

# Draft Evaluation Using Distinguishing Characteristics

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# DRAFT EVALUATION USING DISTINGUISHING CHARACTERISTICS

## Introduction

Eighteen characteristics have been identified that will be useful in distinguishing how the alternatives differ. The characteristics focus on the major differences in alternatives; differences that will be used in the selection of a draft preferred alternative. This recognizes that other parts of the alternatives are important but evaluation of their performance will not help select a draft preferred alternative. However, information on the performance of these other parts will also be available to the decision makers.

## Draft Decision Matrix

The decision matrix is a one page summary of the evaluations for the eighteen distinguishing characteristics. Two forms of the decision matrix are provided for this draft review:

- One matrix (Figure 1) uses a series of shaded bars to indicate how the alternatives performs; the larger the bar, the more desirable the performance. 
- Another matrix (Figure 2) shows the same results as numbers from 0 to 5; the larger the number, the more desirable the performance.

A blank matrix (Figure 3) is also provided for use as a worksheet to record ideas during review of the attached information. The draft decision matrix is followed by supporting information for each distinguishing characteristic.

The data used in the evaluations is preliminary in nature; more detailed evaluations are underway. In some cases, the evaluations are based on analytical information and in some cases are qualitative based on professional judgement. The information in the decision matrix and the supporting information will be updated as more information becomes available and CALFED agencies provide their input into the evaluations.

## Scales

The supporting information for some distinguishing characteristics are measurements of adverse conditions and some are measurements of desirable conditions. For instance, one parameter used to evaluate export water quality is the level of bromide in the water. **“High”** levels of bromide would be given a **“low”** score on the above mentioned bar or number scales. One parameter used to evaluate water supply opportunity is the volume of environmental water in a critical year.

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In this case “**high**” environmental water opportunity would be given a “**high**” score on the above mentioned scales.

However, the scales have been developed so the most desirable condition for each distinguishing characteristic is scored as a large bar for the first matrix and a “5” for the second matrix.

## **Preliminary Observations**

Several of the eighteen distinguishing characteristics do not show significant differences between the alternatives with the current level of analysis:

- In-Delta Water Quality
- Storage and Release of Water
- Water Transfer Opportunities
- South Delta Access to Water (except for alternative variation 1A)
- Ability to Phase Facilities
- Brackish Water Habitat

Four of the distinguishing characteristics show more differences but the absolute magnitude of the differences need more study:

- Assurances Difficulty
- Habitat Impacts
- Land Use Changes
- Socio-economic Impacts

The ones that show the **most significant differences** are:

- **Export Water Quality**
- **Diversion Effects on Fisheries**
- **Delta Flow Circulation (for fish transport)**
- **Water Supply Opportunities**
- **Operational Flexibility**
- **Risk to Export Water Supplies**
- **Total Cost**
- **Consistency with Solution Principles**

**Figure 1**  
**DRAFT DISTINGUISHING CHARACTERISTICS**  
**DECISION MATRIX**

Alternative	Alternative Variation	Distinguishing Characteristics																				
		In-Delta Water Quality	Export Water Quality (So. Delta)	Export Water Quality (Contra Costa)	Diversion Effects on Fisheries	Delta Flow Circulation	Storage and Release of Water	Water Supply Opportunities (Diversers)	Opportunities (Environmental)	Water Transfer Opportunities	Operational Flexibility	South Delta Access to Water	Risk to Export Water Supplies (ability to min.)	Total Cost (ability to minimize)	Assurances Difficulty (ability to minimize)	Habitat Impacts (ability to minimize)	Land Use Changes (ability to minimize)	Socio-economic Impacts (ability to minimize)	Consistency with Solution Principles	Ability to Phase Facilities	Brackish Water Habitat	
Existing Conditions																						
No-Action Alternative																						
Existing System Conveyance	1A																					
	1B																					
	1C																					
	1D																					
Modified Through Delta Conv.	2A																					
	2B																					
	2D																					
	2E																					
Dual Delta Conveyance	3A																					
	3B																					
	3E																					
	3H																					
	3I																					

poor
  moderate
  fair
  good
  excellent

? uncertain (differing professional opinion)

**Figure 2  
DRAFT DECISION MATRIX (Using Number Scoring)**

Alternative	Scoring from 0 to 5; 0 = lowest preference, 5 = highest preference																			
	In-Delta Water Quality	Export Water Quality (So. Delta)	Export Water Quality (Contra Costa)	Diversion Effects on Fisheries	Delta Flow Circulation	Storage and Release of Water	Water Supply Opportunities (Diverter)	Water Supply Opportunities ( Environmental)	Water Transfer Opportunities	Operational Flexibility	South Delta Access to Water	Risk to Export Water Supplies (ability to min.)	Total Cost (ability to minimize)	Assurances Difficulty (ability to minimize)	Habitat Impacts (ability to minimize)	Land Use Changes (ability to minimize)	Socio-economic Impacts (ability to minimize)	Consistency with Solution Principles	Ability to Phase Facilities	Brackish Water Habitat
Existing Conditions	3	2	2	1	0	1	0	4	5	0	2	0	5	5	5	5	3	0	0	3
No-Action Alternative	2	2	2	2	2	3	1	2	5	0	1	0	5	5	5	5	2	0	0	3
Existing System Conveyance	1A	3	2	2	2	1	3	1	2	5	0	1	0	5	3	3	1	1	3	3
	1B	3	2	2	1-2	1	3	1	2	5	1	5	0	4	3	4	3	1	1	3
	1C	3	2	2	1-2	1	4	3	3	5	2	5	1	3	3	3	3	3	4	3
	2A	4	3	4	2-3	2	3	2	3	5	2	5	0	4	3	4	4	2	3	3
	2B	4	3	4	2-3	2	4	3	3	5	3	5	2	1	3	2	3	3	4	3
	2D	4	3	4	2-3	2	3	2	3	5	2	5	1	3	2	3	3	3	3	3
	2E	4	3	4	1-4	2-3	4	3	3	5	3	5	2	2	2	1	2	2	4	3
	3A	3	4	2	3	3	3	2	3	5	2	5	3	4	2	3	4	4	3	3
	3B	3	4	2	3	3	4	4	4	5	3	5	4	1	2	2	3	4	4	3
	3E	3	4	2	4	4	4	4	4	5	4	5	5	1	1	2	3	4	4	3
	3H	3	4	2	3-4	3-4	4	4	4	5	3	5	3	1	2	1	2	3	4	3
3I	3	4	2	4	4	4	4	4	5	5	5	5	1	1	3	3	4	5	3	

Scoring from 0 to 5; 0 = lowest preference, 5 = highest preference

0 1 2 3 4 5

**Figure 3  
DECISION MATRIX ( Blank Worksheet)**

Alternative	Evaluation Criteria																				
	In-Delta Water Quality	Export Water Quality (So. Delta)	Export Water Quality (Contra Costa)	Diversion Effects on Fisheries (ability min.)	Delta Flow Circulation	Storage and Release of Water	Water Supply Opportunities (Diversers)	Water Supply Opportunities ( Environmental)	Water Transfer Opportunities	Operational Flexibility	South Delta Access to Water	Risk to Export Water Supplies (ability to min.)	Total Cost (ability to minimize)	Assurances Difficulty (ability to minimize)	Habitat Impacts (ability to minimize)	Land Use Changes (ability to minimize)	Socio-economic Impacts (ability to minimize)	Consistency with Solution Principles	Ability to Phase Facilities	Brackish Water Habitat	
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