

Alternative E

Delta Channel Habitat and Conveyance

General

This alternative will increase the through-Delta channel conveyance capacity from the Sacramento River to the south Delta export facilities. A new unscreened diversion be constructed on the Sacramento River between Hood and Freeport to increase the flow into the central Delta and ultimately to the south Delta export facilities. Extensive channel improvements will be made along 50 to 100 miles of central and southern Delta channel. These improvements will include increasing conveyance capacity and provide corridors of habitat along Steamboat Slough, North and South Forks of the Mokelumne River, and along the San Joaquin River. Increases in conveyance capacity will be done to significantly reduce velocities to avoid entraining fish to the south Delta export facilities.

This alternative will not significantly increase water supplies available for project exports from the Delta. Increases in reliability will be realized through conjunctive use operations and demand management practices. General project operations will not change significantly from historical operations. South Delta exports will continue to rely on existing export facilities and on historical export patterns. Conjunctive use and groundwater banking programs in the southern San Joaquin Valley and the Tulare Lake Basin will be increased to provide additional supply reliability during below average flow years.

Demand management, including urban and agricultural water conservation, water reclamation, and land retirement, will provide additional supplies for existing water users and for the environment. This alternative will also establish a long-term drought water bank to improve water supply reliability in dry years.

Operation of Delta Diversions

Diversions from the Delta will be reliant on the existing south Delta export facilities. Operations of these facilities will be only slightly altered to try to shift some of the export to periods which have less impact on fish species. The restoration of extensive amounts of habitat and decreased velocities across the Delta will increase fish populations and offset take and other impacts currently associated with the movement of water from the Sacramento River to the south Delta export operations.

- The diversion from the Sacramento River will be through a new, large, unscreened facility located between Hood and Freeport. Delta channels will be configured according biological criteria which will significantly reduce velocities and minimize entrainment across the Delta.

- Delta exports will operate much as they have in past. However, the reliability of exports and likelihood of exports being curtained or cut-off due to concerns for anadromous or resident fish species will be significantly reduced.
- Delta exports will continue to be guide by the current Bay-Delta Salinity Control Plan, recognizing limits on exports due to established export ratios.
- Delta exports made for storage in San Luis Reservoir and other downstream reservoirs will be made as much as possible in the late fall to mid winter period, to reduce impacts anadromous fish species. Diversions during this period will be made to skim the falling limb of high flood flow hydrographs, providing high quality water for storage and export further south.

Operation of Existing Storage

No new storage is associated with this alternative. Existing storage upstream of the Delta will be operated in much the same manner as has been done in the past. The utilization of groundwater storage in the Sacramento and San Joaquin Valleys and the Tulare Lake Basin will be increased.

- Water in excess of carry-over needs in Sacramento Valley project reservoirs at the end of the operational year, typically September, will be transferred groundwater conjunctive use areas in the Sacramento and San Joaquin Valleys. Transferring this excess water would increase flood control storage space and help to regulate and reduce the occurrence of spills at project reservoirs. Groundwater storage, through conjunctive use operations, will form the basis of a long-term drought water bank program.
- During above average flow years, or when south of Delta storage is full, water from diversions will be used to recharge groundwater basins in conjunctive use and banking areas in the southern San Joaquin Valley and Tulare Lake Basin. Water stored in these basins will be utilized primarily during below average years to reduce the amount of exports from the Delta. A reduction in export will free-up water for environmental flows during these periods of naturally reduced flows.

Operation of Water Developed Through Conservation

Water developed through urban best management practices (BMP's) and agricultural efficient water management practices (EWMP's) will be used for a combination of water supply and environmental benefits, depending on the basin in which the water is developed.

- Water developed through implementation of agricultural EWMP's in the San Joaquin Valley will be used primarily to provide additional flows on the San Joaquin River and in the south Delta to improve water quality and the environment.

- Retirement of marginally-productive agricultural lands that contribute substantially to in stream water quality problems in the San Joaquin River will free up water that can be held in storage, released, or transferred to improve water quality and fish transport.
- Water developed through implementation of agricultural EWMP'S in the Sacramento Valley will be used primarily to augment water supply availability.
- Water conserved through urban wastewater reclamation (100,000 to 200,000 acre-feet) will be used to offset urban demands within the regions where the water was reclaimed. Reclaimed water could be used as grey water for landscape irrigation purposes, recharging groundwater which could be used for below average flow periods, for agricultural uses, or for potable or non-potable urban use.

Operation of Water for Fish and Wildlife Uses

Water developed for fish and wildlife purposes will be in the most efficient manner possible to enhance fish and wildlife habitats in the Sacramento and San Joaquin Valley and the Bay-Delta estuary.

- About 100,000 acre-feet of water will be purchased from willing sellers in the San Joaquin Valley. This water will be used to aid in the transport fish through the Delta, particularly during periods of south Delta export operations, and to improve water quality in the south Delta during periods of low Delta inflows from the San Joaquin River.