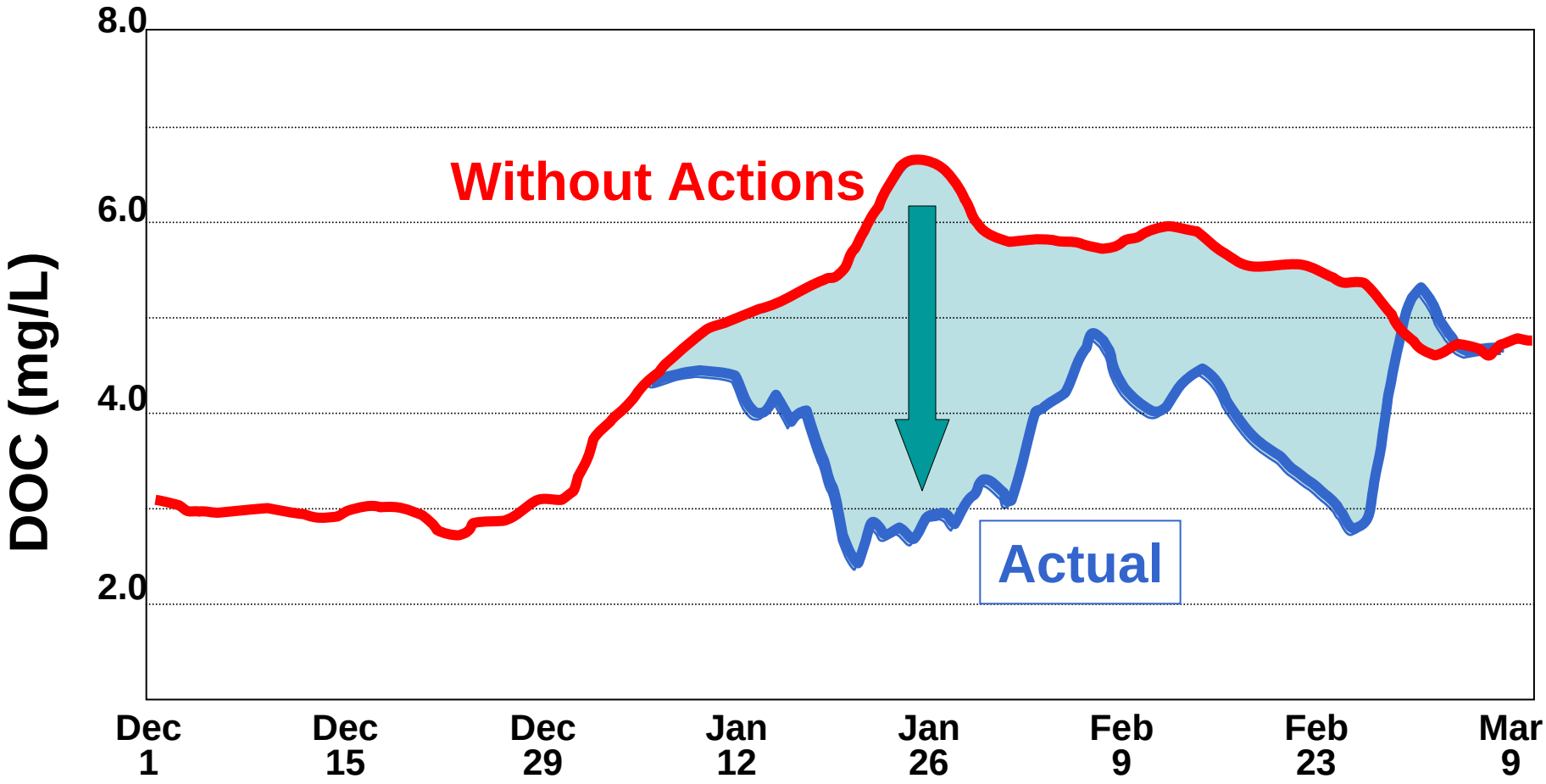


Lake Mathews Outage

Opportunity to Test Water Quality Exchanges

Water Quality Exchanges Can Work

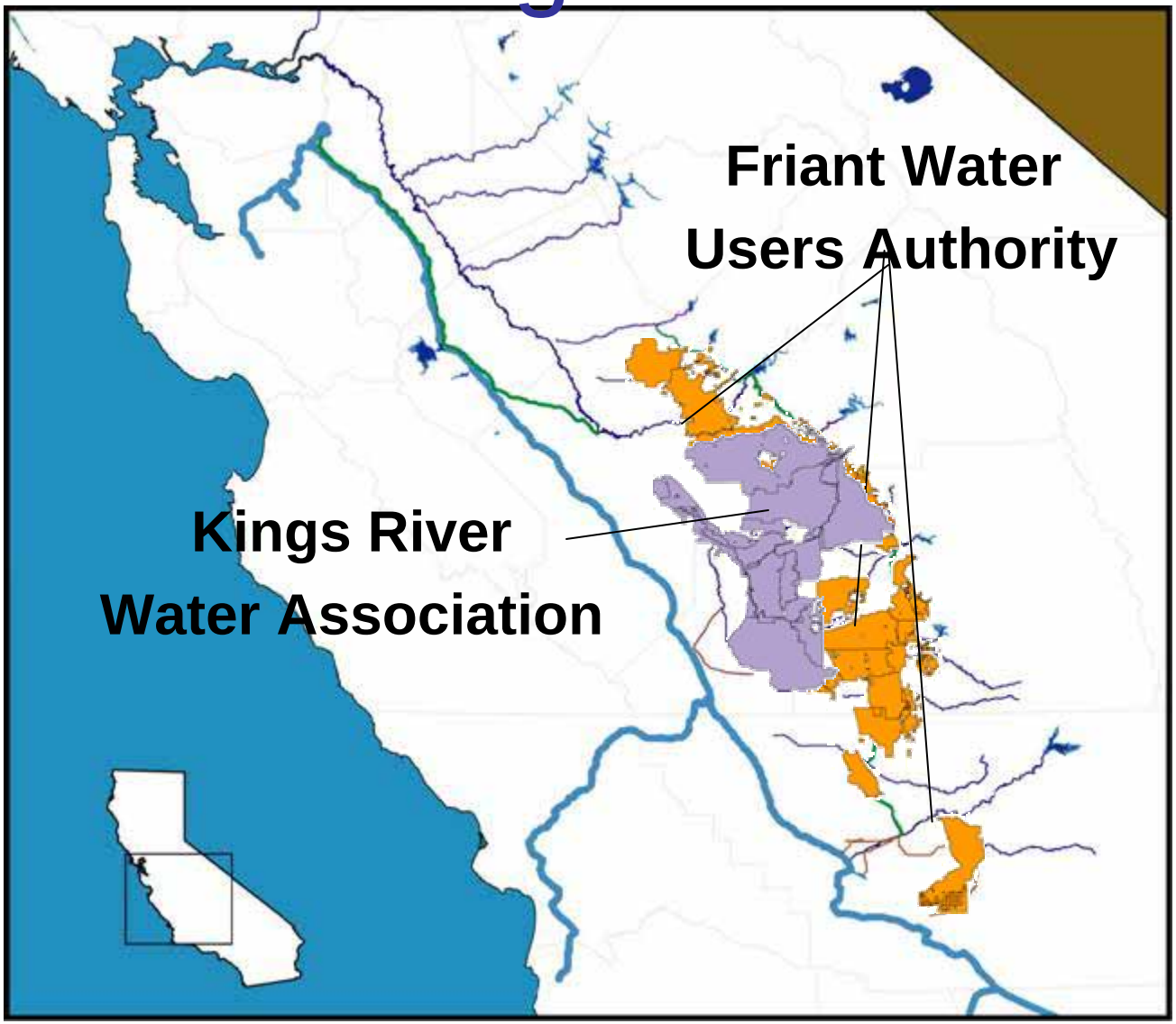
Organic Carbon at Edmonston PP



Actions include:

Reservoir storage withdrawals & groundwater pump-ins

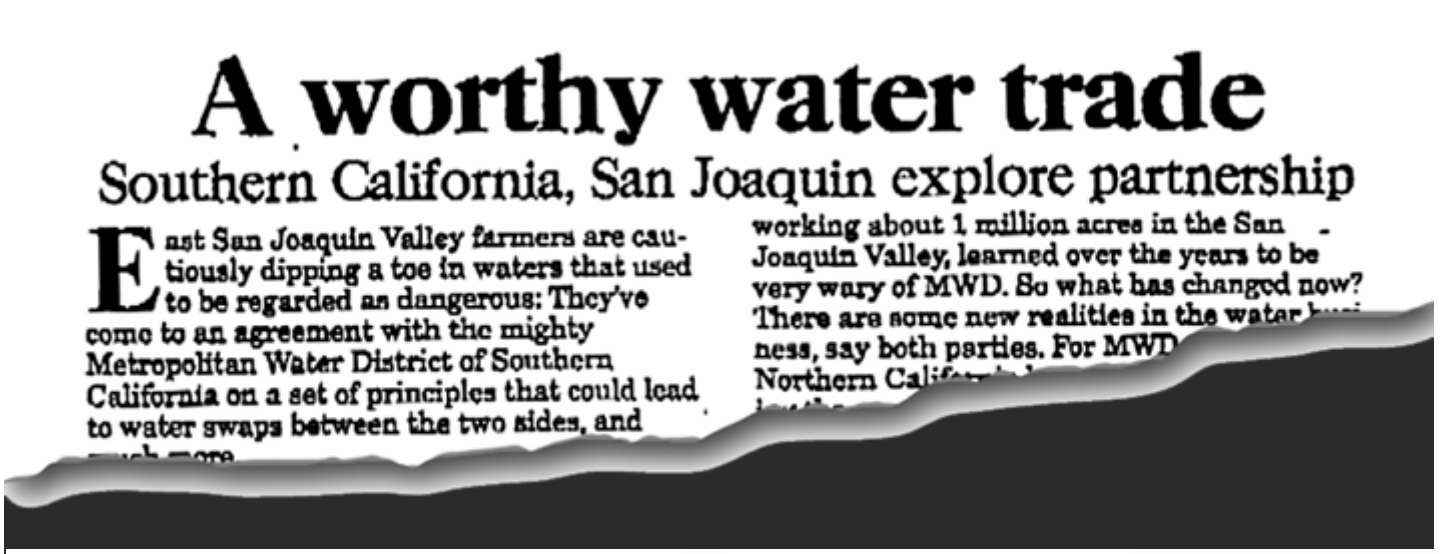
Exchange Partners



Partnership Principles

- Enhance water mgmt capabilities
- Improve Friant's water supply reliability
- Improve water quality
- Protect water rights
- Water supply neutral for MWD
- Utilize open process
- Consistent w/ SJR restoration efforts

Central Valley Headlines

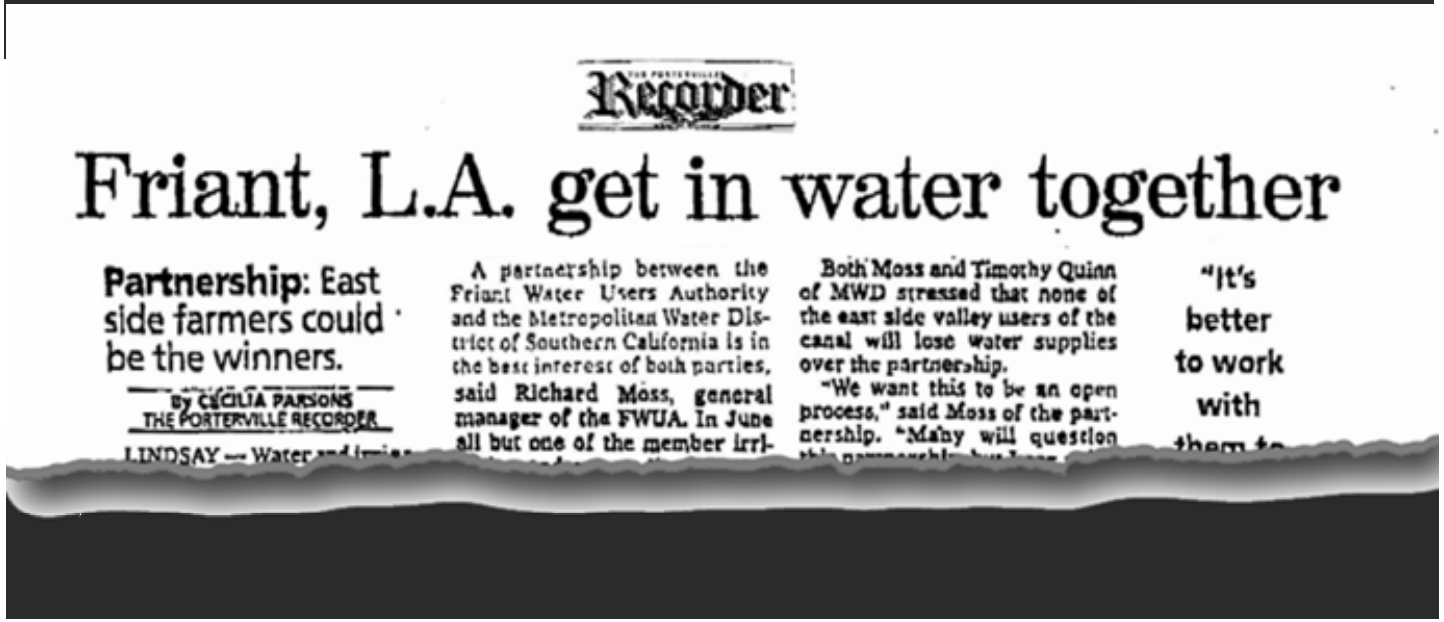


A worthy water trade

Southern California, San Joaquin explore partnership

East San Joaquin Valley farmers are cautiously dipping a toe in waters that used to be regarded as dangerous: They've come to an agreement with the mighty Metropolitan Water District of Southern California on a set of principles that could lead to water swaps between the two sides, and

working about 1 million acres in the San Joaquin Valley, learned over the years to be very wary of MWD. So what has changed now? There are some new realities in the water business, say both parties. For MWD



Recorder

Friant, L.A. get in water together

Partnership: East side farmers could be the winners.

By CECILIA PARSONS
THE PORTERVILLE RECORDER

LINDSAY — Water

A partnership between the Friant Water Users Authority and the Metropolitan Water District of Southern California is in the best interest of both parties, said Richard Moss, general manager of the FWUA. In June all but one of the member irri-

Both Moss and Timothy Quinn of MWD stressed that none of the east side valley users of the canal will lose water supplies over the partnership.

"We want this to be an open process," said Moss of the partnership. "Many will question

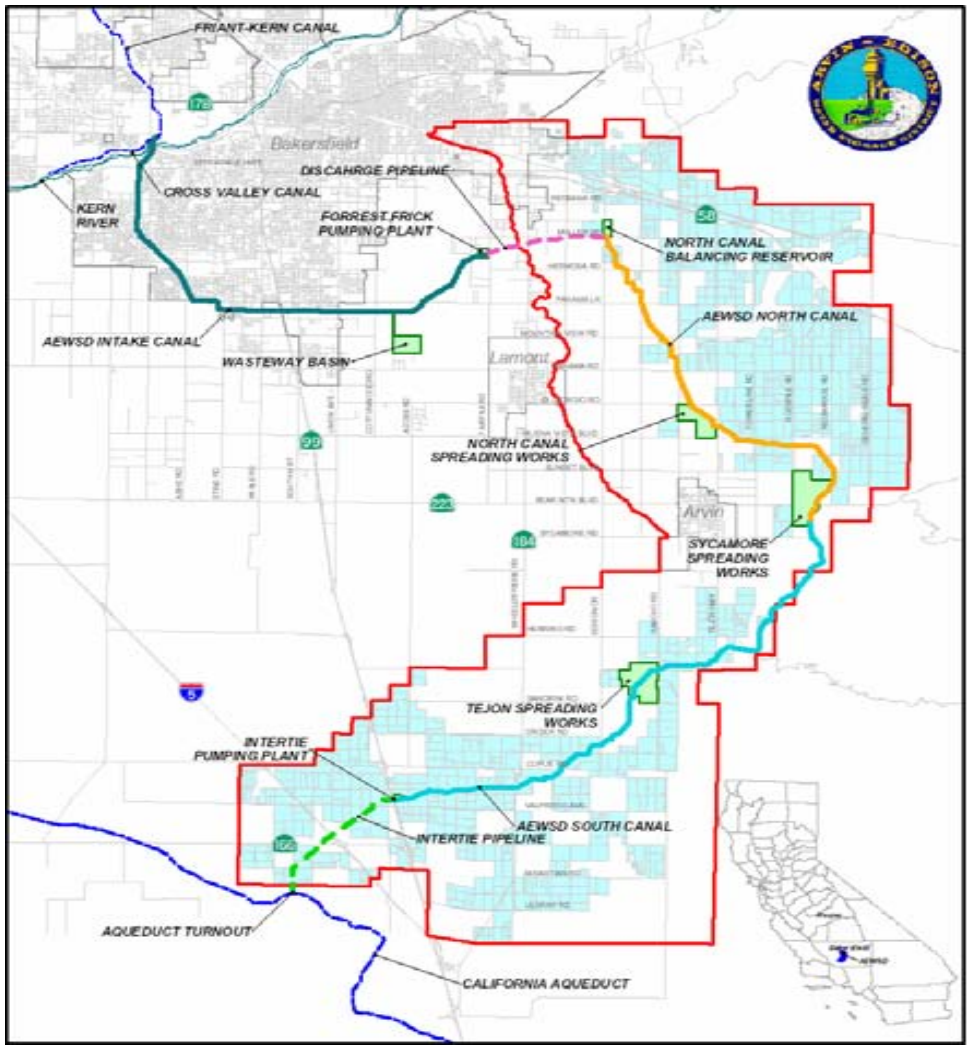
"It's better to work with

Potential Partnership Actions

- Develop Infrastructure to:
  - Better utilize existing supplies
  - Expand conjunctive use
  - Improve capabilities to exchange SWP and Friant supplies

AE/MWD Water Mgmt Partnership

- A representative partnership
- Focus is storage instead of water quality
- 250TAF of MWD's SWP supplies stored in wet years
- MWD recovers its stored SWP water in dry years
- AE benefits by improved gw levels and new facilities

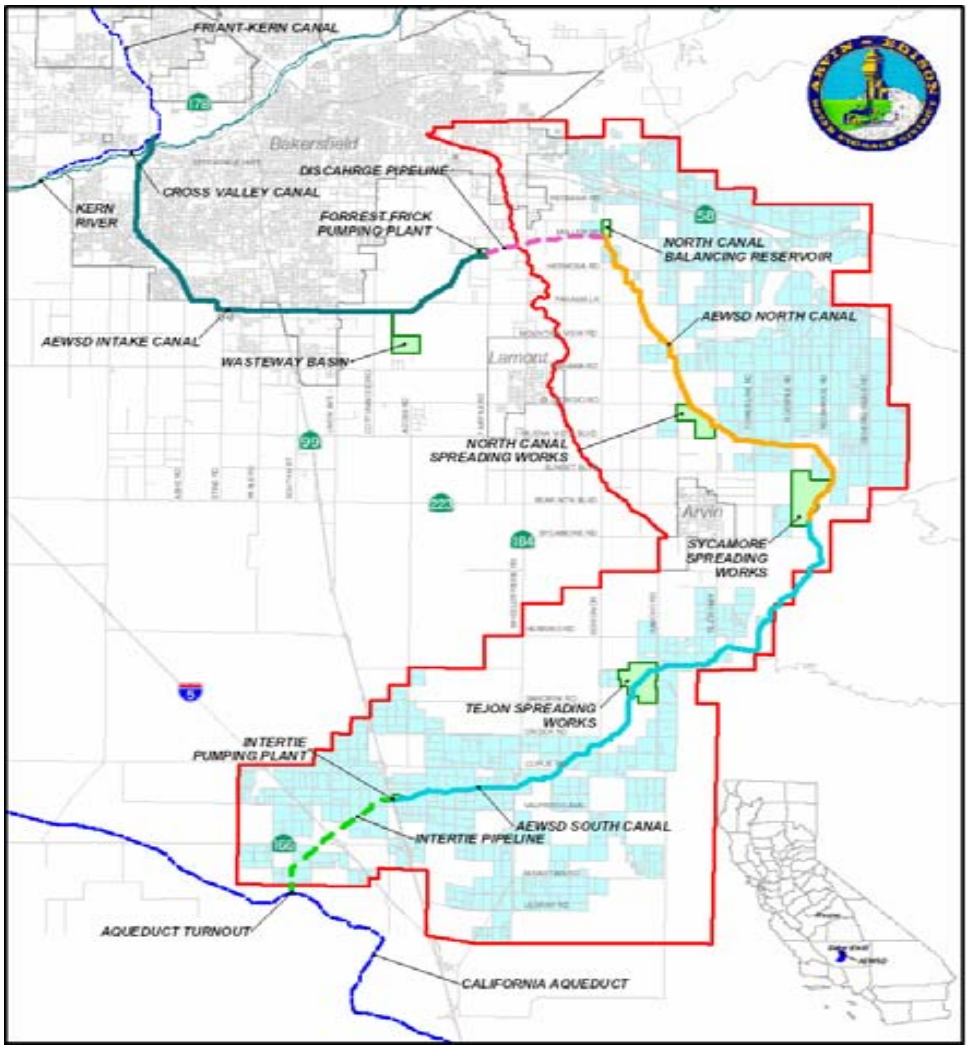


AE/MWD Water Mgmt Partnership

- **500 acres of new spreading facilities**

- **15 new groundwater extraction wells**

AE/MWD Water Mgmt Partnership



- **150 cfs bi-directional canal to CA Aqueduct**

Friant Division Service Area and Contractors

Service Area

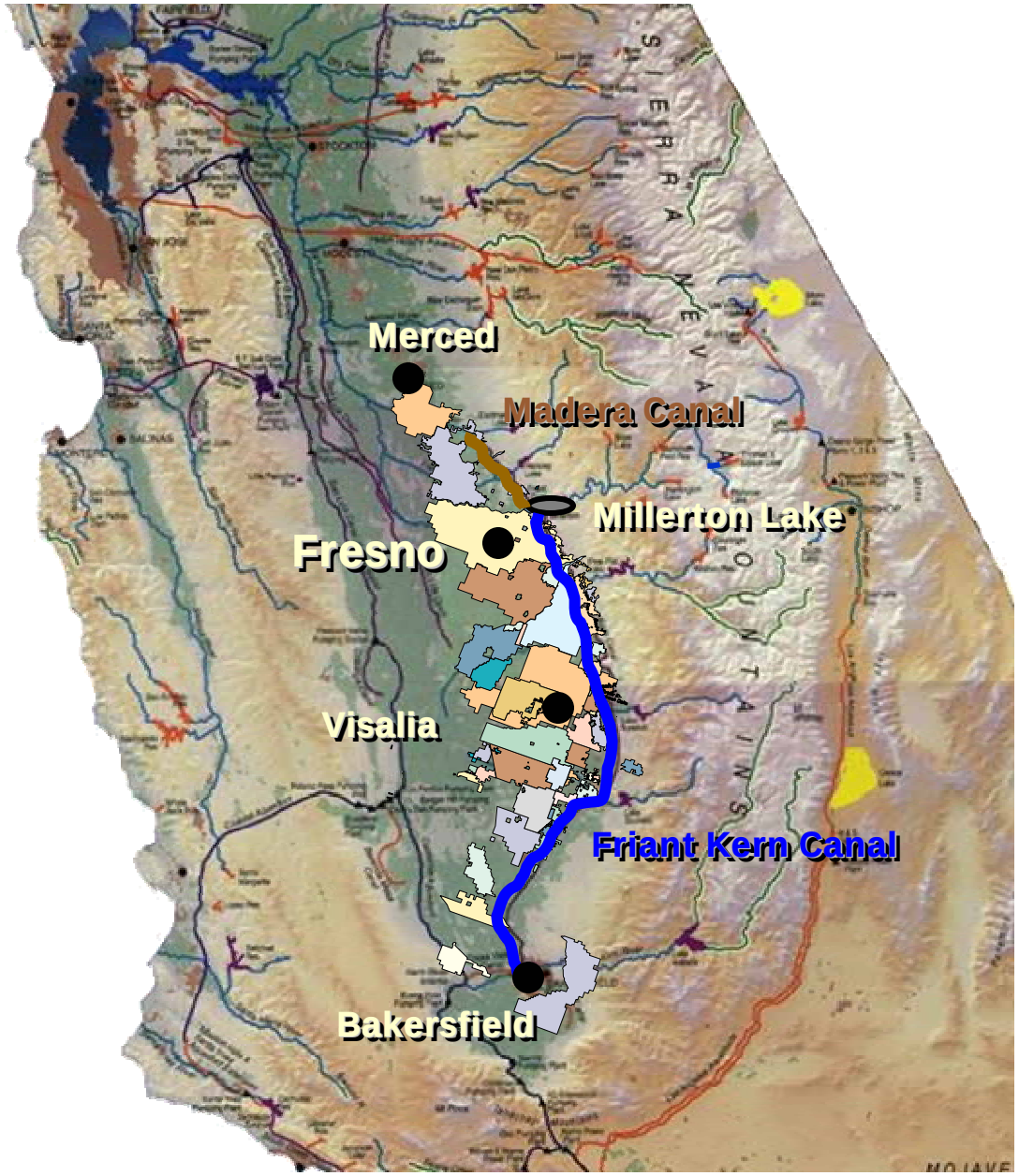
Merced Co
Madera Co
Fresno Co
Tulare Co
Kern Co

Ag Water Contractors

Alpaugh I.D.
Arvin-Edison W.S.D.
Atwell Island W.D.
Chowchilla W.D.
Delano-Earlimart I.D.
Exeter I.D.
Fresno I.D.
Garfield W.D.
Hills Valley I.D.
International W.D.
Porterville I.D.
Rag Gulch W.D.
Saucelito I.D.
Shafter-Wasco I.D.
Southern San Joaquin M.U.D.
Stone Corral I.D.
Tea Pot Dome W.D.
Terra Bella I.D.
Tulare I.D.
Ivanhoe I.D.
Kern-Tulare W.D.
Lewis Creek W.D.
Lindmore I.D.
Lindsay-Strathmore I.D.
Lower Tule River I.D.
Madera I.D.
Orange Cove I.D.
Pixley I.D.

M&I Contractors

City of Fresno
City of Orange Cove
City of Lindsay
Fresno Co. WWD #18
Madera County



Partnership Oversight

Board of Directors (FWUA and MWDSC):

- Policy Group Committee
  - Provide policy review and project recommendations to Board of Directors
- Technical Advisory Committee
  - Review proposed projects for compliance w/ Principles and technical merit

FWUA/Metropolitan Partnership Phase I (Completed 2002)

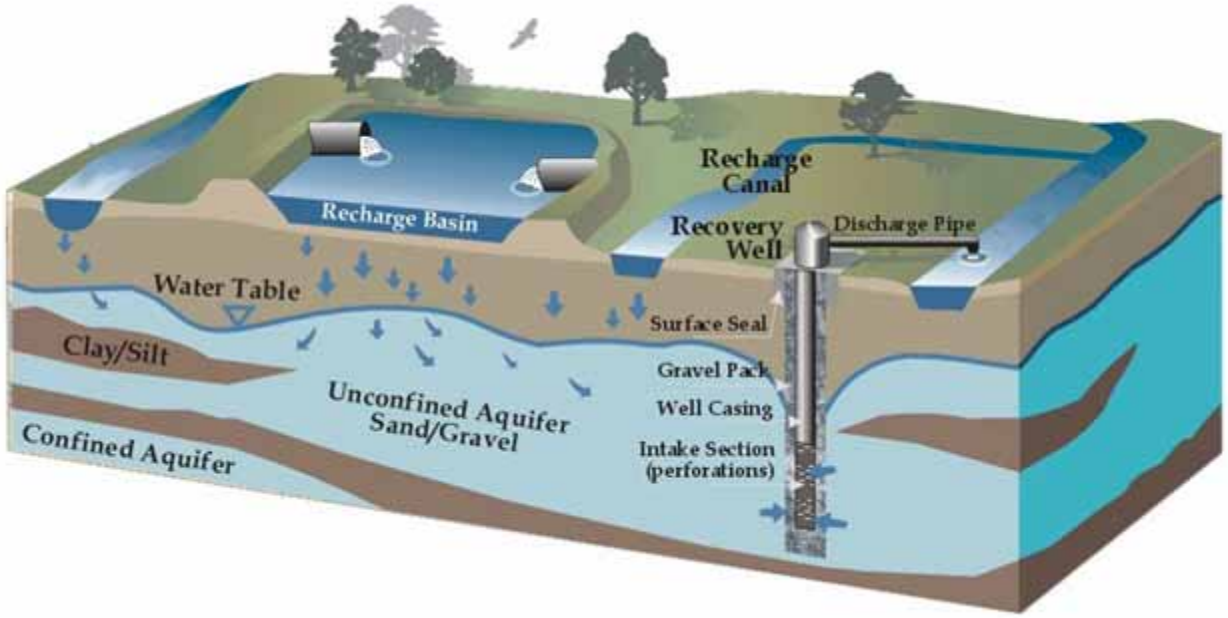
- Objective
  - Reconnaissance/appraisal-level evaluation of general issues that may impede or prevent project implementation
- Tasks
  - 801 Water Management Needs
  - 802 Water Quality Impacts
  - 803 East Side Streams Flood Frequency Evaluation
  - 804 Institutional and Contractual Constraints
  - 805 Groundwater Quality Impacts
  - 806 Existing West Side Conveyance and Exchange Facilities
  - 807 Existing East Side Conveyance and Exchange Facilities
  - 808 River Restoration Opportunities
  - 809 Generic Programs

FWUA/Metropolitan Partnership Phase II (Ongoing)

- Objective
  - Reconnaissance/appraisal-level evaluation of specific issues to be considered to develop demonstration projects prior to implementation of major project components
- Tasks
  - 810 New Surface and Groundwater Storage
  - 811 New Westside Conveyance and Exchange Facilities to FWUA
  - 812 New Eastside Conveyance and Exchange Facilities to FWUA (similar to Westside Conveyance; using facilities to convey water from FWUA to SWP)
  - 813 Restoration Effects on Water Quantity and Quality
  - 814 Evaluation of FWUA Member Interest in Phase I Findings
  - 820 Mammoth Pool Investigation
  - 830 System Operation Study

Focused GW Quality Evaluation

Various Districts – A conceptual evaluation of potential impacts on groundwater within portions of the FWUA service area and other potential impacts from the proposed water quality exchange program between FWUA and MWD. The study (in three phases) includes assessing groundwater quality changes that may occur and potential impacts on soils, agronomy, irrigation practices and facility operation and maintenance as a result of changed surface water.



System Operations Study

This study evaluates water quality exchange opportunities between FWUA and MWD and provides estimates of the total annual amounts of water that could be exchanged and an estimate of the change in water quality in the CA Aqueduct that may accrue when the East Side water is delivered to the SWP system. Three alternative facility configurations with existing and/or proposed facilities are used to identify a range of reasonable exchange amounts. A mathematical model of water storage and conveyance systems is developed as an interactive analytical tool to evaluate alternatives, test effects and risks associated with pre-delivering of water, and evaluate effects of changing timing of releases from the current reservoirs in use.

Mammoth Pool
Reservoir Enlargement

Mammoth Pool, existing Southern CA Edison Company reservoir on the San Joaquin River – Reconnaissance-level investigation on the effects of adding storage to Mammoth Pool by installation of gates on the spillway. This would increase the storage capacity of the reservoir and possibly increase the total yield of the San Joaquin River system. The effects of raising the water surface behind the dam on the environment, amount of yield augmentation and existing structural integrity of the dam are part of the study.

AEWSD South Canal Expansion

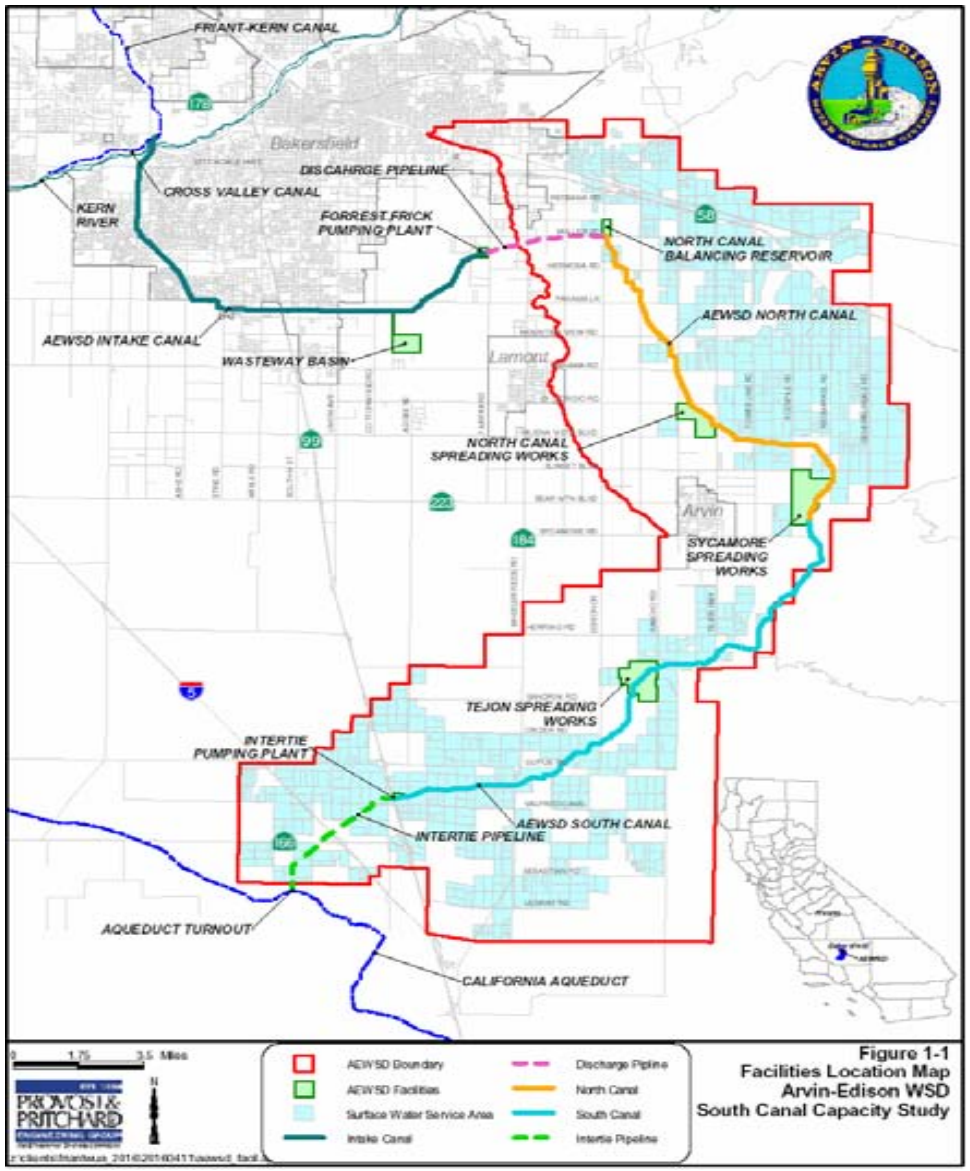
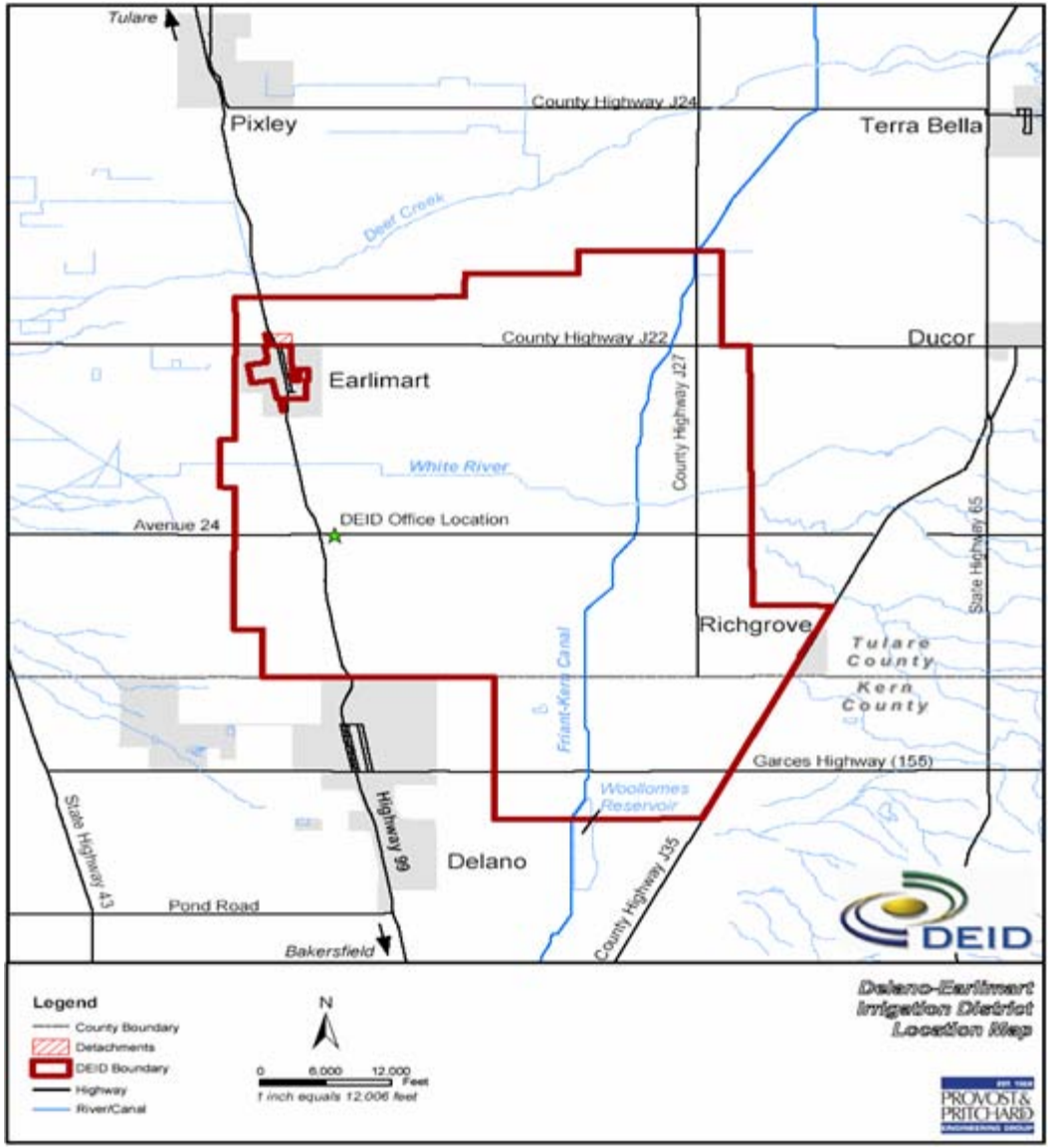


Figure 1-1
Facilities Location Map
Arvin-Edison WSD
South Canal Capacity Study

Arvin-Edison Water Storage District – This study evaluates conveyance capacity issues for the AEWSD South Canal (a facility connecting the Friant-Kern Canal with the CA Aqueduct). Water demands along the lower 3 reaches of the South Canal and potential additional quantities of water that can be conveyed to and from the CA Aqueduct are studied. This includes the potential for bidirectional canal capacity and canal modifications to increase the capacity.

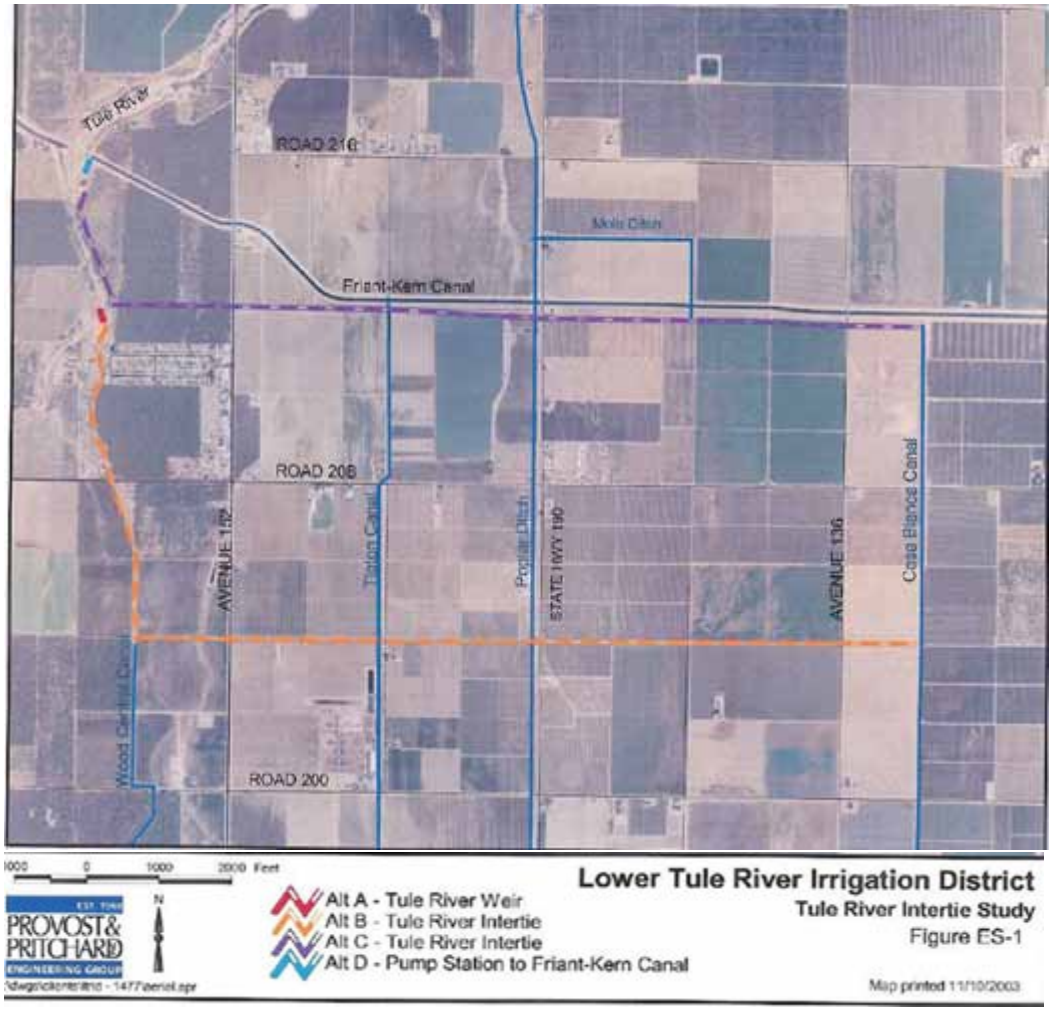
DEID Infrastructure Improvement

Delano-Earlimart Irrigation District –Conceptual study to evaluate a water exchange with MWD. The concept is for MWD to deliver a portion of its SWP supply to DEID for direct delivery to lands ineligible under Reclamation law, or for local water banking. The study will estimate how much water might be exchanged as well as the adequacy of existing infrastructure and potential infrastructure (such as percolation ponds, extraction wells or pipelines) that might be needed to deliver the added SWP supply.

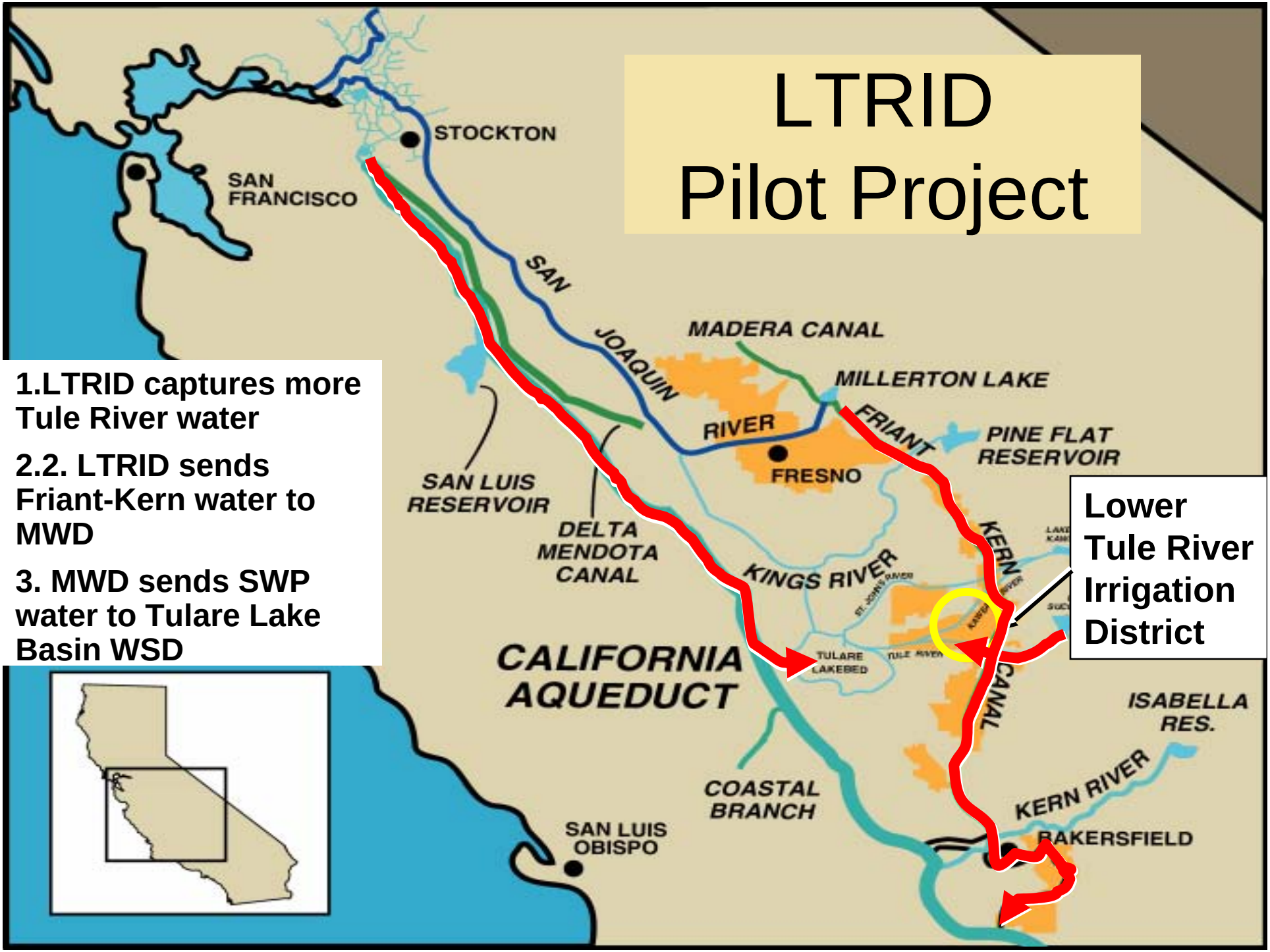


LTRID Weir Improvement

Lower Tule River Irrigation District - This study will augment construction costs for a canal intertie facility to improve management of Tule River water supplies in a variety of ways. This intertie supports a "bucket for bucket" exchange program which would include LTRID, MWD and a SWP contractor that can access both SWP water and East Side water supplies. Accessing East Side water through exchange creates flexibility with greater summertime Millerton Lake storage and increased Friant Power Authority generation.



LTRID Pilot Project



1.LTRID captures more Tule River water

2.2. LTRID sends Friant-Kern water to MWD

3. MWD sends SWP water to Tulare Lake Basin WSD

Lower Tule River Irrigation District

Friant/MWD Timeline

Mar 2000 – Initial Friant/MWD mtg

Jul 2000 - MWD receives $20M Prop 13 Grant

Jul 2000 – Friant/MWD Principles of Agreement

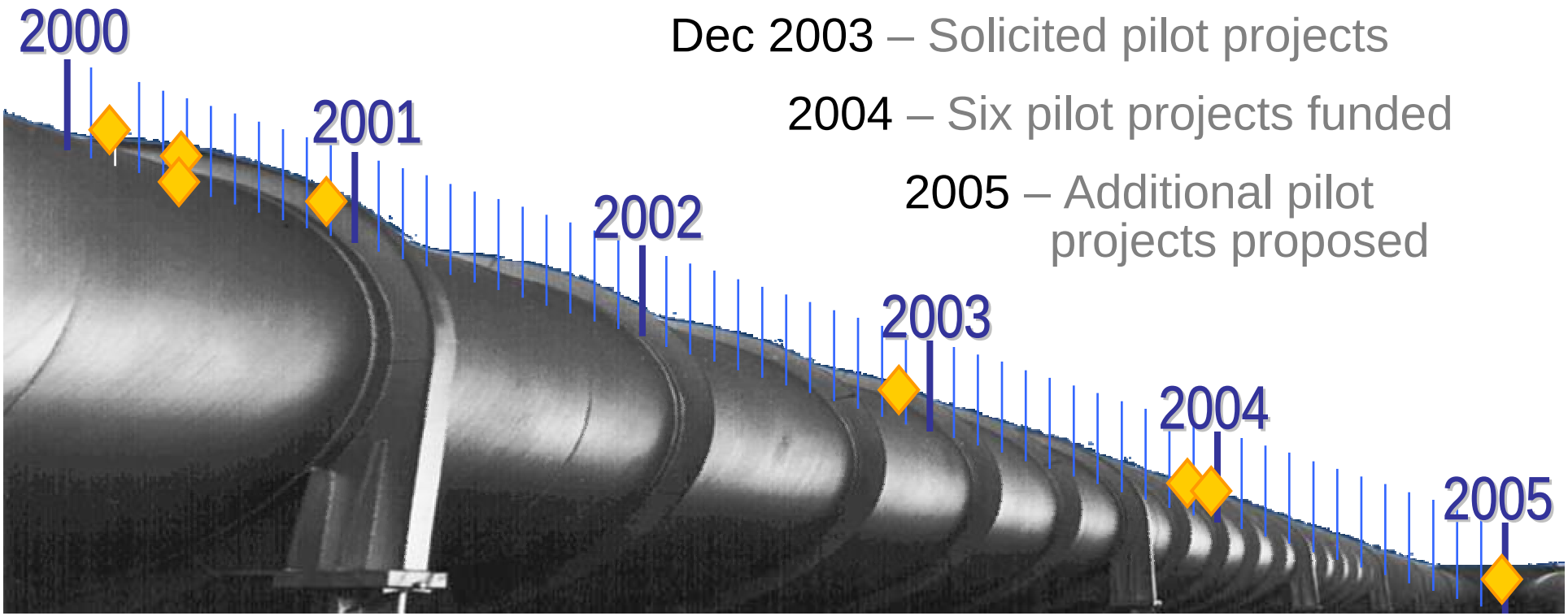
Dec 2000 – Ph 1 Friant/MWD MOU

Dec 2002 – Ph 2 Friant/MWD MOU

Dec 2003 – Solicited pilot projects

2004 – Six pilot projects funded

2005 – Additional pilot projects proposed



Expenditures to Date

- $20M Prop 13 Grant
- $2.15M spent
  - Friant $1.32M
  - Kings $830K
- $17.85M remaining
- Existing pilot projects, if implemented, exceed Prop 13 monies

Next Steps

- Attempt to resolve outstanding issues re: water rights and water quality
- Continue to develop pilot projects for implementation
- If outstanding issues are resolved, implement and monitor benefits of water quality exchanges