

RECLAMATION

Managing Water in the West

Upper San Joaquin River Basin Storage Investigation

Water Supply Subcommittee Briefing

May 17, 2007

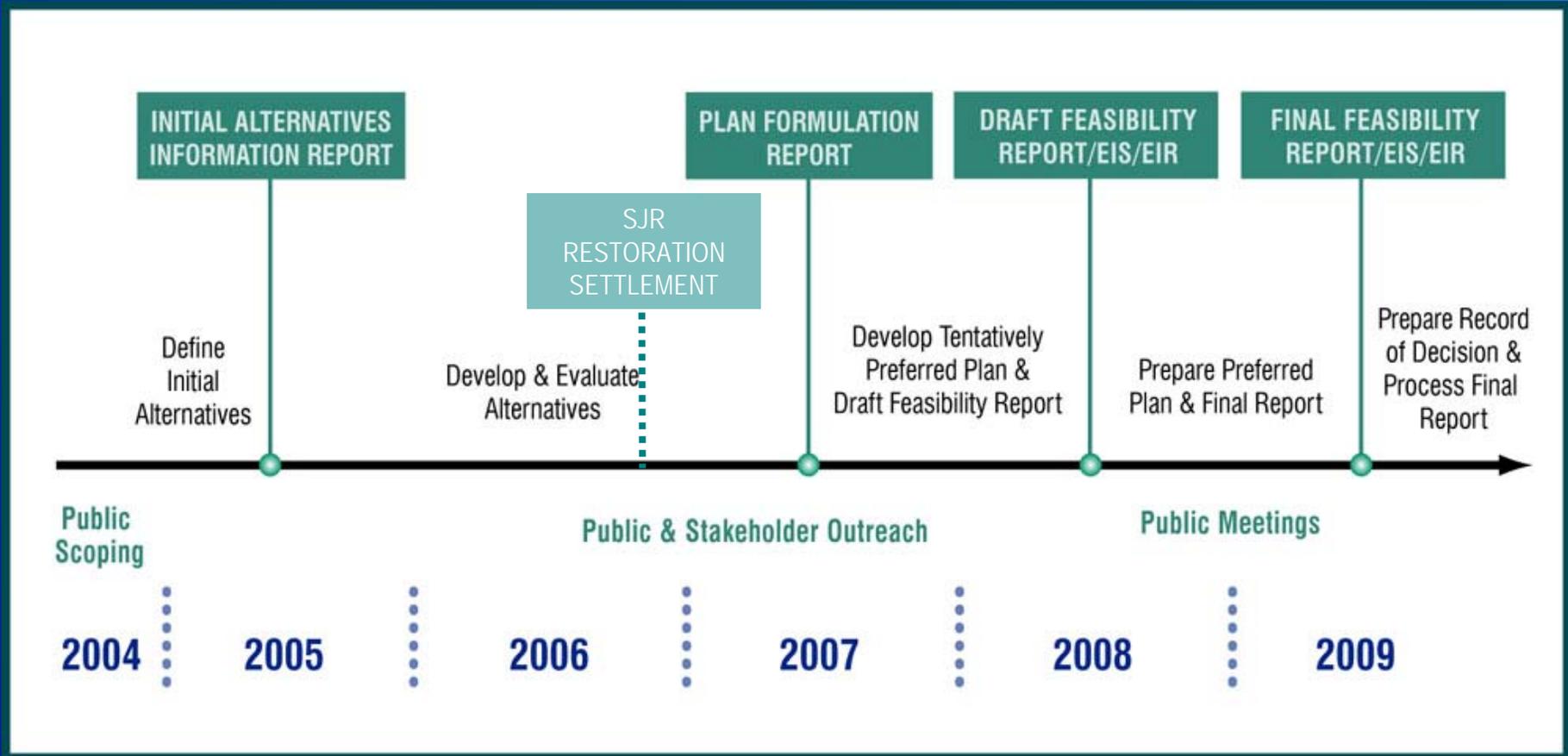


State of California
Department of Water Resources



U.S. Department of the Interior
Bureau of Reclamation

Feasibility Study Schedule



Planning Objectives

- **Primary Objectives – Develop and Manage 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**
 - *Increase water supply reliability to Friant Division water users*

- **Secondary Objectives**
 - **Increase control of flood flows at Friant Dam**
 - **Improve water supply for environmental protection**
 - **Develop hydropower generation opportunities**
 - **Develop recreation opportunities**

Initial Alternatives Phase

➤ Reviewed 24 Reservoir Sites

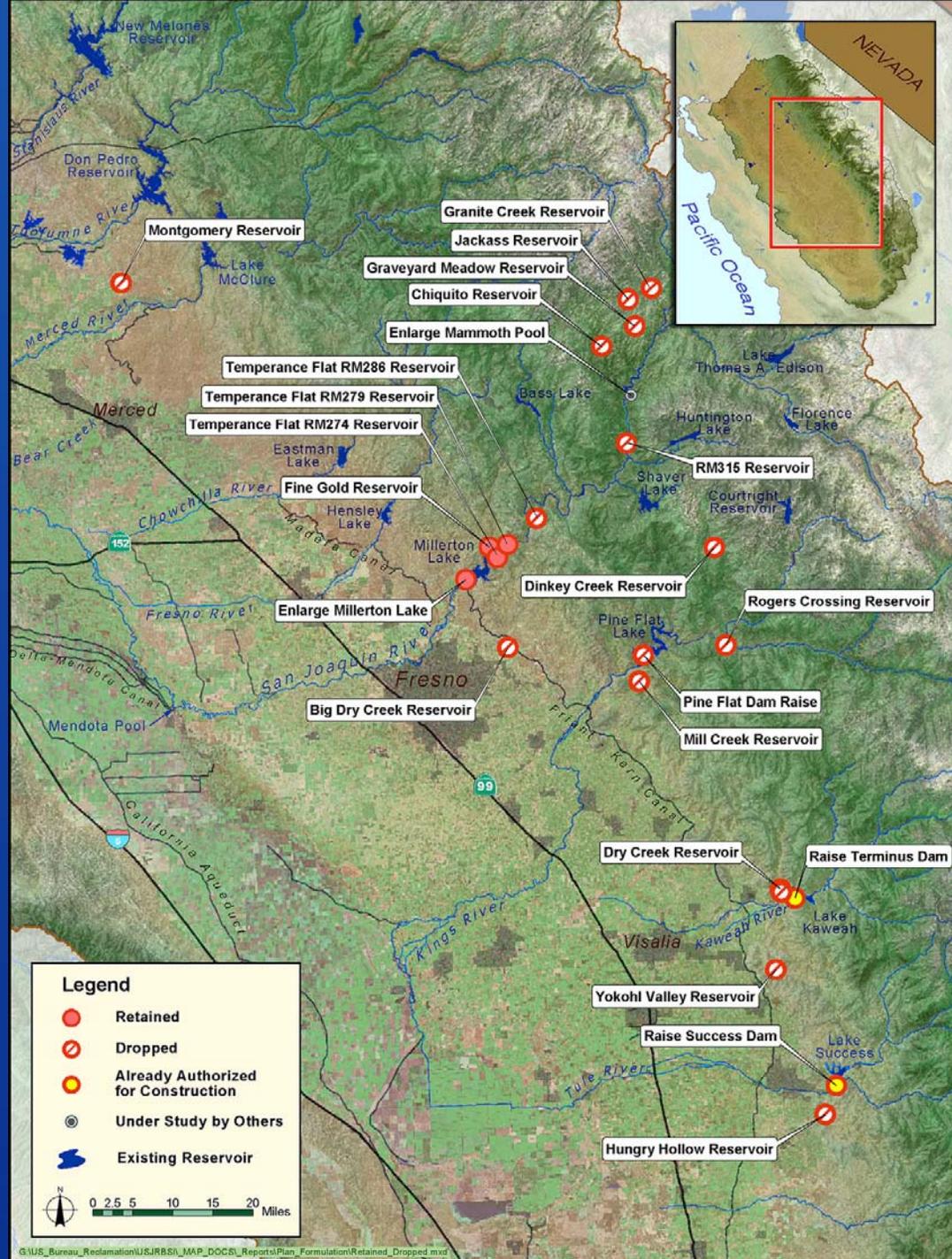
- Reservoir enlargement
- On-stream
- Off-stream / Off-canal

➤ Details Considered

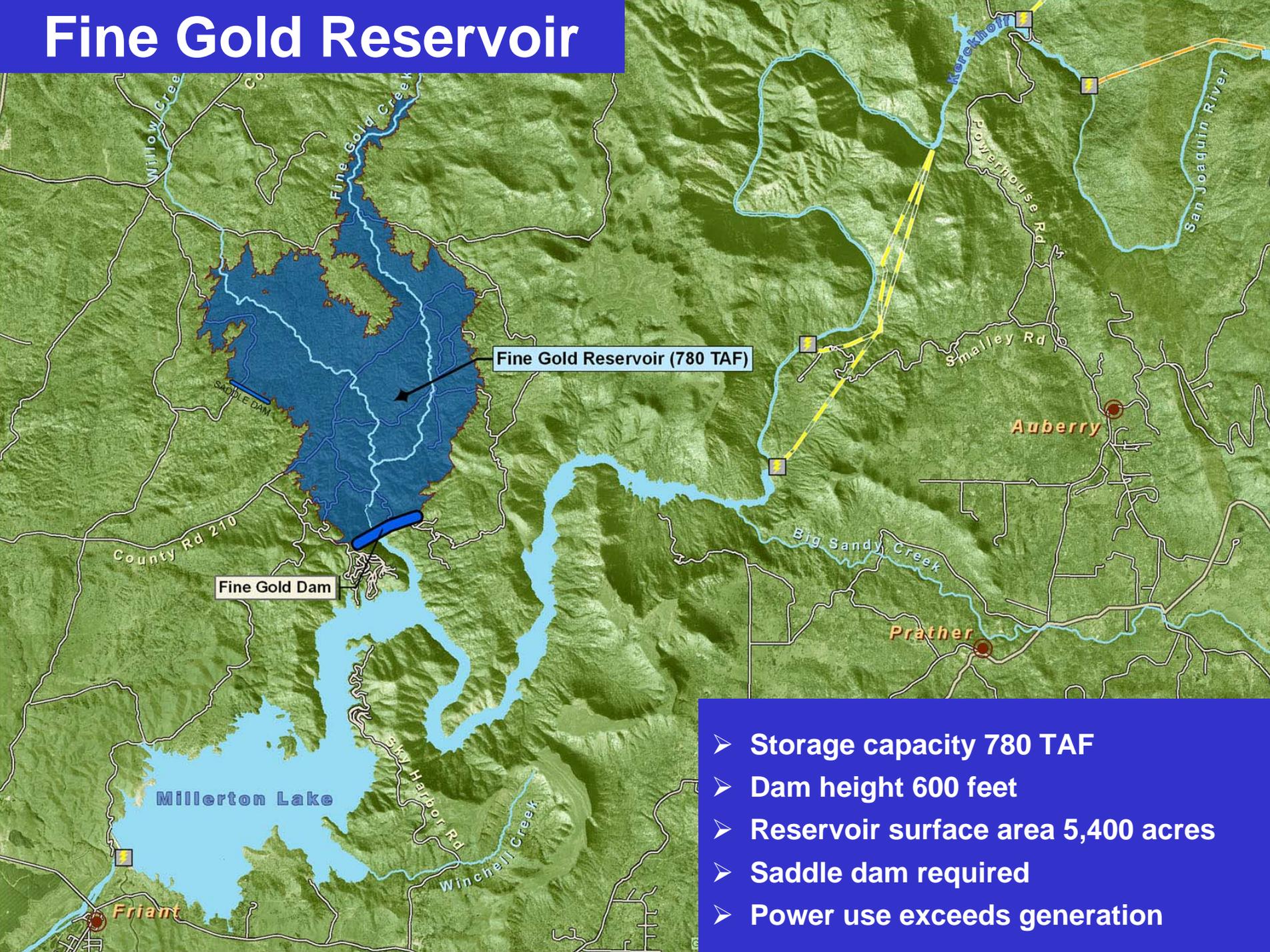
- Water supply
- Environmental effects
- Hydropower
- Costs

➤ Retained 4 Reservoir Sites

- Enlarged Millerton Lake
- Fine Gold Reservoir
- Temperance Flat RM 274
- Temperance Flat RM 279



Fine Gold Reservoir



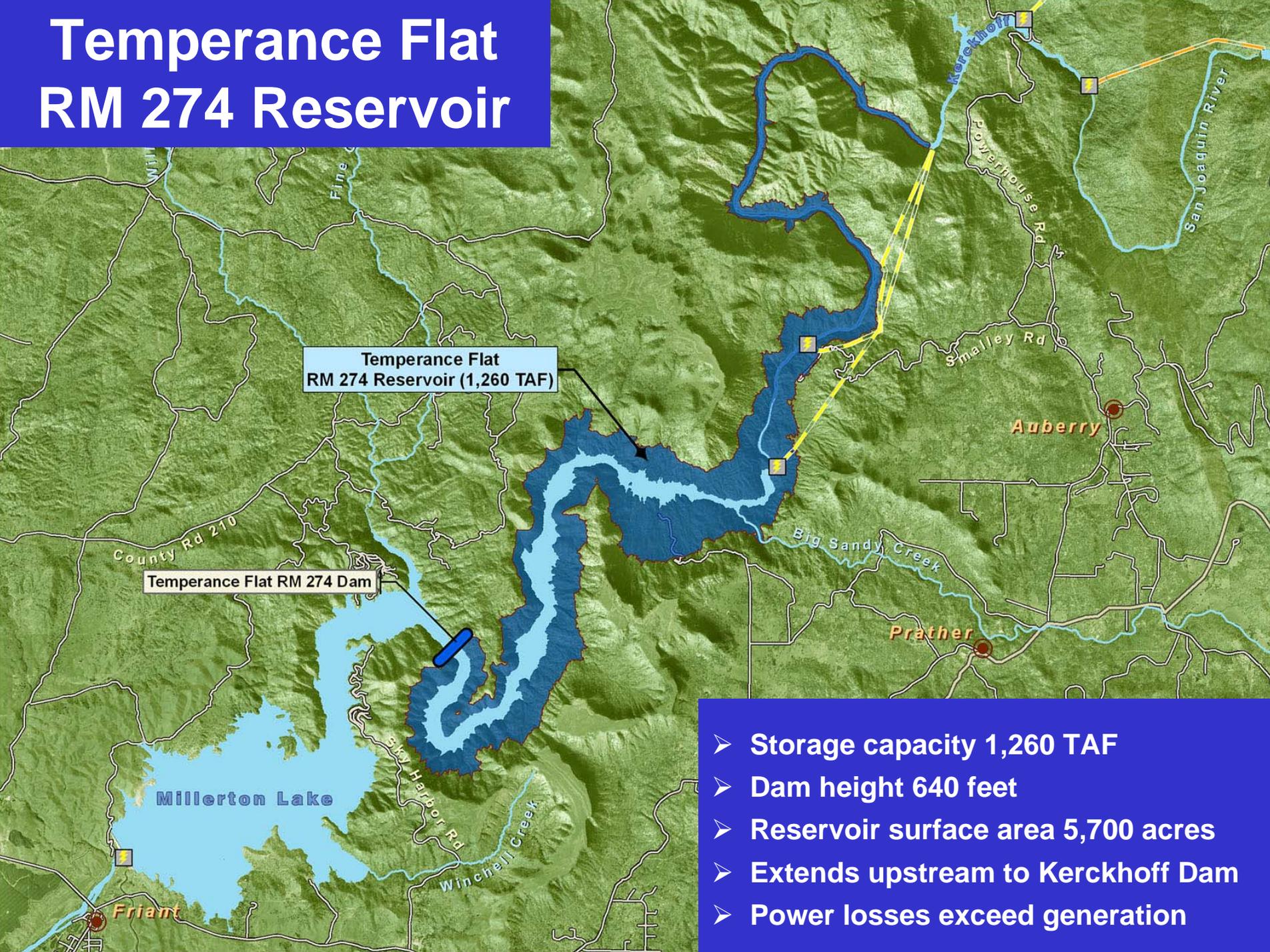
Fine Gold Reservoir (780 TAF)

Fine Gold Dam

Millerton Lake

- Storage capacity 780 TAF
- Dam height 600 feet
- Reservoir surface area 5,400 acres
- Saddle dam required
- Power use exceeds generation

Temperance Flat RM 274 Reservoir

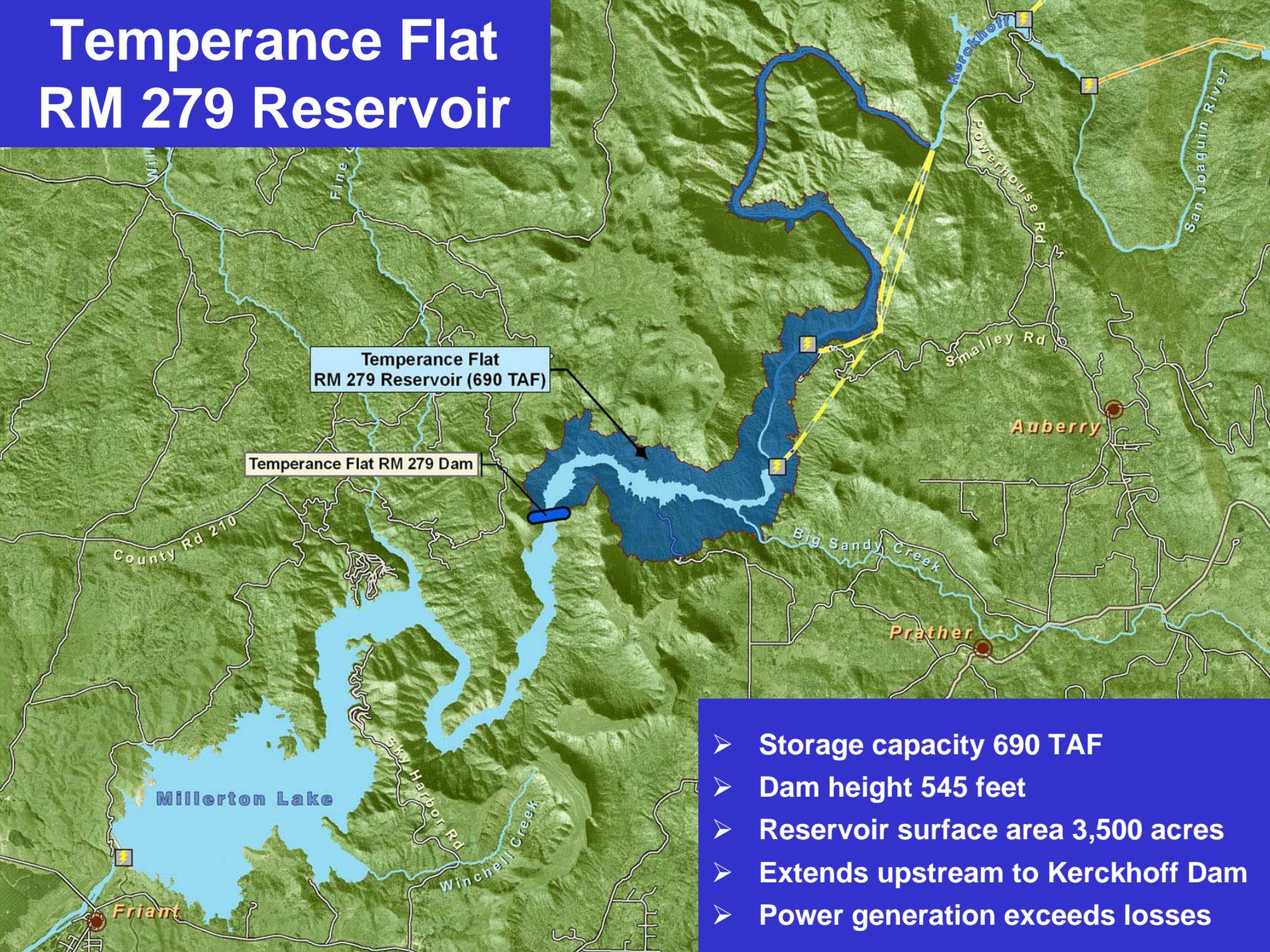


Temperance Flat
RM 274 Reservoir (1,260 TAF)

Temperance Flat RM 274 Dam

- Storage capacity 1,260 TAF
- Dam height 640 feet
- Reservoir surface area 5,700 acres
- Extends upstream to Kerckhoff Dam
- Power losses exceed generation

Temperance Flat RM 279 Reservoir



- Storage capacity 690 TAF
- Dam height 545 feet
- Reservoir surface area 3,500 acres
- Extends upstream to Kerckhoff Dam
- Power generation exceeds losses

Plan Formulation Phase

- **Addressing San Joaquin River Restoration Settlement Provisions**
- **Conducting Environmental Resource Analyses**
 - Habitats, fisheries, recreation, cultural resources
- **Estimating project benefits**
 - Water supply, restoration, water quality, flood protection, and hydropower
- **Refining Cost Estimates**
 - Temperature control, hydropower, and replacement recreation
- **Coordinating with other CALFED Storage Investigations**
 - Common Assumptions' tools and evaluation methods

Potential Benefits

Water Supply and Quality

- **Water Supply Reliability**
 - Improve water reliability to the Friant Division
 - Additional SOD supplies with exchange operations
- **San Joaquin River Water Quality**
 - San Joaquin River quality at Vernalis
 - Delta export water quality
- **Urban Water Quality**
 - Possible through exchange operations

Potential Benefit

Contribute to River Restoration

- **Improve Water Temperature Management**
 - Enlarge cold water pool compared to Millerton Lake
- **Restoration Flows in Driest Years**
 - Storage could provide improved flexibility

Potential Benefits

Flood Protection, Hydropower

➤ Flood Protection

- Downstream lands adjacent to the San Joaquin River

➤ Hydropower Generation

- Power generation that exceeds losses
- Pumped storage for off-peak / on-peak operations

Feasibility Phase

- **Refine and Compare Alternatives**
 - Structural features and operating plan
 - Complete feasibility-level designs and cost estimates
 - Environmental effects
 - Benefit/cost analysis
- **Prepare Feasibility Report and Environmental Compliance Documents (EIS/EIR)**
- **Address Implementation Issues**
 - Obtain financial commitment from Non-Federal partner(s)
- **Identify Preferred Alternative**

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