

Surface Storage Program Update

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Outline

- **Background on Surface Storage Investigations**
- **Issues**
 - **State Budget Issues**
 - **2008 OCAP BO**
- **Project Description and Potential Benefits**
 - **Shasta Lake Water Resource Investigations**
 - **North-of-the-Delta Offstream Storage (Sites Reservoir)**
 - **Los Vaqueros Expansion**
 - **Upper San Joaquin River Basin Storage**
- **Schedule**
- **Latest Cost Estimates**
- **Questions**

State Budget

- No State Budget for Surface Storage in FY 2007/08
- SB XX 1 appropriates \$15.8 Million for FYs 2008/09 and 2009/10
 - \$3.8 million in Proposition 50 funds
 - \$12 million in Proposition 84 funds
- “A statute enacted at a special session shall go into effect on the 91st day after adjournment of the special session at which the bill was passed”. -- Resources Agency
- Session scheduled to end November 30
- SB XX 1 also requires [State] feasibility studies completed by December 31, 2009.
- Add the OCAP challenge...

Operating Criteria and Plan--OCAP

- Will change future operations in the Delta for water exporters and diverters
- OCAP will change Surface Storage Planning assumptions
 - Water supply (without project conditions)
 - Delta water quality
 - Environmental Restoration
 - Value of water (supply and demand driven)
- Timing of release and the complexity of the OCAP BO will be the critical path for the surface storage projects

Shasta Lake Water Resources Investigation



SLWRI Potential Benefits

- **Primary Objectives**

- Increase the survival of anadromous fish populations in the Sacramento River, primarily upstream from the RBDD.
- Increase water supplies and water supply reliability for agricultural, municipal and industrial (M&I), and environmental purposes to help meet future water demands, with a focus on enlarging Shasta Dam and Reservoir.

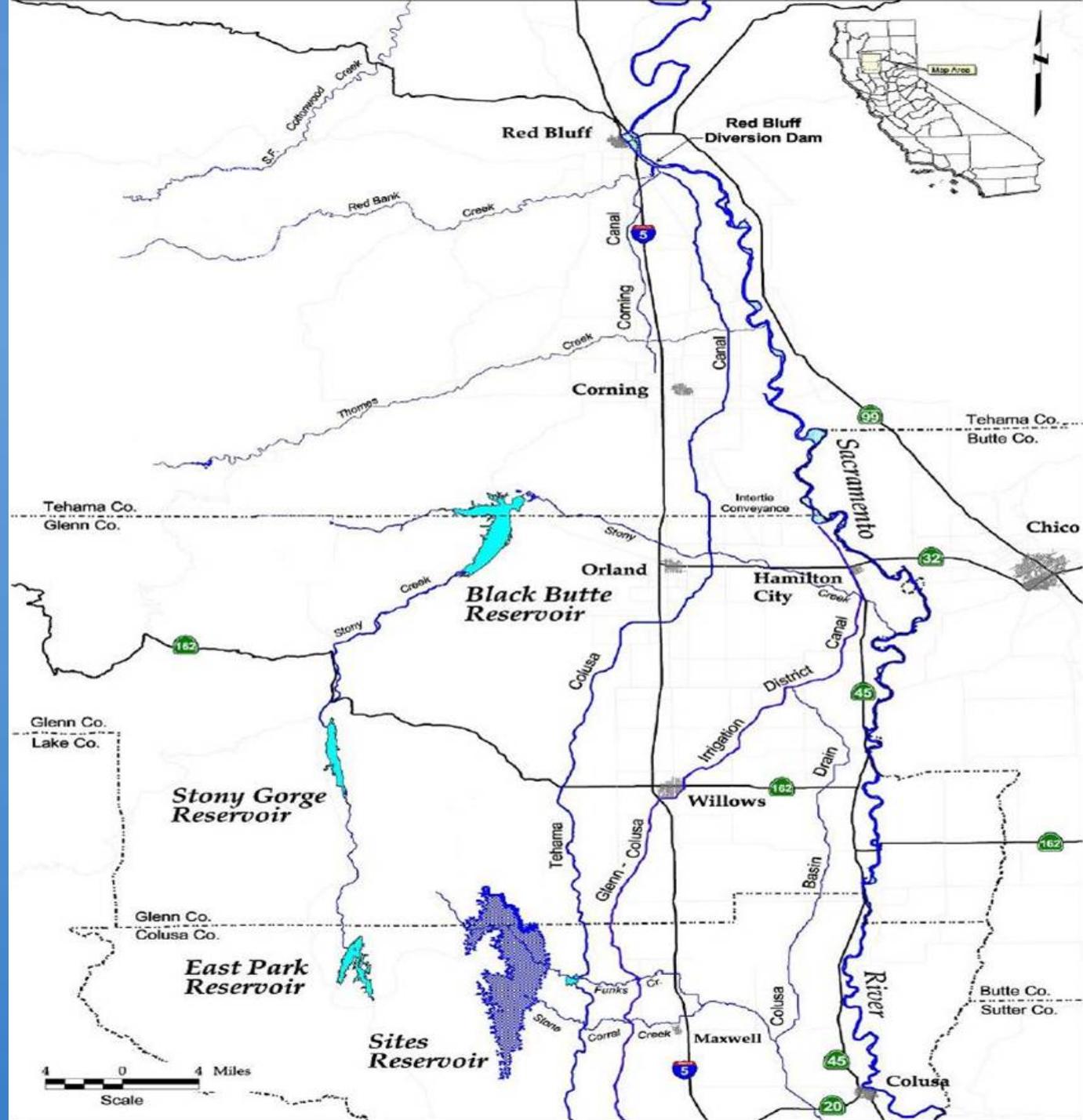
- **Secondary Objectives**

- Preserve, restore, and enhance ecosystem resources in the Shasta Lake area and along the upper Sacramento River.
- Reduce flood damages and improving public safety along the Sacramento River.
- Develop additional hydropower capabilities at Shasta Dam.
- Preserve and increase recreation opportunities at Shasta Lake.

North-of-the-Delta Offstream Storage (Sites Reservoir)



Sites Reservoir



North-of-the-Delta Offstream Storage

Potential Benefits

- Support ecosystem restoration on the Sacramento River
- Increase water supply and water supply reliability for:
 - Urban
 - Agricultural
 - Environmental
- Improve Delta water quality
- Improve flood protection
- Increase recreational opportunities
- Provide for Delta emergency response
- Mitigate the effects of climate change
- Provide ancillary hydropower generation
- Improve system flexibility

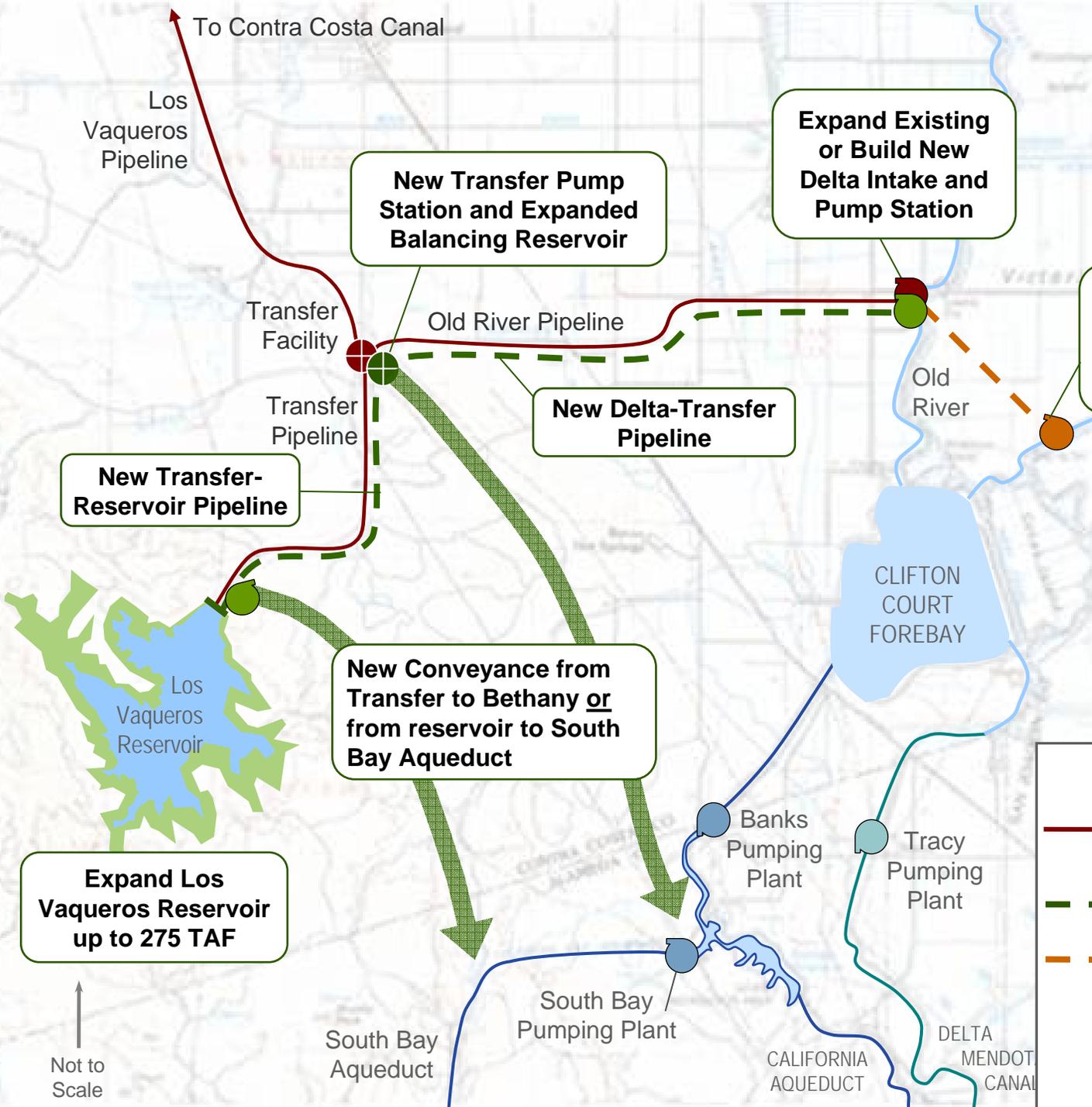
North-of-the-Delta Offstream Storage Coordination with TNC

- ◆ DWR staff has been coordinating the planning studies with TNC staff.
- ◆ The focus of the coordination has been on potential benefits and impacts of the project on the flow regime of the Sacramento River.

Los Vaqueros Reservoir Expansion



Existing and Expansion Project Facilities



Alternative Intake Project Intake & Pipeline

New Transfer Pump Station and Expanded Balancing Reservoir

Expand Existing or Build New Delta Intake and Pump Station

New Delta-Transfer Pipeline

New Transfer-Reservoir Pipeline

New Conveyance from Transfer to Bethany or from reservoir to South Bay Aqueduct

Expand Los Vaqueros Reservoir up to 275 TAF

- Facilities Legend**
- Existing Los Vaqueros Project Facilities
 - - - Potential Future Facilities
 - - - Alternative Intake Project (included in without-project condition)

↑
Not to Scale

Los Vaqueros Reservoir Expansion

Potential Benefits

- **Primary Objectives:**

- Develop water supplies for environmental water management that supports fish protection, habitat management, and other environmental water needs.
- Increase water supply reliability for water providers within the San Francisco Bay Area, to help meet municipal and industrial water demands during drought periods and emergencies or to address shortages due to regulatory and environmental restrictions.

- **Secondary Objective:**

- Improve the quality of water deliveries to municipal and industrial customers in the San Francisco Bay Area, without impairing the project's ability to meet the environmental and water supply reliability objectives stated above.

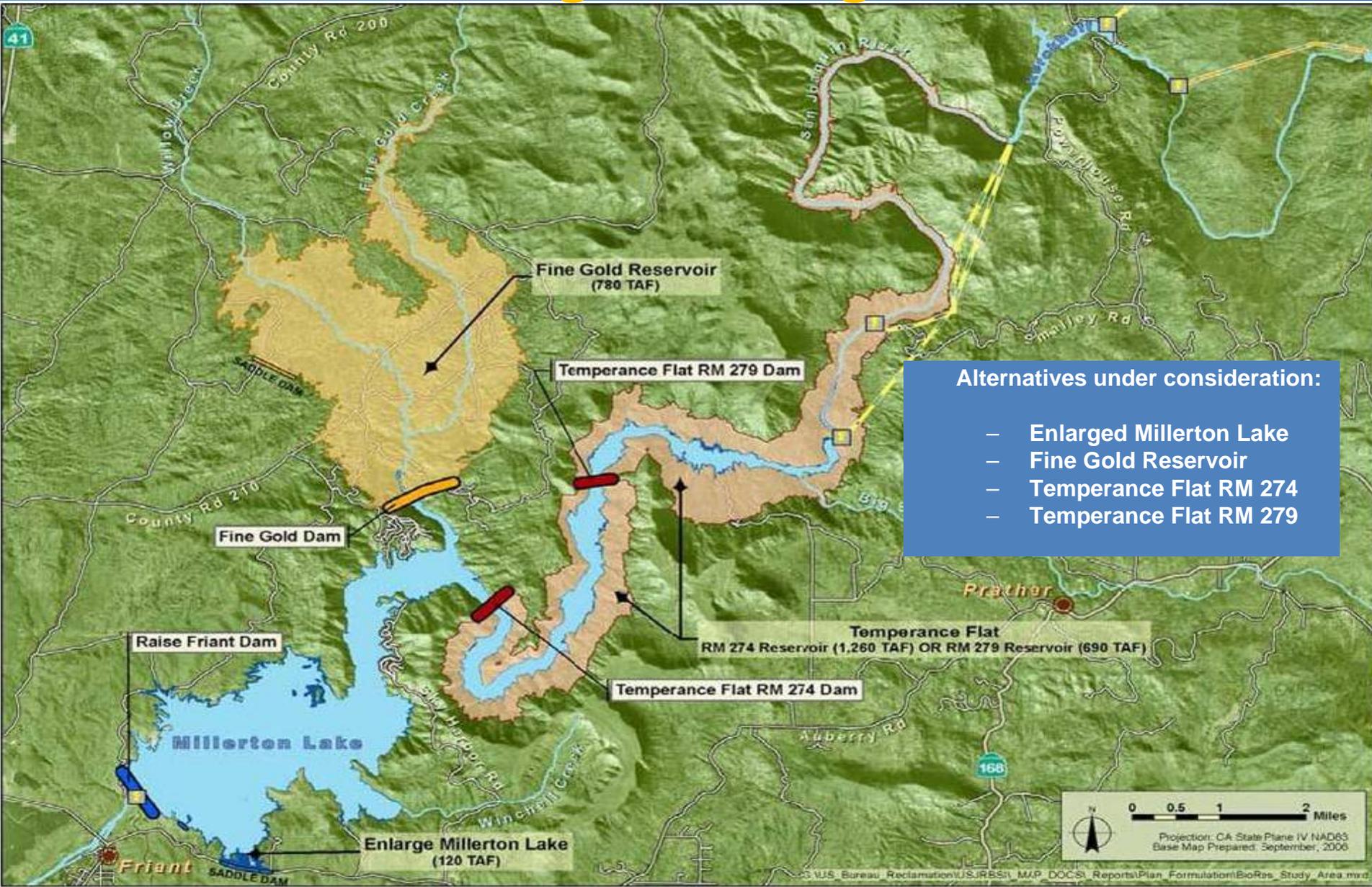
An aerial photograph of a large, blue reservoir situated in a mountainous region. The water is a deep blue color, and the surrounding terrain is rugged and brownish. In the background, there are more mountains and a valley with some smaller reservoirs. The sky is clear and blue. The text "Upper San Joaquin River Basin Storage Investigation" is overlaid in yellow on the image.

Upper San Joaquin River Basin Storage Investigation



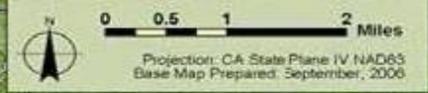
San Joaquin Storage Location

Upper San Joaquin River Basin Storage Investigation



Alternatives under consideration:

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



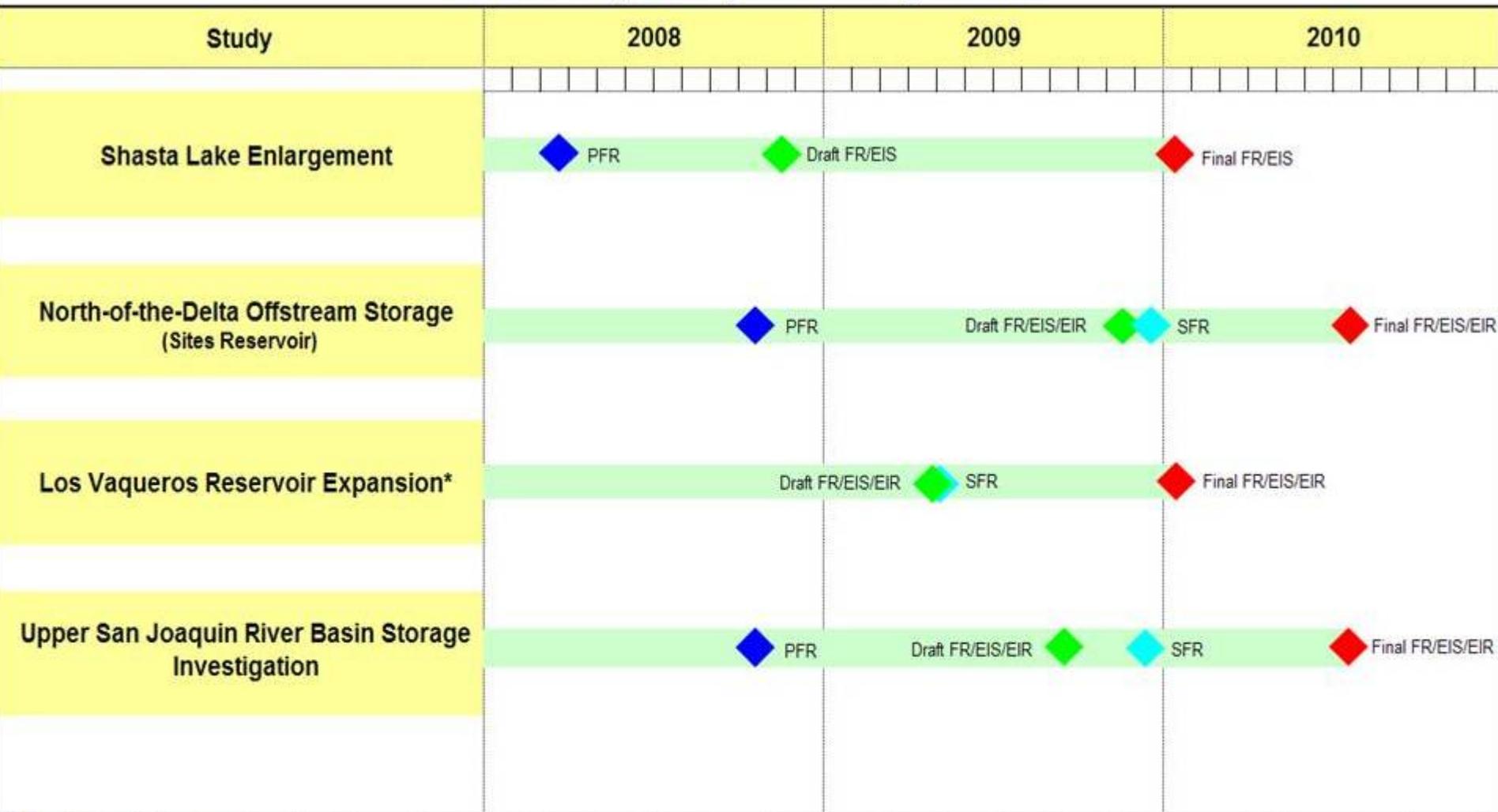
Upper San Joaquin River Basin Storage Investigation Potential Benefits

- **Water Supply Reliability**
 - Improve water reliability to the Friant Division
 - Additional south of Delta supplies with exchange operations
- **Water Quality**
 - Urban Water Quality through exchange operations
- **Flood Protection**
- **Hydropower Generation (Off-Peak/On-Peak Operations)**
- **Improve Water Temperature Management**
- **Restoration of SJR Flows in Driest Years**

Surface Storage Project's Initial Benefits & Costs

Investigation initial formulation summarized here (Reservoir)	New storage capacity of initial project formulation (taf)	Cost (\$ M)	Annual cost (\$ M/yr)	Annual benefit (\$ M/yr)	Benefit cost ratio	Approx. % of initial formulation dedicated to environmental public benefits
Los Vaqueros Expansion	175	\$667	\$34	\$45	1.29	76%
North-of-the-Delta Offstream Storage (Sites Reservoir)	1,800	\$3,600	\$189	\$215	1.14	52%
Shasta Lake Water Resources	634	\$825	\$46	\$75	1.61	61%
Upper San Joaquin Basin Storage (Temperance Flat RM 274)	1,260	\$3,358	\$169	\$179	1.06	13%
In-Delta Storage	217	\$789	61	\$28	0.46	28%

Surface Storage Investigations Planning Milestones



-  Plan Formulation Report (PFR)
-  State Feasibility Progress Report (SFR)
-  Draft Feasibility Report (FR) and EIS/EIR
-  Final Feasibility Report (FR) and EIS/EIR

All milestones except the State Feasibility Progress Report show when documents will be sent for Washington-level review by the Commissioner of the Bureau of Reclamation, Secretary of the Interior, and Office of Management and Budget (OMB) before they may be either returned for revision or approved for public release.

* An Initial Economic Evaluation for Plan Formulation (July 2006) was completed in lieu of a typical Plan Formulation Report.