

INITIAL EVALUATION USING SOLUTION PRINCIPLES FOR ALTERNATIVES A - J

Solution principles are the fundamental principles which guide development and evaluation of the Program alternatives. The solution principles provide an overall measure of the acceptability of alternatives and guide the design of the institutional part of each alternative.

The following initial evaluations were prepared by representatives from the Program team, consultant team and PCT to illustrate the possible use of solution principles. Each detailed criterion was considered and an overall evaluation was developed for each solution principle. The intent of these initial evaluations is solely to provide starting points to help initiate discussion for refinement. A ranking from **Low** achievement to **High** achievement was assigned to each. We expect that many of the rankings on the following sheets will change as we obtain additional input.

We need to ask how well each draft alternative meets each solution principle. We would also like to explore how each alternative (when ranking **Low** for some solution principles) could be revised (improved) by changing components of the alternative.

The following matrix summarizes the initial rankings for all alternatives. See the attached initial evaluation for each alternative for more detailed rationale on ranking each solution principle criterion.

**SUMMARY
INITIAL EVALUATION USING SOLUTION PRINCIPLES
FOR ALTERNATIVES A - J**

SOLUTION PRINCIPLE		ALT A	ALT B	ALT C	ALT D	ALT E	ALT F	ALT G	ALT H	ALT I	ALT J
Reduce Conflicts		LOW	MEDIUM	MEDIUM	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM	HIGH	MEDIUM
	fisheries and diversions	MEDIUM	LOW	HIGH	MEDIUM	LOW	MEDIUM	HIGH	MEDIUM	HIGH	MEDIUM
Equitable	habitat and land use	LOW	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
	satisfy objectives	MEDIUM	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
Affordable	reasonable balance	MEDIUM	MEDIUM	MEDIUM	MEDIUM	LOW	HIGH	HIGH	MEDIUM	MEDIUM	MEDIUM
	benefits allocated to users	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Durable	benefits/burdens by stakeholder	LOW	MEDIUM	MEDIUM	MEDIUM	LOW	LOW	MEDIUM	MEDIUM	MEDIUM	MEDIUM
	adequate financing	LOW	MEDIUM	MEDIUM	MEDIUM	LOW	LOW	LOW	LOW	LOW	LOW
	least expensive for implementation	LOW	LOW	MEDIUM	MEDIUM	LOW	LOW	LOW	MEDIUM	LOW	HIGH
	minimizes negative credit rating	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	adaptable to future conditions/uncertainty	MEDIUM	MEDIUM	MEDIUM	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM
		LOW	LOW	HIGH	LOW	LOW	LOW	MEDIUM	MEDIUM	HIGH	MEDIUM

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**SUMMARY
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FOR ALTERNATIVES A - J**

	ALT A	ALT B	ALT C	ALT D	ALT E	ALT F	ALT G	ALT H	ALT I	ALT J
	low	medium	medium /high	low /medium	low	low /medium	medium	medium /high	high	high /medium
variety of improvemetrn mechanisms	low	medium	medium /high	low /medium	low	low /medium	medium	medium /high	high	high /medium
hydrological and physical uncertainty	low	low /medium	medium /high	low /medium	low	low /medium	medium	medium /high	high /medium	medium /high
adequate legal, operational/physical flexibility to alter revenues	high	medium	medium	medium	high /medium	high /medium	low /medium	medium	low	low /medium
	high	medium /high	high /medium	medium /high	low /medium	low /medium	medium /high	high	high /medium	high /medium
	LOW	MEDIUM /HIGH	MEDIUM	MEDIUM /HIGH	MEDIUM /HIGH	MEDIUM	MEDIUM	MEDIUM /LOW	LOW /MEDIUM	MEDIUM
Implementable	high	medium	medium /low	medium	medium /high	high	medium	medium /low	low	medium /low
legal or practical precedents	high	medium	medium /low	medium	medium /high	high	medium	medium /low	low	medium /low
institutional feasibility	high	high	high	high	high	high	high	high	high	high
few legal and institutional changes	medium	high /medium	medium	high	high	high	medium /low	medium	low /medium	medium
broad acceptance by geographic/interest groups	low	medium	medium	medium	medium	medium /low	medium	low /medium	low /medium	low /medium
	LOW	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM /HIGH	MEDIUM	MEDIUM /HIGH	MEDIUM	HIGH /MEDIUM
No Significant Redirected Impacts	low	medium	medium	medium	medium	medium /high	medium	medium /high	medium /high	high
minimize long-term regional economic impacts	low	medium	medium	medium	medium	medium /high	medium	medium /high	medium /high	high
compensate for unavoidable negative impacts	low	medium	medium	medium	medium	medium /high	medium /high	medium /high	low /medium	medium /high

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ALTERNATIVE A - EXTENSIVE DEMAND MANAGEMENT

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 -medium, potential reductions in export pumping for normal years 1-2 MAF with some savings in critically dry years. Export pumping from the South Delta continues and only a modest level of habitat restoration is included. Benefits to fisheries may be reduced in dry years when they may be most needed. Would need institutional guarantees to keep export reductions down during increase in demand and to ensure no redirected impacts. Initially reduced entrainment.
 - habitat and land use/flood protection - low/medium, moderate levels of levee improvement. Modest levels of vulnerability reduction and habitat restoration are included.
 - water supply availability and beneficial uses - low/medium, limited water supply benefits, and substantial reductions in agricultural uses. Reducing demands should increase supply and have some benefit on water quality from retirement of poor drainage lands.
 - water quality and land use - low, limited improvement in export water quality since export pumping from South Delta continues, only modest pollutant source controls included.

LOW/MEDIUM

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**, some uncertainty that fish populations will improve, therefore water supply improvements are somewhat uncertain and unreliable. However, all areas are equally (modestly) benefitted. Institutional guarantees need to insure shared benefits of saved water
- 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**, if costs are largely allocated to water users, this alternative would rank very low.
- result in net benefits and burdens balanced across stakeholder groups - **Low**, burden on San Joaquin Valley communities and uncertainty that fish will respond.

LOW/MEDIUM

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**. Financing for the large land retirement component is potentially complex, and could lead to a low rating for this alternative.
- be among the least expensive solutions, for a given level of implementation, which achieve the Program objectives - **Low/medium** due to the perceived limited cost-effectiveness of this solution; the large wastewater reclamation component is

relatively expensive, and the large land retirement component is likely to have high secondary costs (e.g. in-lieu county property tax payments, etc.) Capital costs are low but annual costs are high. Being implementable early is a positive.

- 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 - **Low/Medium**, demand is "hardened" by the aggressive demand management, land fallowing, and land retirement components. A substantial change in state demographics could reduce or eliminate the alternative's accomplishments.
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **Low**, this alternative relies on a combination of modest habitat improvement and reoperation due to demand reduction. May not be enough benefits derived from demand reduction. Narrow focus on one solution, not enough flexibility.
- 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) - **Low**, continued South Delta export diversions are subject to interruption due to higher sea levels (increased flood risk) and additional species listings. Lacks protection from drought sequences
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **High**, because the basic conveyance configuration of the Delta is unchanged, existing hydraulic constraints on export diversions remain. Focused on senior water rights holders.
- 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, because water supplies developed by wastewater reclamation are readily quantifiable and accountable. Land retirement is inherently flexible and can be phased in over time and expanded or contracted if necessary.

MEDIUM

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 - High, relative to the other alternatives, development of habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance.
- have institutional feasibility - High, this alternative could be implemented by and within existing institutional authorities.
- include as few major legal and institutional changes as necessary while meeting Program objectives - Medium, this alternative could be implemented by and within existing institutional authorities. May need some legislation, because districts control water. Senior water rights obstacles may cause lack of institutional will.
- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole - Low, discounted because this alternative includes a substantial land retirement component which is not broadly accepted through the state.

LOW

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 - Low, relatively large amounts of land retirement and resultant third-party impacts compared to

other alternatives.

- compensate for or mitigate unavoidable negative impacts to the greatest extent practicable - Low, relatively large amounts of land retirement and resultant third-party impacts compared to other alternatives.

LOW

POTENTIAL REVISIONS

Revision	Principle Improved	Rationale	Potential Adverse Affects
Rehabilitate fish facilities at export pumping plants	Reduce Conflicts	Reduces entrainment effects	Cost
Add south of Delta storage and increase permitted pumping capacity	Reduce Conflicts, Durable, Implementable	Produces water supply benefits, and more flexibility to meet pumping windows	Increase levee maintenance and emergency response
Reduce land retirement, Specify water savings expected and let users manage to produce savings	Reduce Conflicts, Affordable, Durable, Implementable, NSRDI	Decrease impacts on land use, decreases cost, doesn't harden demand as much, more acceptable to certain stakeholders, reduces third-party impacts	Improve in Delta conveyance in specific areas.
Add the habitat part of alternative "F"	Reduce Conflicts, Durable	Produces more critical habitat and possibly water supply reliability	Cost, uncertainty of results
Increase pollutant source control	Reduces Conflicts	Improves Water quality for drinking water and south Delta	Uncertainty of results in south Delta

<p>Increase levee maintenance and emergency response</p>	<p>Reduces Conflicts, Durable</p>	<p>Alternative relies heavily on the Delta as it is. Vulnerability protection should be higher for such a single focus.</p>	<p>Cost</p>
<p>Improve in Delta conveyance in specific areas.</p>	<p>Reduces Conflicts, Durable</p>	<p>Improve conveyance ,along with habitat improvements, to increase flexibility to pump at full permitted capacity during environmental windows of opportunity.</p>	<p>Increase levee maintenance and emergency response</p>

ALTERNATIVE B - NEW STORAGE TO IMPROVE DELTA OUTFLOW

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 - medium/low, export pumping from the South Delta continues and only a moderate level of habitat restoration is included.
 - habitat and land use/flood protection - medium, only moderate levels of vulnerability reduction and habitat restoration are included.
 - water supply availability and beneficial uses - medium, limited water supply benefits associated with downstream storage without improved trans-Delta conveyance.
 - water quality and land use - medium, limited improvement in export water quality since export pumping from South Delta continues, partially offset by extensive pollutant source controls.

MEDIUM

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**, Storage provides more

reliability for protection and increase of fisheries populations and thus increases water supply reliability.

- 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/low
Following 400 TAC of land will be perceived as an loss to Agriculture. No other outstanding imbalances.

MEDIUM

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 due to the perceived limited cost-effectiveness of this solution; the new storage, without conveyance, costs a lot while providing only limited water supply benefits. Agriculture alone has a limited ability to pay for the storage.

- 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 - **Low/medium**, this alternative relies primarily on the existence of periods or "windows" during which increased export pumping from the South Delta will be acceptable. This approach is poorly understood, may be incorrect (e.g. the windows may be narrower than expected, or may not exist at all), and is therefore risky. If the anticipated windows do not exist, the storage would provide the flexibility, although limited, to adapt.

- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **Medium**, this alternative relies on a combination of habitat improvement (moderate) and reoperation (export diversion timing).

- 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) - **Low/Medium**, new storage provides durability in this sense, but continued export diversions from the South Delta are a negative. The continued South Delta export diversions are more suspect to interruption due to higher sea levels (increased flood risk) and additional species listings. The alternative was down graded because a single point of diversion and no conveyance limits flexibility.

- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **Medium**, because the basic conveyance configuration of the Delta is unchanged, existing hydraulic constraints on export diversions remain. Operational guarantees are needed to insure joint sharing of the storage reservoirs between environmental and water supply purposes.

- 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 - **Medium/High**, because water diverted to the new storage is readily quantifiable and accountable. Long-term contracts for water supply can be developed based on deliveries from storage and use of storage. High cost of storage may influence flexibility to alter revenues.

MEDIUM

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 - **Medium**, relative to the other alternatives, development of new storage and habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance. The mitigation for the reservoir sites and the increased opposition to new storage reduces the practical precedents of new storage.
- 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 storage.
- include as few major legal and institutional changes as necessary while meeting Program objectives - **High/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 storage. Water rights change would be needed for increased pumping capacity.
- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole - **Medium**, discounted because this alternative includes substantial amounts of land retirement which is not broadly accepted through the state. Also, depending on the specific reservoir location(s), the new storage included in this alternative would face significant local or regional opposition. There also would be area-of-origin concerns with this alternative.

MEDIUM/HIGH

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**, relatively small amounts of land-use change compared to other alternatives. However, contains 400 TAC of land retirement which may have long term economic impacts.
- compensate for or mitigate unavoidable negative impacts to the greatest extent

practicable - Medium, 400 TAC would create some redirected impacts.

MEDIUM

POTENTIAL REVISIONS

Revision	Principle Improved	Rationale	Potential Adverse Affects
Add trans-Delta conveyance improvements	Reduce Conflicts, Affordable	Provides water supply and flood control benefits, improves cost effectiveness of new storage	Revision
Upgrade screens at fish facilities at SWP and CVP	Reduce conflicts	Improves fishery protection	Cost
Reduce Land Retirement to the 150 to 200 TAC range	Reduces Conflict, Affordable, Redirected Impacts	Reduces costs and minimizes conflicts with agriculture sector, reduces third party impacts	Reduced environmental water supply for bay
Increase South of Delta Storage to the 1.5 to 2 MAF	Reduces Conflicts, Equitable	Greater water supply benefits, provides more flexibility to reduce conflicts with fishery resources	Site specific impacts, redirected impacts, cost
Remove North of Delta Storage	Reduces Conflicts Reduce Cost	May reduce water quality because of westside Franciscan soils. Can not assume same water quality of Sacramento River	Reduces flexibility to benefit fishery, in stream and delta outflow, reduces the flexibility to increase reliability of Ag and Urban water supplies.

Relocate, locally a screened intake for SWP and CVP (e.g. to Middle or Old River on San Joaquin)	Reduce Conflicts	Improves fishery protection	Costs
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ALTERNATIVE C - DUAL DELTA CONVEYANCE

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/medium, export pumping from the South Delta is substantially curtailed, and a moderate level of habitat improvement is included.
 - habitat and land use/flood protection - high, moderate levels of vulnerability reduction and habitat restoration are combined with reduced export diversion effects.
 - water supply availability and beneficial uses - high/medium, water supply availability is improved for both water users and environmental uses by new storage upstream and downstream of the Delta. Isolated conveyance improves water supply availability. Provides flexibility to pump in shorter windows.
 - water quality and land use - medium, improved export water quality associated with the new diversion location, but this alternative is discounted because of possible adverse effects on South and Central Delta water users.

MEDIUM/HIGH

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). - **High/Medium**, all areas are substantially benefitted. Water quality in south Delta has moderate improvement.

- 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**, discounted because of level of land retirement and possible adverse impacts on South and Central Delta water users.

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 - **Medium/High**, the substantial capital cost of this alternative is largely offset by avoided treatment costs, and the improved conveyance increases the cost effectiveness of the new costly upstream and downstream storage components.

- 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.**

MEDIUM/HIGH

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 - **Medium/High**, this alternative relies on different remedial theories, e.g., export diversion relocation, continued through-Delta conveyance, and habitat restoration. The new storage provides flexibility through potential reoperation. This alternative is discounted slightly because of the limited capacity of the isolated facility, limiting its ability to be adapted to changed conditions.
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **Medium/High**, this alternative relies on a variety of remedial theories as discussed above. This alternative is discounted somewhat because it does not include substantial improvements on the rivers and tributaries.
- 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) - **Medium/High**, new storage and isolated conveyance improve durability in this sense, but continued export diversions from the South Delta are a negative. The continued South Delta export diversions remain suspect to interruption due to higher sea levels (increased flood risk) and additional species listings.
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **Medium**, the variety of approaches included in this alternative offer the ability to adapt as more is known, providing some assurance of success. This alternative is discounted due to the perceived difficulty of crafting adequate assurances regarding the appropriate operation of the isolated facility. Need institutional guarantees for south Delta water quality.
- 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 storage is readily quantifiable and accountable. Long-term contracts for water supply can be developed based on deliveries from storage and use of storage and the isolated facility. Benefits are easy to define.

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 - **Medium/Low**, relative to the other alternatives, development of new storage and habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance. The recent practical precedents for new storage and an isolated facility may substantially delay implementation.
- 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 storage.
- include as few major legal and institutional changes as necessary while meeting Program objectives - **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 storage. The implementation of an isolated facility with consideration of Delta standards may require legal changes.
- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole - **Medium**, due to opposition to structural solutions by some groups related to assurance of appropriate operations.

MEDIUM

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**, relatively small amounts of land-use change compared to other alternatives. Third party impacts on landuse change, for retirement, for facilities.
- compensate for or mitigate unavoidable negative impacts to the greatest extent

practicable - Medium, relatively small amounts of land-use change compared to other alternatives, construction impacts are likely mitigable. Some redirected impacts.

MEDIUM

POTENTIAL REVISIONS

Revision	Principle Improved	Rationale	Potential Adverse Affects
Rehabilitate fish facilities at export pumping plants	Reduce Conflicts	Reduces entrainment effects	Cost
Serve eastside tributary areas from isolated facility	Reduce Conflicts, Equitable, Durable, Implementable, NSRDI	Transfer with eastside San Joaquin water users in exchange for stored water down San Joaquin tributaries. Improves flow and water quality in San Joaquin.	May not be enough water if isolated facility is too small.
Serve south Delta Agriculture from isolated facility	Reduce Conflicts, Equitable, Durable, Implementable, NSRDI	Directly serve Ag land in south delta that has high salinity problems or circulation problems.	May not be enough water if isolated facility is too small.
Increase range of isolated facility to 2K to 15K cfs	Reduce Conflicts, Equitable, Durable, NSRDI	Would increase flexibility to manage Delta for ecosystem. supply, and water quality.	Need institutional guarantees

<p>Add in-Delta storage connected to Clifton Court(100K to 200K AF)</p>	<p>Reduce Conflicts, Equitable, Durable, NSRDI</p>	<p>Filling this storage from the Delta or from the isolated facility. No significant environmental impacts. Improve water quality and fisheries Jul-Aug-Sep</p>	<p>Water Quality in the reservoir and TOC</p>
<p>Reduce Ag retirement to 150K to 200K Acres</p>	<p>Reduce Conflicts, Affordable, Equitable, Durable, Implementable, NSRDI</p>	<p>Decrease impacts on land use, decreases cost, doesn't harden demand as much, more acceptable to certain stakeholders, reduces third-party impacts</p>	<p>Reduced environmental water supply for the Bay</p>
<p>Add upper Sacramento meander belts below Chico Landing</p>	<p>Reduce Conflicts, Durable</p>	<p>With upstream meanders increases river aquatic and terrestrial habitat. Need to boost habitat to make water supply guarantees</p>	<p>Cost Looks like add-on Re-directed impacts to land owners.</p>
<p>Add subsidence control program</p>	<p>Reduce Conflicts, Durable, Implementable, NSRDI</p>	<p>Long term subsidence program that can co-exist with Ag and ecosystem quality. Long term conversion.</p>	<p>Cost, Re-directed impacts on long term change in landuse. Perception that the program is eliminating Ag in Delta.</p>

Increase emergency response	Reduce Conflicts, Equitable, Durable, Implementable, NSRDI	Reduce land use conflicts, increases protection of water supply quality, improves breath of support	Cost
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ALTERNATIVE D - THROUGH DELTA CONVEYANCE

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 - medium, export pumping from the South Delta continues and only a moderate level of habitat restoration is included. Full screens help on through Delta.
 - habitat and land use/flood protection - medium, only moderate levels of vulnerability reduction and habitat restoration are included.
 - water supply availability and beneficial uses - medium/high, water supply benefits associated with downstream storage and improved trans-Delta conveyance.
 - water quality and land use - medium, some improvement in export water quality due to improved circulation from the Sacramento River to the export pumps.

MEDIUM

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, uncertainty that fish

populations will improve, therefore water supply and ecosystem improvements are somewhat uncertain and unreliable. Water supply reliability and drinking water quality would be increased as a result of the increase conveyance and pumping capacity and south of Delta storage. This allows increased flexibility to meet the pumping needs of a reduced pumping window.

- 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, all areas share in the burdens, however the benefits may not be as proportional. Little flexibility to rebalance.

MEDIUM

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 - Medium, the improved through-Delta conveyance improves the cost effectiveness of the new downstream storage component, however with continued export pumping from the South Delta, the benefits may still be limited.

- 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.

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 - **Low/Medium**, The new South of Delta storage provides flexibility through potential reoperation to adapt to changed circumstances. However, continued export pumping from the South Delta limits the ability of this alternative to adapt to changes.
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **Low/Medium**, this alternative relies on a combination of habitat improvement (moderate), increased flow from the Sacramento river into the Central Delta, and reoperation (export diversion timing). The mechanism to face biological uncertainty is narrowly focused.
- 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) - **Low/Medium**, new storage improves durability in this sense, but continued export diversions from the South Delta are a negative. The continued South Delta export diversions remain suspect to interruption due to higher sea levels (increased flood risk) and additional species listings. The opportunity for prolonged drought management is limited.
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **Medium**, although the basic conveyance configuration of the Delta remains, and some existing hydraulic constraints on export diversions remain, the increased permitted capacity of the export pumps requires assurances regarding their proper operation.
- 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 - **Medium/High**, because water diverted to the new storage is readily quantifiable and accountable. Long-term contracts for water supply can be developed based on deliveries from storage and use of storage. Implementation of the channel improvements can be phased in over time in an adaptive manner, and expanded or contracted as more becomes known.

MEDIUM

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 - **Medium**, relative to the other alternatives, development of new storage and habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance. The mitigation for the reservoir sites and the increased opposition to new storage reduces the practical precedents of new storage.
- 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 storage.
- include as few major legal and institutional changes as necessary while meeting Program objectives - **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 storage.
- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole - **Medium**, discounted because of concerns regarding the efficacy of the new screened diversion on the Sacramento River, and limited water supply and water quality improvements perceived available from this alternative.

MEDIUM/HIGH

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**, relatively small amounts of land-use change compared to other alternatives. However, contains 400 TAC of land retirement which may have long term economic

impacts.

- compensate for or mitigate unavoidable negative impacts to the greatest extent practicable - Medium, 400 TAC would create some redirected impacts.

MEDIUM

POTENTIAL REVISIONS

Revision	Principle Improved	Rationale	Potential Adverse Affects
Rehabilitate fish facilities at export pumping plants	Reduce Conflicts	Reduces entrainment effects	Cost
Add north of Delta storage	Reduce Conflicts	Provides greater flexibility to reduce conflicts of screening facility on the Sacramento River, and improves water supply benefits.	Cost, Site specific impacts, redirected impacts
Increase emergency response on levee vulnerability	Reduce Conflicts, Equitable, Implementable, Durable	Reduce land use conflicts, increases protection of water supply quality, improves breadth of support of a single focused Delta conveyance system.	Cost
Add upper Sacramento River meander belts	Reduce Conflicts, Durable	Upstream meanders increases river aquatic and terrestrial habitat.	Cost, Looks like add-on, Re-directed impacts to land owners.

Revision	Principle Improved	Rationale	Potential Adverse Affects
Add subsidence control program	Reduce Conflicts, Durable, Implementable, NSRDI	Long term subsidence program that can co-exist with Ag and ecosystem. • Long term conversion.	Cost, Re-directed impacts on long term change in land use. Perception that program is eliminating Ag in Delta.

ALTERNATIVE E - DELTA CHANNEL HABITAT AND CONVEYANCE

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 - low, export pumping from the South Delta continues without major screening improvements, however this alternative contains large amounts of new aquatic habitat; if this habitat successfully restores fish populations, this alternative could rate high on this factor even with the continued export pumping. The uncertainty of the realized fish production and migration routes contributes to the low rating.
 - habitat and land use/flood protection - medium, only moderate vulnerability reduction is included. Export diversions remain vulnerable.
 - water supply availability and beneficial uses - low/medium, limited water supply benefits unless and until fish populations recover. The uncertainty and narrow focus limits this alternative.
 - water quality and land use - medium/low, salinity intrusion and bromide intrusion into the Central Delta may be increased by this alternative because the volume of tidal change is significantly increased, limited improvement in export water quality since export pumping from South Delta continues, partially offset by extensive pollutant source controls.

LOW/MEDIUM

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). - **Low/medium**, relative uncertainty that fish populations will improve adequately as a result of the proposed habitat improvements, therefore water supply improvements are somewhat uncertain and unreliable.
- 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 - **Low /medium** the benefits to supply are uncertain and the burdens on San Joaquin Valley due to land retirement communities.

LOW/MEDIUM

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**, due to the perceived limited cost-effectiveness of this solution; the new habitat and channel improvements cost a lot while providing only limited water supply benefits. **Discounted for the uncertainty**

of water supply benefits.

- 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 - Low, this alternative relies primarily on the theory that increased areas of shallow water habitat in the North Delta will recover fish populations to a level that will accommodate continued export pumping from the South Delta. This approach is poorly understood, may be incorrect and is therefore risky (e.g., predation of desirable species may actually be increased). If the intended accomplishments of this alternative do not occur, this alternative would have a limited ability to adapt (i.e., the investment will have already been made, and much time will have spent waiting for this solution to work).
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - Low, this alternative relies almost entirely on a single remedial theory.
- 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) - Low, increased channel widths may actually increase the vulnerability of adjacent lands to catastrophic failure. The continued South Delta export diversions are more suspect to interruption due to higher sea levels (increased flood risk) and additional species listings.
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - High/medium, because the basic conveyance configuration of the Delta is unchanged, existing hydraulic constraints on export diversions remain.

- 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 - **Low/medium**, because the results of the habitat restoration are not readily quantifiable and accountable. Specific beneficiaries and clearly allocable benefits are not present with this alternative.

LOW

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 - **Medium/high**, relative to the other alternatives, development of new storage and habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance.
- have institutional feasibility - **High**, this alternative could be implemented by and within existing institutional authorities.
- include as few major legal and institutional changes as necessary while meeting Program objectives - **High**, this alternative could be implemented by and within existing institutional authorities.
- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole - **Medium**, discounted because this alternative may be perceived by some groups to offer insufficient water supply, and water quality benefits.

MEDIUM/HIGH

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**,

relatively small amounts of land-use change compared to other alternatives. Third party impacts on land use change, for retirement, and set back levees.

- compensate for or mitigate unavoidable negative impacts to the greatest extent practicable - Medium, relatively small amounts of land-use change compared to other alternatives.

MEDIUM

POTENTIAL REVISIONS

Revision	Principle Improved	Rationale	Potential Adverse Affects
Extend channel improvements south of the San Joaquin River	Reduce Conflicts, Equitable, Affordable, Implementable	Adds additional habitat which increases fish production and generates water supply benefits	Uncertainty that the fish will not be drawn to pumps, Cost
Add south of Delta storage	Reduce Conflicts, Equitable, Affordable, Implementable	Generates water supply benefits and flexibility to meet pumping windows	Site specific impacts, redirected impacts, cost
Add in-Delta storage connected to Clifton Court(100K to 200K AF) Multiple screened intakes.	Reduce Conflicts, Equitable, Durable, NSRDI	Filling this storage from the Delta through multiple intakes, increases flexibility for managing pumping to curtail environmental impacts. Improve water quality and fisheries Jul-Aug-Sep	Water Quality in the reservoir and TOC

ALTERNATIVE F - EXTENSIVE HABITAT RESTORATION WITH STORAGE

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 - medium/low, export pumping from the South Delta continues, but its adverse effects are somewhat reduced by new in-Delta storage. If the habitat improvements lead to sufficient recovery of fish species, this alternative would rate high. This uncertainty of production success down rates this alternative.
 - habitat and land use/flood protection - medium/high, a moderate level of vulnerability reduction and habitat restoration are combined.
 - water supply availability and beneficial uses - low/medium, limited water supply benefits associated with the new in-Delta storage and uncertainty of fish production results.
 - water quality and land use - low/medium, limited improvement in export water quality since export pumping from South Delta continues, partially offset by moderate pollutant source controls.

MEDIUM/LOW

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). - low/medium, uncertainty that fish populations will improve in a timely manner or at all, therefore water supply improvements are somewhat uncertain and unreliable . Water quality for urban supply and the south Delta are limited.

- 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 - low/medium, uncertainty of the realized benefits for water supply.

LOW/MEDIUM

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 due to the perceived limited cost-effectiveness of this solution; the new in-Delta storage costs a lot while providing only limited water supply benefits. The alternative offers uncertain fishery improvements, but if the intended population increases result, this may be a relatively cost effective solution.

- 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 - **Low/Medium**, this alternative relies primarily on a single remedial theory, that the proposed habitat restoration will lead to sufficient recovery of fish populations to achieve the Program objectives. If this is not effective, an entirely different approach will be required. On the other hand, this alternative can be phased in over time and adapted as more becomes known.
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **Low/Medium**, this alternative relies on a combination of habitat improvement (extensive) and limited system reoperation (export diversion timing).
- 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) **Low/Medium**, new in-Delta storage provides some durability in this sense, but continued export diversions from the South Delta are a negative. The continued South Delta export diversions remain suspect to interruption due to higher sea levels (increased flood risk) and additional species listings.
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **High/Medium**, because the basic conveyance configuration of the Delta is unchanged, existing hydraulic constraints on export diversions remain.
- 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 - **Low/Medium**, mostly the benefits of this alternative are not readily quantifiable and allocable to specific beneficiaries. Long-term contracts for water supply can be developed based on deliveries from and use of the new in-Delta storage.

MEDIUM

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 - **High**, relative to the other alternatives, development of new storage and habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance.
- 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 storage.
- include as few major legal and institutional changes as necessary while meeting Program objectives - **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 storage.
- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole - **Medium/Low**, discounted because this alternative may be viewed by some groups as offering inadequate water supply, water quality and vulnerability improvements. Also, depending on the specific reservoir location(s), the new storage included in this alternative may face significant local or regional opposition.

MEDIUM

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. Third party impacts on landuse change for retirement
- compensate for or mitigate unavoidable negative impacts to the greatest extent practicable - **Medium/High**, relatively small amounts of land-use change compared to

other alternatives. Meander belt land purchase may create redirected impacts.

MEDIUM/HIGH

POTENTIAL REVISIONS

Revision	Principle Improved	Rationale	Potential Adverse Affects
Increase levee maintenance and emergency response	Reduces Conflicts, Durable	Alternative relies heavily on the Delta as it is. Vulnerability protection should be higher for such a single focus.	Cost
Improve in Delta conveyance in specific areas.	Reduces Conflicts, Durable	Improve conveyance along with habitat improvements, to increase flexibility to pump at full permitted capacity during environmental windows of opportunity.	Increase levee maintenance and emergency response
Add south of Delta storage and increase permitted pumping capacity	Reduce Conflicts, Durable, Implementable	Produces water supply benefits, and more flexibility to meet pumping windows	Site specific impacts, redirected impacts, cost
Any major improvement to this alternative turns it into another alternative		May best be a component of other alternatives	

ALTERNATIVE G - EAST SIDE FOOTHILLS CONVEYANCE

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 - medium/high - export diversion from the South Delta is substantially reduced as are diversions from delta tributaries. Diversions are screened and above critical smelt habitat.
 - habitat and land use/flood protection - medium/high, only moderate levels of vulnerability reduction and habitat restoration are included, however the vulnerability of export supplies to catastrophic interruption is substantially reduced.
 - water supply availability and beneficial uses - medium, this alternative is discounted due to lack of storage and the conveyance size limitation.
 - water quality and land use - medium/high, substantial improvement in export water quality since most export pumping is moved from the South Delta. Increased flow down San Joaquin to help circulation and salt balance.

MEDIUM/HIGH

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). - High/Medium, all resource areas are substantially benefited.

- 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, increased benefits to San Joaquin and south Delta water quality makes a good balance of benefits, discounted due to significant land retirement.

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. Therefore, it has a low cost-effectiveness. Other alternatives with slight modification can perform similar function more cost effectively.

- 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 - **Medium/High**, provides flexibility to operate in the best interests of Delta health (e.g. convey water through the Delta, or divert upstream), on the other hand, once the costly isolated facility is constructed, there may be substantial pressure to increase its use to the detriment of through Delta flows. Lack of storage and no through Delta improvement limits flexibility. Flexibility to manage conjunctively with groundwater on the eastside is improved.
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **Medium**, this alternative relies on a combination of habitat improvement (moderate), export diversion relocation, and improved flows in the east-side tributaries and lower San Joaquin River.
- 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) - **Medium**, new partially isolated conveyance improves durability in this sense, but continued export diversions from the South Delta are a negative. The continued South Delta export diversions are more suspect to interruption due to higher sea levels (increased flood risk) and additional species listings.
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **Low/Medium**, because the basic conveyance configuration of the Delta is unchanged, existing hydraulic constraints on export diversions remain. Complex transfers and exchanges may need new operational provisions. Large potential for misoperation
- 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 - **Medium/High**, because water diverted to the new storage is readily quantifiable and accountable. Long-term contracts for water supply can be developed based on deliveries from storage and use of storage. Increased flexibility to manage the distribution of water.

MEDIUM

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 - **Medium**, relative to the other alternatives, development of new conveyance, storage and habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance. Practical precedents are limited for an eastside isolated facility.
- 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 - **Medium/Low**, 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 institutional guarantees to insure operation.
- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole - **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.

MEDIUM

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**, relatively small amounts of land-use change compared to other alternatives. However, contains 400 TAC of land retirement which may have long term economic impacts.

- compensate for or mitigate unavoidable negative impacts to the greatest extent practicable - **Medium/High**, relatively small amounts of land-use change compared to other alternatives. The 400 TAC would create some redirected impacts.

MEDIUM

POTENTIAL REVISIONS

Revision	Principle Improved	Rationale	Potential Adverse Affects
Reduce the length of the isolated conveyance facility (e.g. eliminate the reach from the Sacramento and Feather to the Folsom South Canal)	Durable, Affordable, Implementable	Reduce cost, while still providing substantial benefits	Intake is closer to delta, water quality is less than upstream diversions
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	Conveyance facility may not be large enough to serve all users, Cost.
Start diversion size at approx 15,000 cfs and scale down as users are served to a terminal capacity at the pumps of approx 7,000 cfs	Reduce Conflicts, Durable, Implementable	Provide benefits to in-Delta water users to improve water quality in south and central Delta and limits misoperation,	Increased screened diversion size, Cost

<p>Add upstream storage</p>	<p>Reduces Conflicts, Equitable, Durable, Implementable</p>	<p>Provides increased water supply benefits and flexibility to manage river flows for ecosystem and improve screen efficiency.</p>	<p>Cost, redirected impacts of Reservoir</p>
<p>Add a screened through Delta conveyance</p>	<p>Reduces Conflicts, Durable</p>	<p>Improve conveyance, along with habitat improvements, to increase flexibility to pump at full permitted capacity during environmental windows of opportunity.</p>	<p>Cost</p>

ALTERNATIVE H - CHAIN OF LAKES CONVEYANCE

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/medium - export diversion from the South Delta is eliminated.
 - habitat and land use/flood protection - medium/high, a moderate level of vulnerability reduction is included. The chain of lakes, in conjunction with moderate habitat improvements, produces a very high level of habitat restoration. The vulnerability of export supplies to catastrophic interruption is substantially reduced.
 - water supply availability and beneficial uses - high/medium, this alternative eliminates in-Delta conveyance constraints but is discounted due to possible adverse impacts on in-Delta water users.
 - water quality and land use - medium, substantial improvement in export water quality since most export diversion is moved from the South Delta. However, substantial amounts of Delta land are taken out of production. May be TOC and south Delta water quality problems.

MEDIUM/HIGH

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 there is little benefit to Delta tributaries and in-Delta water quality may be in question.**
- 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, service from the isolated facility to the central and south Delta water users and an 70 TAC of land retirement improve balance.**

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 - **Medium, this is a relatively expensive alternative compared to other isolated facility options. Cost , hydraulic operation, and effects on urban water quality are uncertain.**
- 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.**

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 - **Medium, multiple diversions and in-Delta storage provide flexibility to operate in the best interests of Delta health. The chain could be phased in over time, beginning with an enlarged Clifton Court Forebay, and moving northward island by island.**
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **Medium/High, this alternative relies on a combination of extensive habitat improvement and export diversion relocation and reoperation.**
- 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) - **Medium/High, new in-Delta storage provides durability in this sense, along with the multiple diversion locations and isolated conveyance.**
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **Medium, the conveyance capacity of the chain could be designed to limit total exports to a specified maximum capacity.**
- 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, 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 - **Medium/Low**, relative to the other alternatives, development of new conveyance, storage and habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance. However, the practical precedents for a large isolated facility using flooded islands do not exist.
- 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 - **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. Possibility of misoperation would require operational 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.

MEDIUM/LOW

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 - **Medium/High**, relatively small amounts of land-use change compared to other alternatives.

MEDIUM/HIGH

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
Add upstream storage	Reduces Conflicts, Equitable, Durable, Implementable	Provides increased water supply benefits and flexibility to manage river flows for ecosystem and improve screen efficiency.	Cost, redirected impacts of Reservoir
Add south of Delta storage	Reduce Conflicts, Equitable, Affordable, Implementable	Generates water supply benefits and flexibility to meet pumping windows	Cost, redirected impacts of Reservoir

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, an 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.

HIGH/MEDIUM

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.

LOW/MEDIUM

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 eastside Delta areas.

ALTERNATIVE J - EAST SIDE CONVEYANCE

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 - medium/high - export pumping from the South Delta is eliminated. Uncertainty of the screening technology for this size down rates this alternative. Multiple smaller diversions would improve the rating.
 - habitat and land use/flood protection - medium, modest vulnerability improvements are included along with extensive habitat improvements. The vulnerability of export supplies to catastrophic interruption is substantially reduced.
 - water supply availability and beneficial uses - medium/high, this alternative eliminates in-Delta conveyance constraints but is discounted due to possible adverse impacts on in-Delta water users. Lack of storage also reduces the rating.
 - water quality and land use - medium, substantial improvement in export water quality since export diversion is moved from the South Delta. However, there may be adverse effects on in-Delta water users.

MEDIUM/HIGH

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, benefits and burdens are quantifiable and balanced.**

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 - **High/Medium, this alternative is perceived to offer relatively high benefits relative to cost compared to other isolated facility options.**

- 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.**

HIGH/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 - **Medium/Low**, the operation of this alternative could be changed as more becomes known. **Limited by its single focused solution.**
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement - **High/Medium**, this alternative relies on a combination of extensive habitat improvement both in the Delta and upstream, along with export diversion relocation and reoperation. **Lacks the operational flexibility provided by storage.**
- 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) - **Medium/High**, relocation of export water supplies outside the Delta offers durability in this sense. This alternative is discounted because the large isolated facility may result in unforeseen adverse impacts. **Lacks the operational flexibility provided by storage**
- have adequate legal, operational, or physical provisions to ensure that objectives continue to be met in an equitable way for the long term - **Low/Medium**, once the very costly facilities are constructed, there may be pressure to operate them in a less than optimum manner.
- 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 is readily quantifiable and accountable. Long-term contracts for water supply can be developed based on deliveries.

MEDIUM

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 - **Medium/Low**, relative to the other alternatives, development of new conveyance and habitat restoration projects is reasonably straightforward, requiring Section 404, NEPA, and CEQA compliance.

The practical precedent for an large isolated facility has not been supported in the past.

- 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.

- include as few major legal and institutional changes as necessary while meeting Program objectives - 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. Would need operational 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 location, this alternative may face significant local or regional opposition. Central and South Delta water users may oppose an isolated facility. There would be area of origin concerns.

MEDIUM

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 - High, relatively small amounts of land-use change compared to other alternatives.

- compensate for or mitigate unavoidable negative impacts to the greatest extent practicable - Medium/High, relatively small amounts of land-use change compared to other alternatives. Elimination of through Delta flow would have negative impacts.

HIGH/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
Add south of Delta storage	Reduce Conflicts, Equitable. Affordable. Implementable	Generates water supply benefits and flexibility to meet pumping windows	Site specific impacts, redirected impacts. cost