



A Joint Study By:  
U.S. Bureau of Reclamation  
Mid-Pacific Region  
California Department  
of Water Resources

## Upper San Joaquin River Basin Storage Investigation

# Water Supply Subcommittee Briefing

# AGENDA

- ◆ **Recap of Phase I**
- ◆ **Consideration of**
  - Potential Restoration Opportunities
  - River Water Quality and Exchange Opportunities
  - Potential Water Supply Reliability Effects
- ◆ **Schedule**
- ◆ **Potential Benefits**



# Objectives for Upper San Joaquin Storage

Enlarge Millerton Lake by 250 to 700 TAF

OR

Develop a functionally equivalent program to store  
San Joaquin River flow

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## INCREASE WATER SUPPLY TO:

- ◆ Contribute to restoration of the San Joaquin River
- ◆ Improve water quality of the San Joaquin River
- ◆ Facilitate conjunctive water management and exchanges that improve urban water quality

# Average Annual Water Supply at Friant Dam

## Releases to Friant-Kern and Madera Canals

Class 1	750 TAF/yr
Class 2	360 TAF/yr
Section 215	140 TAF/yr

## Inflow

1,700 TAF/yr

## Releases to San Joaquin River

Senior Water Rights	120 TAF/yr
Flood Releases	250 TAF/yr

Millerton Lake  
520 TAF



Estimates from CALSIM simulations 1922 - 1998

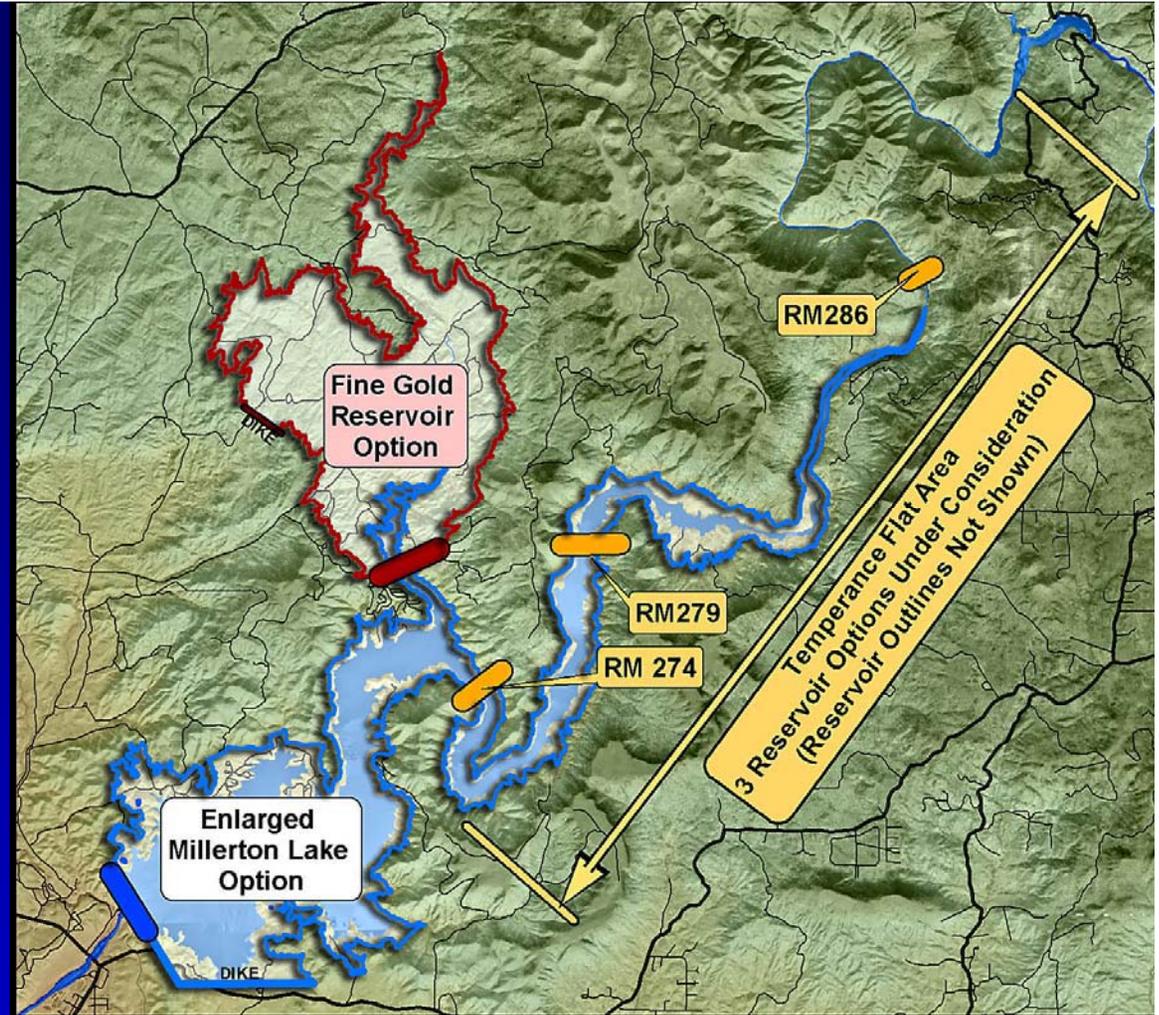
# Surface Storage Options Retained After Initial Screening

## ◆ San Joaquin River

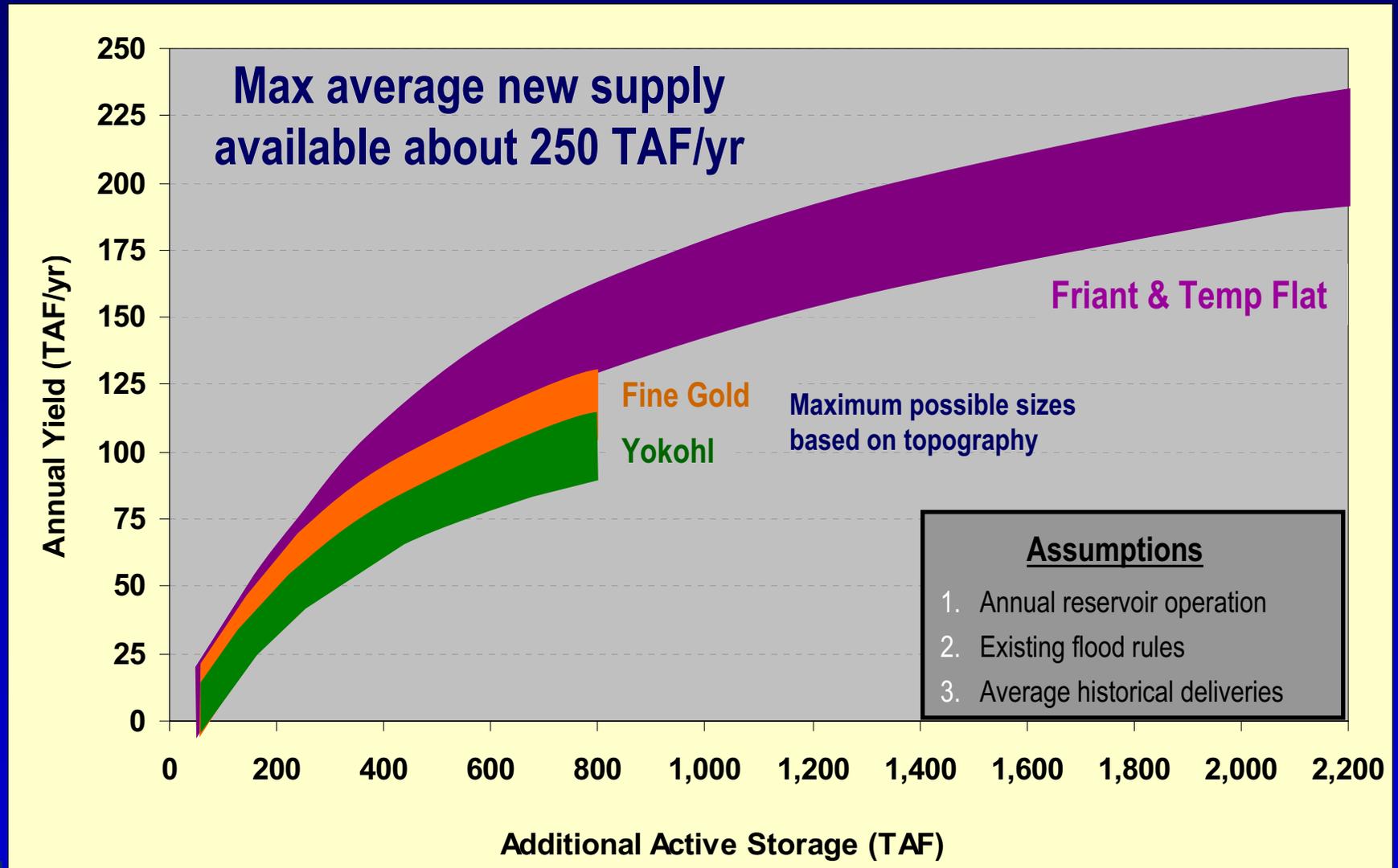
- Raise Friant Dam
- Temperance Flat
  - RM274
  - RM279
  - RM286

## ◆ Off-stream

- Fine Gold Creek
- Yokohl Valley



# New Water Supply From Additional Surface Storage



# Additional Potential Benefits of New Storage

- ◆ Flood protection below Friant Dam
- ◆ Hydropower generation
- ◆ Recreation

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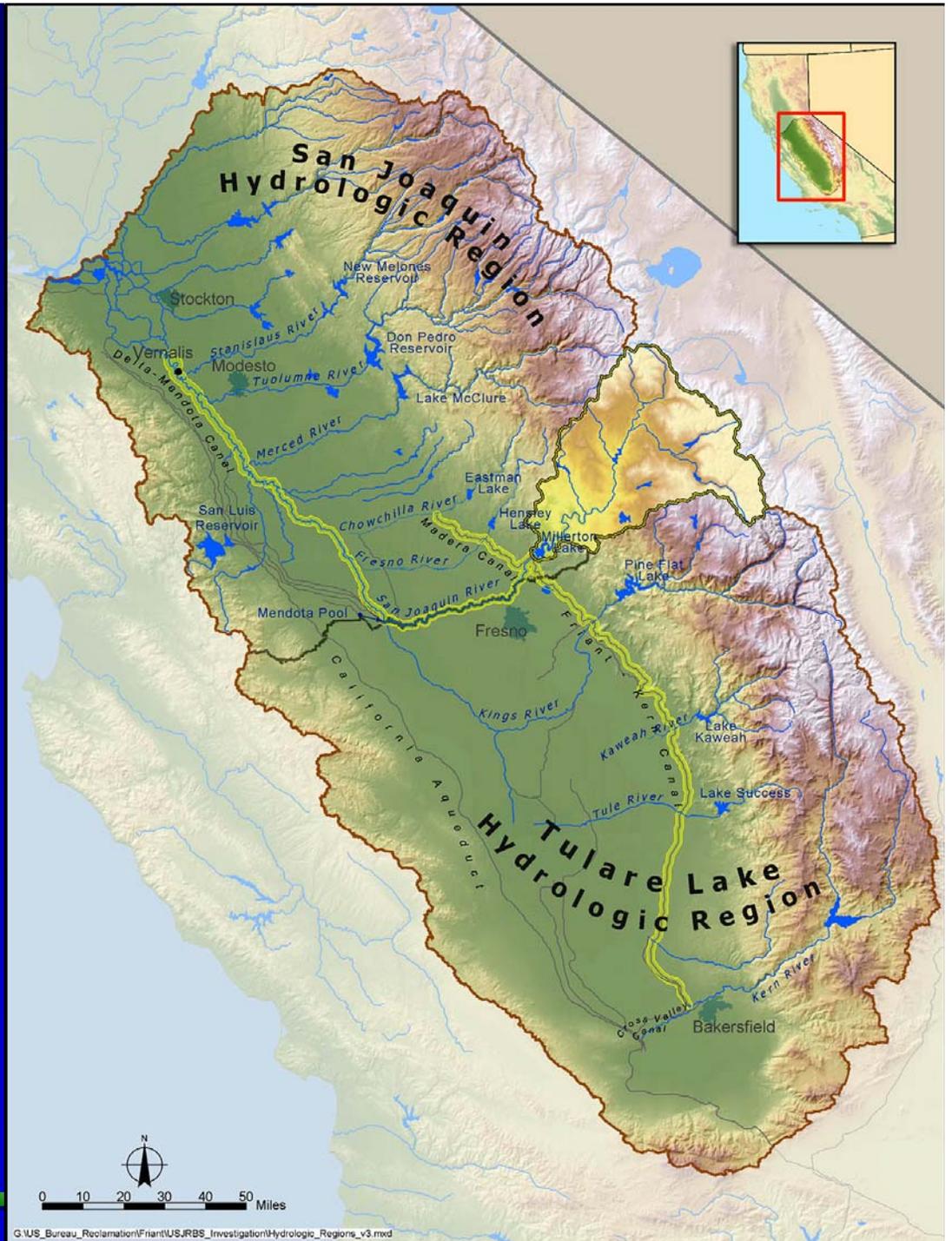
### INCREASE WATER SUPPLY TO:

- ◆ Contribute to restoration of the San Joaquin River
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# Areas Potentially Affected by New Water Storage

- ◆ **Eastern San Joaquin Valley**
  - CVP Friant Division
  - Groundwater basin
- ◆ **San Joaquin River**
  - Friant to Merced River
  - Merced River to Delta
- ◆ **South of Delta Service Area**



# Consideration of Potential Restoration Opportunities

- ◆ The Investigation is NOT developing a restoration plan
- ◆ The Investigation will consider information developed by others to describe existing conditions and identify flow, water quality, and channel modification requirements to support various types of restoration for the San Joaquin River
  - Restoration Strategies Report
  - Fisheries Scientific Investigations and Recommendations Report
  - Conceptual Restoration Plan



# San Joaquin River Water Quality Improvement Opportunities

- ◆ Releasing higher quality water from Friant could increase flow and improve water quality in the lower San Joaquin River
- ◆ The Investigation is developing analytical tools and operating scenarios to identify how releases of additional water supplies from Friant Dam could affect river water quality
- ◆ Effects will be identified from Mendota Pool to the Delta



# Urban Water Quality Exchange Opportunities

- ◆ Friant Water Users and Metropolitan Water District are considering how Friant water could support water quality exchanges
  - Studies will address how Friant Division and SWP operations would be affected
  - Water quality effects in eastern San Joaquin Valley groundwater and MWD will be estimated
- ◆ The Investigation will consider this information in the formulation of operations to support exchanges



# Potential Water Supply Reliability Effects

- ◆ Total deliveries could increase
- ◆ Deliveries of Class 1, Class 2 and Section 215 could change
- ◆ Groundwater overdraft would reduce if deliveries increase
- ◆ Seasonal timing of deliveries could shift, allowing direct delivery of surface water later in the irrigation season



# Potential Water Supply Reliability Resulting from Other Beneficial Actions

- ◆ Releases for river restoration and/or water quality could increase San Joaquin River supplies to Mendota Pool
- ◆ Improved water quality in the lower San Joaquin River could result in increasing New Melones water supply reliability



# Alternatives Formulation Approach and Schedule

- ◆ Screen Storage Options
- ◆ Develop Operational Scenarios
- ◆ Define Initial Alternatives
- ◆ Evaluate Initial Alternatives
- ◆ Determine Benefits and Costs
- ◆ Define Final Alternatives
- ◆ Conduct Impact Analysis
- ◆ Evaluate Final Alternatives
- ◆ Complete Cost Allocation
- ◆ Recommend Preferred Alternative



# Potential Benefits

- ◆ Fish and wildlife
- ◆ Water quality
- ◆ Water supplies
  - Urban and irrigation supplies
  - EWA
- ◆ Exchange opportunities
- ◆ Flood protection
- ◆ Hydropower generation
- ◆ Recreation





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