

## ALTERNATIVE I - WEST SIDE CONVEYANCE AND RIVER RESTORATION

### Reduce Conflicts in the System

*A solution will reduce major conflicts among beneficial users of water. A solution should:*

- significantly reduce each of the four major conflicts which have been identified for the Bay-Delta system. Most of the problems in the Bay-Delta are embodied in one or more of these conflicts. They are:
  - fisheries and diversions - high - export diversion from the South Delta is eliminated and diversions from the Sacramento River are substantially reduced.
  - habitat and land use/flood protection - medium/high, a modest level of vulnerability reduction is included along with moderate habitat improvements. The vulnerability of export supplies to catastrophic interruption is substantially reduced.
  - water supply availability and beneficial uses - high/medium, this alternative significantly improves water availability for all uses but is discounted due to possible adverse impacts on in-Delta water users.
  - water quality and land use - medium/high, substantial improvement in export water quality since most export pumping is moved from the South Delta. However, there may be adverse effects on in-Delta water users.

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**HIGH/MEDIUM**

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### Equitable

*An equitable solution will focus on solving problems in all problem areas. Improvement for some problems will not be made without corresponding improvements for other problems. Equitable considerations include:*

- satisfy some portion of each of the 4 primary and 14 secondary objectives which have been identified for the program - High, addresses some portion of all objectives.
- provide a reasonable balance of reliability weighted improvements for the four resource

areas. Balance does not necessarily require an equal level of improvement for each resource areas ( e.g. water exporters might be willing to accept less improvement in water supply reliability if water quality is improved). - **Medium/High, although all resource areas are substantially benefited, this alternative is discounted due to possible impacts on in-Delta water users.**

- result in costs allocated to the economic users of water based on the benefits they receive from the solution. However, there is no obligation to provide benefits to those unwilling to contribute towards the solution - **Unable to consider this factor in the absence of a financing plan.**

- result in net benefits and burdens balanced across stakeholder groups - **Medium/High, down rated because of impacts on south Delta water quality.**

**MEDIUM/HIGH**

**Affordable**

*An affordable solution will be one that can be implemented and maintained within the foreseeable resources of the Program and stakeholders. An affordable solution should:*

- have identifiable revenue and financing provisions which are adequate for implementation and continued maintenance of the solution - **Unable to consider this factor in the absence of a financing plan.**

- be among the least expensive solutions, for a given level of implementation, which achieve the Program objectives - **Low/Medium, this is a relatively expensive alternative compared to other isolated facility options, but may have substantial undefined benefits (fishery recovery, hydropower, reduced water treatment costs, etc.).**

- minimize the negative effects on the credit rating of those funding the solution - **Unable to consider this factor in the absence of a financing plan.**

**LOW/MEDIUM**

## Durable

*A durable solution will have political and economic staying power and will sustain the resources it was designed to protect and enhance. A durable solution should:*

- be adaptive, flexible to changing needs and potential future conditions, and able to address biological uncertainty to sustain the resources it was designed to protect and enhance - **High/Medium**, this alternative is very flexible due to the large storage but discounted because of its unknown impacts on the Sacramento River system upstream of the Delta.
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **High**, this alternative relies on a combination of extensive habitat improvement both in the Delta and upstream, along with export diversion relocation, reoperation and improved environmental flows.
- accommodate hydrological and other physical uncertainties (e.g. increased storage would hedge against the unknown, or consideration of impacts of potentially higher sea levels on the various alternatives could strengthen durability) - **High/Medium**, new upstream storage provides durability in this sense. However, still must go through Delta with new conveyance.
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **Low**, once the very costly facilities are constructed, there may be pressure to operate them in a less than optimum manner. Need multiple guarantees.
- include a financial plan which has provisions to ensure that the solution will be implemented as intended, while providing flexibility to alter revenues to respond to changing needs - **High/Medium**, because water diverted to the new conveyance and storage is readily quantifiable and accountable. Long-term contracts for water supply can be developed based on deliveries from storage and use of storage.

**MEDIUM/HIGH**

## Implementable

*An implementable solution will have broad public acceptance, legal feasibility and will be timely and relatively simple to implement compared to other alternatives. An implementable solution should:*

- have legal or practical precedents or have a clearly identified series of reasonable steps which could be taken to enable implementation - Low, many elements like development of new conveyance, storage and habitat restoration projects are reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance. However, tapping of Lake Shasta and Oroville and storage this large has little practical precedents.
- have institutional feasibility - High, this alternative could be implemented by and within existing institutional authorities. Some contractual or joint powers authorities might be desirable to implement the new conveyance and storage.
- include as few major legal and institutional changes as necessary while meeting Program objectives - Low/Medium, this alternative could be implemented by and within existing institutional authorities. Some contractual or joint powers authorities might be desirable to implement the new conveyance and storage. Would need major institutional guarantees
- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole - Low/Medium, discounted because of opposition of some groups to structural solutions, particularly one on this scale. Also, depending on the specific conveyance and reservoir locations, the new storage included in this alternative may face significant local or regional opposition. Central and South Delta water users may oppose an isolated facility.

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**LOW/MEDIUM**

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## No Significant Redirected Impacts

*A solution will not solve problems in the Bay-Delta system by redirecting significant negative impacts, when viewed in its entirety, in the Bay-Delta or other regions of California. A solution should:*

- minimize negative long-term economic impacts at the regional level - Medium/High, relatively small amounts of land-use change compared to other alternatives.

- compensate for or mitigate unavoidable negative impacts to the greatest extent practicable - Low/Medium, relatively large amounts of land-use change compared to other alternatives for storage and conveyance areas. Some impacts may not be truly mitigable such as endangered wildlife and cultural resources..

**MEDIUM**

*POTENTIAL REVISIONS*

Revision	Principle Improved	Rationale	Potential Adverse Affects
Provide water service to Central and South Delta water users from the isolated facility	Reduce Conflicts, Implementable.	Provide benefits to in-Delta water users to improve water quality in south and central Delta	Cost
Downsize Reservoir(s) to around 3 MAF	Affordable, Durable, Implementable, NSRDI	Reduce cost and impacts of the alternative.	Storage not large enough to eliminate south Delta pumps, Cost
Eliminate Feather River diversion out of Thermalito afterbay	Affordable, Implementable	Reduce Cost	Cost

Downsize conveyance system	Affordable, Implementable.	Retain Shasta Tap at 15,000 cfs. Convey from new storage to Tehama-Colusa Canal, Corning Canal, and Glen Colusa Canal and eliminate diversions from River.	Cost
Eliminate conveyance from new storage to Delta pumps	Reduce Conflicts, Affordable, Durable. Implementable	Use River to carry water saved by eliminating diversions to Hood. From Hood use the conveyance facilities in alternative "C" to transmit to pumps	Cost, Could add feeder lines to small isolated facility to serve eastside Delta areas.