

PROPOSITION 204 OFF-STREAM STORAGE EVALUATION Engineering Studies

Douglas N. Denton - Department of Water Resources

Basic Planning Considerations

- We are in the initial phase of study and haven't yet developed any findings or a preferred alternative. We are in the process of evaluating numerous options.
- Historic studies of the four main projects form the information base from which we are beginning our planning work. These four projects are Sites, Colusa, Thomes-Newville and Red Bank described later.
- We are searching beyond the limits of these earlier studies to identify a larger array of potential options.
- We are evaluating more projects than we expect would ever be constructed. Many projects are alternatives to each other, although some may be combined to achieve optimum benefits.
- These projects would be operated to store water only after all downstream rights are fully met - basically high winter flows from November through March.
- The State must apply for unused winter water rights, the same as private users - none of these projects would reduce existing water rights.
- This study is limited to evaluating the physical, biological and cost factors of alternative projects. At this initial level we will not study project sociological or political impacts nor determine how the water supply would be allocated among potential users.
- The primary study objective is to answer the question: "What are the physical, environmental, and economic impacts of various alternative projects, and do any appear potentially feasible enough to warrant continued study"?

Study Approach

We are trying to identify projects:

1. That are least environmentally damaging.
2. That provide around 3 MAF of storage and around 0.5 MAF/YR of new water supplies.
3. That obtain much of their water supply from local tributary streams in order to reduce the need for additional environmentally sensitive diversions from the Sacramento River.

4. That provide some local water supply, flood control, groundwater recharge, and recreation benefits.
5. That release most stored water to local irrigation districts in trade for reduced irrigation-season river diversions.

RESERVOIRS AND WATER SUPPLIES UNDER CONSIDERATION

Primary Reservoirs

- Sites - located 10 mi. W. of Maxwell - 1.8 MAF max. storage - formed by two 290' main dams and 7 saddle dams - 26 MYD fill.
- Colusa - An extension of Sites Reservoir to the north - 3 MAF reservoir formed by 4 main dams and 11 saddle dams - 85 MYD fill.
- Thomes-Newville - 17 mi. W. of Orland - max. 2 MAF - div. from Thomes and Stony Creeks - one 300' dam & two smaller dams on Thomes and Grindstone Creeks - no river diversion.
- Red Bank - 15 mi. W. of Red Bluff on S.F. Cottonwood & Red Bank creeks - two interconnected reservoirs (Dippingvat and Schoenfield) totaling 350 TAF - smallest project considered and would only be built in conjunction with a larger project - could supply partial irrigation demand of Corning & T-C canals during periods when RBDD gates are raised.

Secondary Reservoirs

These would store winter flows on local tributary streams and regulate them for transport by the T-C canal to the Sites or Colusa project for longer term storage. They are smaller reservoirs of less than 0.5 MAF., although exact sizing is not yet known.

- Gallatin Reservoir on Elder Creek
20 mi. W. of the Town of Tehama
- Grindstone Reservoir
5 mi. NW of Elk Creek
- Willow Creek Reservoir
5 mi. W. Of Willows at T-C Canal Intersection

- Enlarged Black Butte Reservoir on Stony Creek.

Existing storage could be increased to 0.5 MAF.

Potential Water Conveyance Systems

For transporting flows from Elder Creek, Thomas Creek, Stony Creek, Willow Creek, Colusa Basin Drain, and Sacramento River to a Sites or Colusa Project.

- Low Level System - using existing T-C and GCID canals - canals are already in place, but pumping is required for storage in Sites or Colusa.
- High Level System - requires new canals and tunnels, but makes gravity water available - reduces pumping.
- Intertie from Sacramento River and Colusa Basin Drain to Sites or Colusa - would divert river water at a fish friendly location below Chico Landing and could channel Colusa Basin floodwater to Sites or Colusa.