

Alternative G

East-Side Foothills Conveyance

Overview

This alternative will construct a new export diversion well upstream of the Delta to capture high flows during winter and spring. A new conveyance facility will carry diverted water along the foothills on the eastern edge of the San Joaquin Valley and eventually connect with the California Aqueduct, providing water for exchange with east side San Joaquin Valley water users and high quality supplies for other export customers. Moderate habitat restoration will complement the reduction in entrainment to increase fish populations.

New diversion and east side conveyance reduce entrainment and increase flexibility

Currently, limitations on fish entrainment (take limits) are set to avoid jeopardizing fish populations. When these limits are approached, diversions are curtailed or stopped, creating a high degree of uncertainty for water users. If a portion of water project diversions are relocated to less sensitive locations and screened to protect fish, entrainment will be reduced and fish populations will increase. Reduced entrainment will provide greater water supply reliability.

New diversion location protects fish

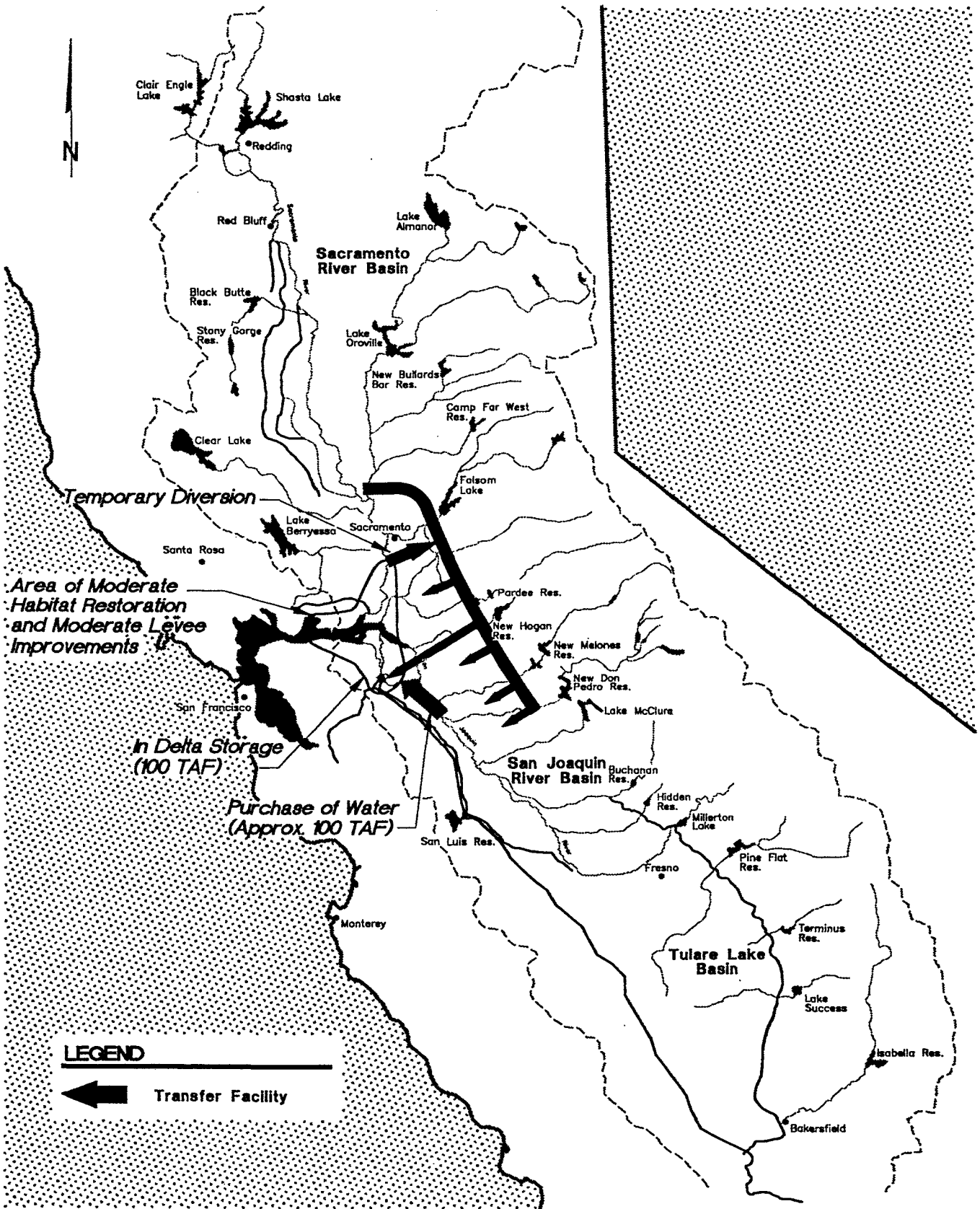
A portion of the SWP and CVP diversions will be relocated upstream of the Sacramento River/ Feather River confluence. New diversions will be constructed on both rivers, with a third diversion point on the Sacramento river near Hood with a tie to supply the new canal. These locations provide high quality water. This canal will convey water south along the east side of the Sacramento and San Joaquin Valleys to the Tuolumne River with a tie to the south Delta export facilities. The existing Folsom South Canal may be incorporated into the new canal. The new canal can be connected to east side projects (e.g., Mokelumne Aqueducts) to improve water supply flexibility and facilitate water transfers. Exchanges with water users will allow additional instream flows in east side rivers. Potential future extension of the canal south to Friant Dam and exchanges with additional water users could increase instream flows in other east side tributaries and the San Joaquin River. Water will also be delivered for groundwater recharge and banking in the San Joaquin Valley, including San Joaquin County. The new canal will operate mostly in the winter and spring to capture flood flows for banking and subsequent use. This will reduce the need to divert from the Delta during more environmentally sensitive periods. Some through-Delta conveyance and exports from the existing facilities will continue. These may encounter reductions in water quality as a result of upstream diversions.

A new canal runs from the Sacramento and Feather Rivers to the Tuolumne River and DMC/California Aqueducts

This alternative will provide moderate levels of habitat along the Sacramento River downstream of Sacramento and will restore channel features on the San Joaquin River to improve survival of anadromous fish. Moderate habitat restoration in the Delta will include shallow riverine and riparian habitats to improve conditions for Delta native and anadromous fish. Moderate levels of shallow tidal habitat will be developed near Suisun Bay to benefit migrating salmon and provide spawning and rearing areas for Delta smelt. Ecosystem restoration actions will be guided by a strategy of adaptive management.

Moderate habitat restoration upstream, in the Delta, and near Suisun Bay

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The vulnerability of the Bay-Delta system will be reduced through implementation of a comprehensive Delta Protection Plan. The plan will guide the stabilization or improvement of certain Delta levees to increase protection, the maintenance of levees, and implementation of an emergency response program to address levee failure. Under this alternative, stabilization of levees, maintenance, and emergency response would all receive moderate emphasis.

***Comprehensive
Delta Protection
Plan***

Expanded demand management, conjunctive use, and groundwater and surface banking will improve full-system operational flexibility that can further reduce fish entrainment by providing more Delta flow in the critical spring period for fish (February-June). This additional Delta flow will be provided through a combination of methods that will be implemented on a priority basis. These methods include reducing consumptive use of Delta water during those months by reducing demand and switching to alternative supplies in all service areas that are dependent upon Delta water supplies; dedicating some storage to providing Delta outflow; conjunctively using groundwater basins to provide spring Delta flows; implementing conservation and reclamation actions in ways that allow shifting the timing of the releases of conserved water into the Delta during the spring; and making upstream reservoir storage operational changes that will provide more direct inflow to all parts of the Delta during critical spring periods.

***Conjunctive use,
improved demand
management help
balance supply
and demand***

With a portion of the SWP and CVP diversions relocated, inflow to the central and south Delta will be reduced, threatening water quality in these areas and for some export users. Therefore, this alternative includes new in-Delta storage facilities (about 100 TAF), measures implemented to maintain water levels and circulation in south Delta channels, and a water supply developed in the San Joaquin basin or purchased from willing water users. The in-Delta storage and additional San Joaquin River flow will increase the flexibility of environmental releases of water, protecting water quality in the central and south Delta while improving fish transport through the Delta.

***Water
development or
purchases and
storage will
protect water
quality and
improve fish
transport***

Delta and tributary water quality will be improved through source control efforts to reduce and manage discharges from agricultural operations and urban areas throughout the Bay-Delta system. Funding for enforcement of source control regulations will be expanded and implementation of Best Management Practices for salinity and pesticide residues will be recommended (e.g., retention of agricultural drainage). Retirement of marginally-productive agricultural lands that contribute substantially to instream water quality problems in the San Joaquin River will be expanded. Measures to reduce the total salt load transported to the San Joaquin Valley will be implemented. Pollutants in San Joaquin River inflow will be diluted using water purchased or developed in the San Joaquin River basin.

***Pollutant source
control improves
water quality***

Relocating a portion of export diversions to an upstream location reduces entrainment, improves the quality of export supplies, and increases water supply reliability for all users of Delta water. Levee restoration that incorporates habitat improvements can simultaneously reduce system vulnerability, increase ecosystem quality, and improve water quality.

***Actions provide
multiple benefits***

Potential Sequencing

Stage 1. Implementation would begin with the core actions.

Core actions

Stage 2. Actions implemented during Stage 2 of this alternative will include establishment of a permanent drought water bank, a moderate demand management program, groundwater banking and conjunctive use, high priority habitat restoration actions, and installation of high priority fish screens. Implementation of a comprehensive Delta protection plan will begin. Additional San Joaquin River water (100 TAF) will be developed or acquired for environmental uses. Stage 2 will include retirement of approximately 70,000 to 100,000 acres of marginally productive agricultural lands in the San Joaquin Valley and market mechanisms to facilitate water transfers.

Demand management and high priority habitat and levee improvements

Stage 3. In stage 3, in-Delta water storage will be constructed, approximately an additional 200,000 to 300,000 acres of marginally productive agricultural land in the San Joaquin Valley will be retired, and south Delta channel measures implemented. The diversion on the Sacramento River near Hood and the first leg of the canal to the Calaveras River will be constructed. An additional increment of habitat restoration actions and fish screen installations will be implemented. Stabilization of levees, maintenance, and emergency response would all receive moderate emphasis. Additional source controls for water quality improvement will be implemented.

First leg of canal to Calaveras River

Stage 4. The canal will be extended to the Tuolumne River. The canal could be extended north to connect to the Folsom South Canal in this stage. Complete Delta levee and flood control improvements, habitat restoration actions, and fish screen installations to a moderate level of implementation.

Extend canal to Tuolumne River

Stage 5. Stage 5 will extend a spur of the canal to the south Delta export facilities.

Extend to Tracy

Stage 6. Stage 6 will extend the conveyance to the Sacramento and Feather Rivers above Verona.

Diversion on Sacramento and Feather Rivers

Potential Future Additions. Stage 6 completes the East-Side Foothills conveyance alternative. However, depending on future needs, additional enhancements could be considered. These include extending the conveyance to the north to Oroville Dam, tying into the Tehama Colusa Canal, and water storage on the west side of the Sacramento Valley. The canal could be incrementally extended to the south to the Merced River and to Friant Dam to provide exchange water.

Potential Additions - continue conveyance to the north and south

Alternative G - East-Side Foothills Conveyance Potential Sequencing

