

## Applying the IDT's Alternatives Against the Solution Principles

The following outlines factors that could be considered in comparing the Interagency Development Team's (IDT) alternatives 1, 2, & 3 against the Solution Principles.

### Reduce Conflicts in the System

*Will the alternative significantly reduce conflicts among beneficial uses of water.*

#### ***Fisheries and diversions***

The common programs all help reduce the conflict in all three alternatives by improvements for fish such as:

- Tidal wetlands
- Shaded Riverine Habitat
- Fish structures and gravel management
- Toxic Reduction
- Levee Setback (meander zones)
- Levee Associated Habitat.

**Alternative 1** slightly reduces the conflict with new fish screens at the South Delta pumps and increased capacity to manage pumping to reduce fisheries impacts.

**Alternative 2** with the South Delta pumping features, with major channel improvements and screens on the Sacramento River will further reduce the conflicts by providing increase pumping management and screens for salmon.

**Alternative 3** with the same South Delta pumping features as alternatives 1 and 2, plus an isolated facility which reduces the export diversions in the South Delta about 80 percent, significantly reduces the diversion effects on fisheries over Alternatives 1 and 2.

#### ***Habitat and land use and flood Protection***

The common programs all help reduce risk to the environment, water quality, land use, and water supply in the Delta improvements such as:

- Improved environmental conditions and reduced conflict with fisheries.
- Improved water quality
- Improved levee conditions and emergency response
- Improved water use efficiency.

**Alternative 1** with existing channels will slightly improve in-Delta and export water quality by reducing concentrations of TDS, Bromides and TOC's.

**Alternative 2** which produces a greater cross Delta flow from the Sacramento River to the South Delta pumps, lowers salinity levels in the central and south Delta, reduces TDS, Bromides and TOC's at the SWP/CVP and Contra Costa intakes.

**Alternative 3** provides a direct connection of the SWP/CVP to the better water quality in the Sacramento River, but provides less flow across the Delta which results in increased salinities in the South Delta. At the Contra Costa intake at rock slough the TDS, Bromides, and TOCs will remain about the same as the existing condition (unless a direct connection is made from the Contra Costa intake to the isolated facility).

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**Overall staff assessment:**

**Alternative 3 provides the greatest opportunities to reduce conflict.**

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## **Equitable**

*Does the alternative focus on solving problems in all problem area?*

With each alternative incorporating all four common programs and storage and conveyance options, all alternatives address some portion of all objectives. All alternatives include the four common programs and the same storage options. Each alternative also includes new fish screens and the ability of the South Delta export pumps to operate at full capacity.

### **Alternative 1**

- Some improvement on South Delta export diversions impacts on fisheries.
- Minor or no improvement on Delta flow circulation.
- Little improvement on the ability to transfer water.
- Minor improvement to in-Delta and export water quality
- Some improvement on operational flexibility

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**Overall staff assessment:**

**Alternative 1 provides the least equity of the three alternatives**

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## Affordable

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

**Alternative 1** - The formulation of Alternative 1 may make it more difficult to allocate benefits, and therefore costs, than the other alternatives; it is comprised primarily of the four common programs plus storage.

- May require a larger proportion of public funding than the other alternatives due to difficulty allocating benefits/costs.
- Continuous and identifiable revenue stream may be more difficult establish than Alt. 3.
- Total cost is roughly 10% less expensive than Alt. 2 and 15% less expensive than Alt. 3. However, the benefits to the resource areas are generally considerably lower than Alt. 3.

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Overall staff assessment:  
Affordability is considered to be fair.

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**Alternative 2** - The formulation of Alternative 2 may make it slightly easier to allocate benefits and costs than Alt. 1.; water supply opportunities are somewhat better.

- May require a larger proportion of public funding than Alt. 3 due to difficulty allocating benefits/costs.
- As with Alt. 1, continuous and identifiable revenue stream may be more difficult to establish than Alt. 3.
- Total cost is roughly 6% less expensive than Alt. 3. However, the benefits to the resource areas are generally considerably lower than Alt. 3.

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Overall staff assessment:  
Affordability is considered to be fair.

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**Alternative 2**

- Operational flexibility is somewhat improved over Alt. 1.
- Adds additional mechanisms (Hood fish screens, more flexibility in timing diversions, etc.) than Alt. 1 to the ERPP.
- May be more funding sources than Alt. 1.

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Overall staff assessment:  
Durability is considered to be fair.

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**Alternative 3**

- The alternative is more adaptable to potential changing future conditions and has better overall operational flexibility than the other alternatives.
- Removing the majority of exports from the South Delta adds substantially to ecosystem improvement provided by the ERPP.
- The Hood diversion and conveyance to the export pumps is much less vulnerable to potential changing hydrological and other physical uncertainties (i.e. potentially higher sea levels, etc.).
- May have more funding sources than the other alternatives due to easier allocation of benefits and costs.
- Legal, operational provisions to ensure that objectives continue to be met in an equitable way for the long-term should be similar to the other alternatives but a level of distrust will be difficult to overcome; addressed primarily in the Implementable solution principle.

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Overall staff assessment:  
Durability is considered to be good.

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**Alternative 3**

- No broad acceptance across all geographic areas and interest groups.
- Not as simple to implement as compared with the other alternatives.
- Assurances may be more difficult to obtain than the other alternatives.

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Overall staff assessment:  
Implementability is considered to be fair.

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**No Significant Redirected Impacts**

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

**Each Alternative:**

- Has been designed to minimize negative long-term economic impacts at the regional level.
- Compensate for or mitigate unavoidable negative impacts to the greatest extent practicable.

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Overall staff assessment:  
No Significant Redirected Impacts is  
considered to be good for each alternative.

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