CalFed Water Management Development Team Assets List
Expanding Banks Pumping

Project Description: During August and September of 1999, the State Water Project moved an additional 38,000 AF of SWP water from Lake Oroville into San Luis Reservoir by obtaining approval to exceed the allowable export rate. Although the SWP is capable of pumping 10,300 cfs at its Banks Pumping Plant, it is constrained to a lower pumping rate because the inflow to Clifton Court Forebay is constrained to 6,680[1] cfs from mid-March to mid-December by an agreement with the U.S. Army Corps of Engineers. Outside that window, the inflow to Clifton Court Forebay may be increased by an amount equal to one-third of Vernalis flow when it is 1,000 cfs or higher. This summer, the USACE approved an increase of 500 cfs to allow the Clifton Court Forebay inflow to be 7,180 cfs from August 6 to September 30. Next year, a similar proposal is being developed to allow the additional 500 cfs pumping from July 1 through the end of September in the event the added capacity could be used to fill San Luis Reservoir. This asset, increasing the allowable inflow to Clifton Court Forebay, could be expanded beyond water year 2000 to allow for greater operational flexibility and the possibility to capture additional water that is surplus to the Delta. Three specific alternatives are presented below.

Alternative One -- Increase SWP exports to 7,180 cfs between July1 and September 30: This measure, by itself, does not increase total water supply. However, under specific conditions it may allow the Central Valley Project and SWP to move more water from northern California reservoirs into San Luis Reservoir, leaving additional space in those upstream reservoirs to capture extra winter runoff. Under dry hydrologic conditions, there already exists sufficient capacity at Banks to move SWP water. However, under wet conditions the pumping capacity is fully utilized; increasing Banks pumping in this case may provide additional flexibility.

Alternative Costs: The Department of Water Resources staff believes that short-term operational adjustments could be made to avoid potential problems with water levels, but such avoidance measures limit the use of the expanded pumping capability.

Operational costs are likely to be minimal for the SWP. However, there would be costs for using this alternative, in conjunction with joint point of diversion, to move CVP supplies.

Alternative Benefits: See graph for water supply benefits.

[1] This maximum is based on a 3-day running average inflow to Clifton Court Forebay.

Assumed Duration of Alternative Benefits: Three years. This alternative would be replaced or have its usefulness diminished by other assets that increase the pumping capability of Banks later in Stage 1.

Assumed Operational Restrictions: Increased pumping during the irrigation season could exacerbate water level conditions in the South Delta. In addition to placing and operating the three temporary rock agricultural barriers, it may be necessary to reduce the pumping during periods of low tide conditions. The USACE will also require consultation with fishery agencies on potential endangered species concerns. Another possible restriction on its use would be during periods of high delta smelt salvage. In 1999, delta smelt salvage continued into the first part of July at high rates.

Permits or Other Approvals Needed: In addition to endangered species consultation with NMFS, FWS, and DFG, a Section 10 Rivers and Harbors Act permit would be needed. It is believed the necessary environmental documentation could be completed prior to the start of Stage 1.

Implementation Responsibility: DWR.

[1] 1995 Level of Development with Interruptible Supplies

Alternative Two -- Increase SWP exports to 8,500 cfs between July1 and September 30: This alternative is similar to the first, but increases the allowable inflow to Clifton Court Forebay from 6,680 cfs to 8,500 cfs.

Alternative Costs: About $500,000 of capital improvements in the South Delta will be needed to mitigate for the effects of higher pumping on a long-term basis. The capital improvements are being developed by DWR in coordination with the CALFED Bay/Delta Program. Generally, those improvements include dredging at specific locations in the South Delta (about $300,000) and improving the efficiency of specific diversions that are downstream of the temporary barrier sites.

Alternative Benefits: See graph for water supply benefits.

Assumed Duration of Alternative Benefits: In perpetuity. This alternative would probably be functional mid-Stage 1.

Assumed Operational Restrictions: Increased pumping during the irrigation season could exacerbate water level conditions in the South Delta. In addition to placing and operating the three temporary rock agricultural barriers, it may be necessary to improve diversion capability for those water users located downstream of the barriers. The USACE will also require consultation with fishery agencies on potential endangered species concerns. Another possible restriction on its use would be during periods of high delta smelt salvage. In 1999, delta smelt salvage continued into the first part of July at high rates.

Permits or Other Approvals Needed: In addition to endangered species consultation with NMFS, FWS, and DFG, a Section 10 Rivers and Harbors Act permit would be needed. It is believed the necessary environmental documentation and mitigation could be completed mid-Stage 1.

Implementation Responsibility: DWR.

[1] 1995 Level of Development with Interruptible Supplies

Alternative Three -- Increase Exports to 6,680 plus "1/3 Vernalis flows ... from November 1- March 15": As noted above, the SWP is capable of pumping 10,300 cfs at its Banks Pumping Plant. However, it can utilize the additional export capability, beyond a nominal rate of 6,680 cfs, from mid-December to mid-March. The amount of additional inflow allowed is one-third of the Vernalis flow when the San Joaquin River flow is 1,000 cfs or higher. This alternative would expand the that window by 45 days starting on November 1.

Alternative Costs: The costs are believed to be minimal at this time.

Alternative Benefits: See graph for water supply benefits.

Assumed Duration of Alternative Benefits: Perpetuity. This alternative would be *replaced or have its usefulness diminished by other assets that increase the* pumping capability of Banks later in Stage 1.

Assumed Operational Restrictions: During wet conditions, spring-run yearlings may be emigrating through the Delta.

Permits or Other Approvals Needed: In addition to endangered species consultation with NMFS, FWS, and DFG, a Section 10 Rivers and Harbors Act permit would be needed.

Implementation Responsibility: DWR.

[1] 1995 Level of Development with Interruptible Supplies

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Alternative Four -- South Delta Improvement Project Exports up to 10,300 cfs:

Alternative Costs: About $590 million are needed for a new Clifton Court Forebay screened fish facility and intake structure and associated dredging on Old River. Another $40 million would be needed to resolve SDWA water supply/quality problems (barriers, dredging, extending Ag diversions, etc.). Mitigation costs for the project have yet to be determined.

Alternative Benefits: See graph for water supply benefits.

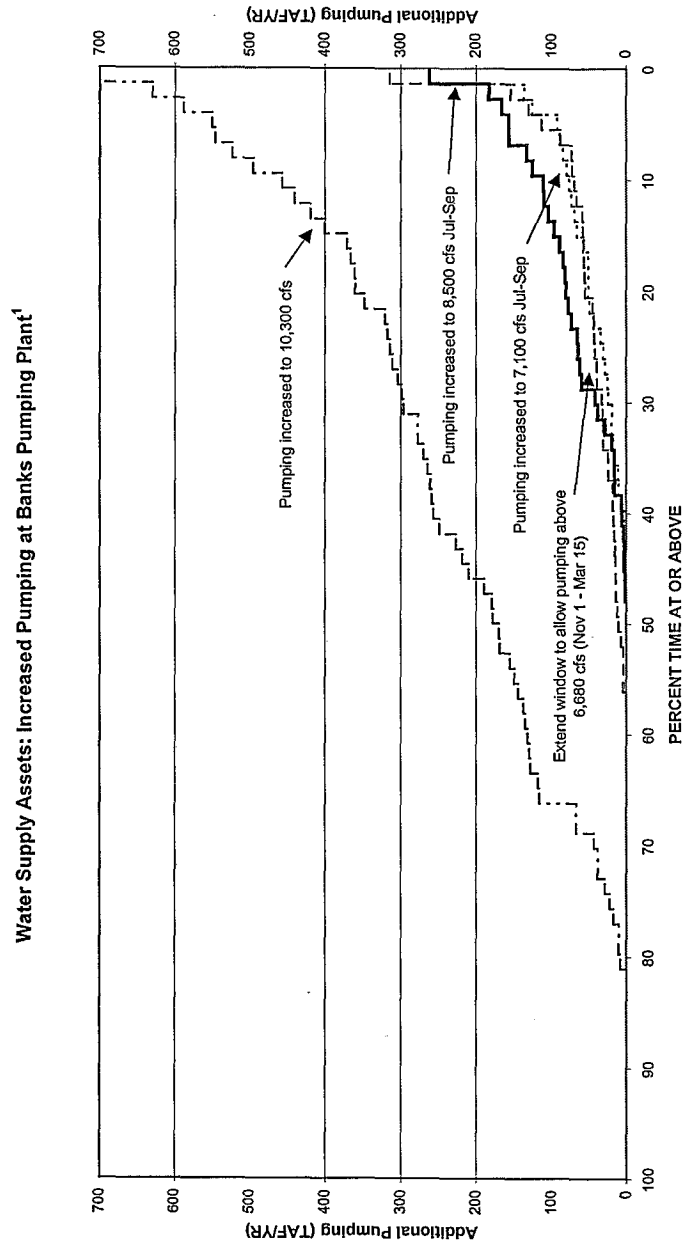
Assumed Duration of Alternative Benefits: Perpetuity.

Assumed Operational Restrictions: Operational rules are to be determined. Rules will be needed to protect fisheries, as well as local diverters. Potential show stoppers are to be determined.

Permits or Other Approvals Needed: In addition to endangered species consultation with NMFS, FWS, and DFG, a Section 10 Rivers and Harbors Act permit, CWA Section 404 and 401 permits, and FEIR/EIS would be needed.

Implementation Responsibility: DWR.

[1] 1995 Level of Development with Interruptible Supplies



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