

# Alternative D Through Delta Conveyance

## Overview

This alternative will include a new screened diversion facility on the Sacramento River. This diversion facility will supply water for continued through-Delta conveyance to existing south Delta pumping plants. New surface storage downstream of the Delta will be built to increase water supply reliability. This new storage will also be used to manage diversions so that entrainment can be reduced. Moderate habitat restoration will complement the reduction in entrainment to increase fish populations. Source control measures will improve water quality, and moderate levee improvements will reduce system vulnerability.

*New storage and screening improve reliability, reduce entrainment*

This alternative will reduce fish mortality caused by entrainment in the south and central Delta by installing a new screened facility to convey water from the Sacramento River to eastside channels. Behavioral barriers to fish movement will be evaluated for long-term operation at Georgiana Slough and the head of Old River. A new screened intake for the State Water Project will be constructed at Italian Slough to separate inflows to the export pumps from Clifton Court Forebay when diversion rates are low. Fish screens will be constructed on other moderate and high priority diversions in the Delta and on upstream rivers and tributaries.

*Entrainment is reduced*

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. Water for environmental purposes will be purchased or developed in the San Joaquin River basin to be used for fish transport and to improve south Delta water quality. Ecosystem restoration actions will be guided by a strategy of adaptive management.

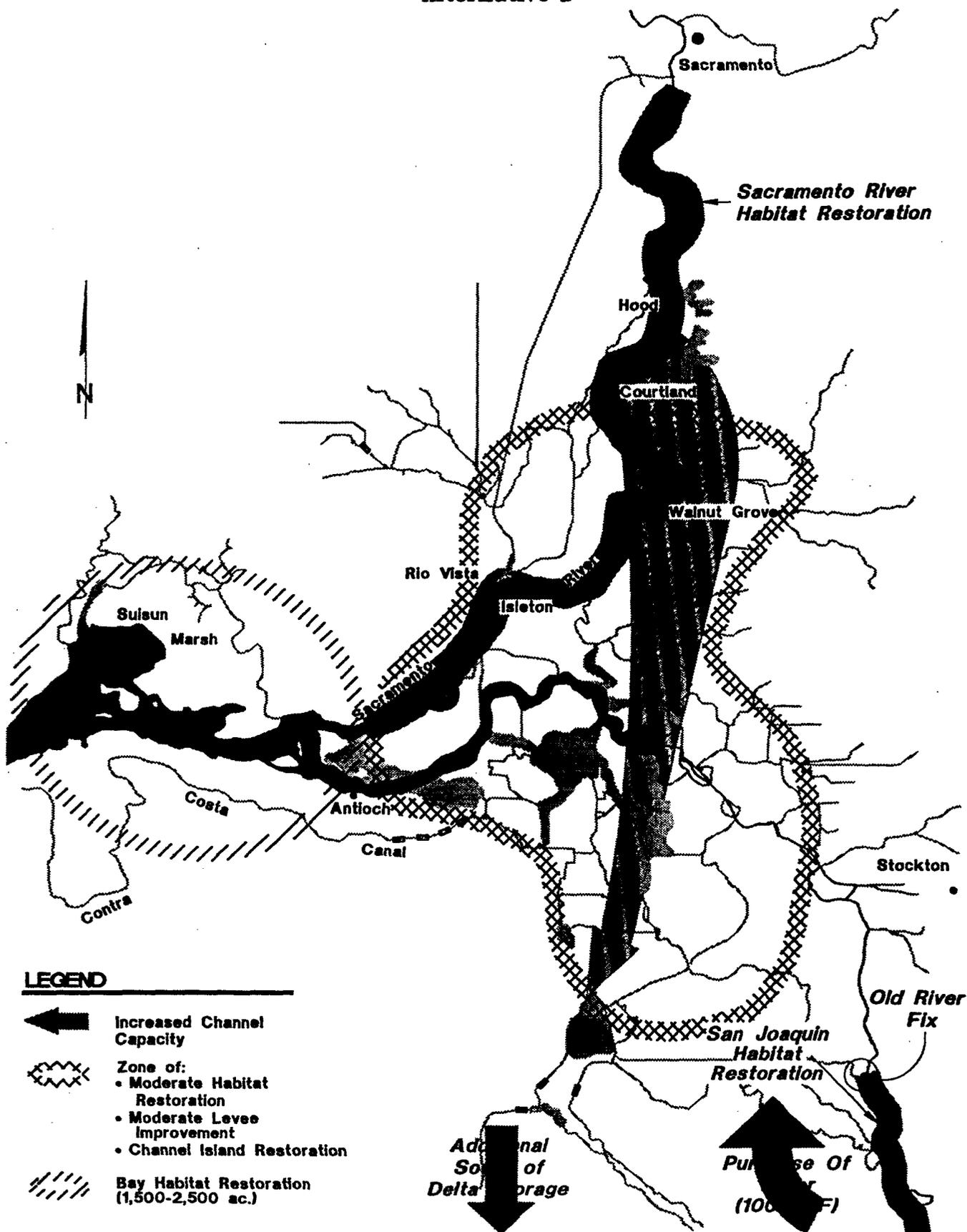
*Moderate habitat restoration upstream, in the Delta, and near Suisun Bay*

A moderate demand management program including water conservation, water reclamation, and land retirement will be used to sustain supplies for existing water users and provide alternative supplies for other users. Urban "Best Management Practices" and agricultural "Efficient Water Management Practices" will be expanded and substantial investments will be made in water reclamation to produce additional urban water supplies. This alternative will also establish a long-term drought water bank to improve supply reliability in dry years and encourage temporary land fallowing during dry years. Approximately 300,000 to 400,000 acres of land would be permanently retired, using willing sellers, to reduce agricultural water consumption.

*Water bank, improved demand management help balance supply and demand*

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To allow Delta water use patterns to be shifted away from the spring (February-June) period, this alternative will increase conjunctive use and groundwater banking in the southern San Joaquin Valley and other service areas to provide 300 to 500 TAF of annual supply. New water storage facilities of 1 to 1.5 MAF capacity will also be constructed downstream of the Delta to provide further operational flexibility in the pattern of diversions from the Delta, deliveries of water to users in export areas, and better coordination with shifted upstream reservoir storage operations.

*New water storage is added downstream and in Delta*

North Delta channel conveyance will be improved in combination with installing a screened facility for diverting water from the Sacramento River to eastside Delta channels (one possible variation is a pump/siphon facility across Andrus Island) to increase the efficiency of water flows to the export pumps. The increased conveyance efficiency in combination with increased south-of-Delta storage capacity and real-time monitoring will allow export pumping to be curtailed during times when fish are vulnerable without reducing water supply reliability. Improvements to north Delta channels will provide multiple benefits for flood conveyance, habitat restoration, water supply, and south Delta water quality and will be designed to eliminate the reverse flow element in the lower San Joaquin River caused by export pumping.

*Channel improvements increase conveyance efficiency*

This alternative will implement a program to control pollutants at their sources. Delta and tributary water quality will be improved substantially by reductions in pollutant discharges from agricultural, municipal, industrial, and mine sources. Marginally productive lands that contribute substantially to regional drainage and water quality problems will be retired. 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*

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 would receive moderate emphasis, while maintenance and emergency response would receive modest emphasis.

*Comprehensive Delta Protection Plan*

New storage increases water supply reliability and increases flexibility so that fish entrainment can be reduced. Levee rehabilitation incorporates habitat improvements while simultaneously reducing system vulnerability, increasing ecosystem quality, and improving water quality.

*Actions provide multiple benefits*

## Potential Sequencing

Stage 1. Implementation will begin with core actions.

*Core actions*

**Stage 2.** The second stage of implementing this alternative will consist of high priority habitat restoration, screening of high priority diversions, water conservation and reclamation at most cost-effective levels, substantial expansion of groundwater banking and conjunctive use, and establishment of a long-term drought water bank. Implementation of a comprehensive Delta protection plan will begin. Additional San Joaquin River water (100 TAF) will be developed or acquired for environmental uses. Approximately 70,000 to 100,000 acres of marginally productive agricultural lands in the San Joaquin Valley will be retired.

*Habitat  
restoration and  
demand  
management*

**Stage 3.** The third stage will include construction of the screened diversion from the Sacramento River to eastside channels, installation of fish guidance facilities, pollutant source controls, and permanent retirement of 200,000 to 300,000 acres of agricultural land. Stabilization of levees would receive moderate emphasis, while maintenance and emergency response would receive modest emphasis. To test screening technologies, a small screened diversion from the Sacramento River to Snodgrass Slough will be constructed.

*In-Delta storage,  
pollutant source  
control*

**Stage 4.** This stage will emphasize north Delta channel conveyance improvements for multiple benefits, additional habitat restoration in the Delta and upstream, screening of moderate priority diversions, increased conjunctive use, and construction of off-stream water storage in the San Joaquin Valley.

*Channel  
improvements,  
habitat  
restoration, new  
screened  
diversion*

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## Potential Sequencing

