

## **Appendix 12F Reservoir Water Surface Elevation Summary Tables**

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Line items and numbers identified or noted as “No Action Alternative” represent the “Existing Conditions/No Project/No Action Condition” (described in Chapter 2 Alternatives Analysis).  
Table numbering may not be consecutive for all appendixes.

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# APPENDIX 12F

## Reservoir Water Surface Elevation Summary Tables

### 12F.1 Results

This appendix includes the results of the Reservoir Water Surface Elevation Summary Tables for the Sites Reservoir Project (Project) alternatives (alternatives) evaluated in the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS). The fisheries impact assessment and methodology is described in Chapter 12 Aquatic Biological Resources and in Appendix 12B Fisheries Impact Assessment Methodology and Appendix 12C Fisheries Impact Summary.

#### 12F.1.1 Introduction

Based on reservoir water surface elevation results presented in Appendix 6C Upper Sacramento River Daily River Flow and Operations Modeling, Reservoir Water Surface Elevation Summary Tables were created to evaluate the occurrences of end-of-month reservoir water surface elevation reductions of 6 feet or more per month.

Each report includes two summary tables:

- Water Surface Elevation Reductions for each Alternative
- Comparison of Water Surface Elevation Reductions between Alternatives

A Reservoir Water Surface Elevation Summary Tables report is provided for each of the following reservoirs:

- Trinity Reservoir
- Shasta Lake
- Lake Oroville
- Folsom Lake
- San Luis Reservoir

#### 12F.1.2 Methodology

Based on the CALSIM II model (as described in Appendix 6B Water Resources System Modeling), for the months of March through June, month to month simulated reservoir water surface elevation reductions of 6 feet or more were counted and then compared to evaluate potential impacts of the alternatives on reservoir warm water game fishes in Trinity Reservoir, Shasta Lake, Lake Oroville, Folsom Lake, and San Luis Reservoir, using the approach described in Appendix 12B Fisheries Impact Assessment Methodology.

For example, if a reservoir water surface elevation decreased by 6 feet or more between the end of March and the end of April, then one reduction of 6 feet or more was counted in April. A total of 82 years of CALSIM II model simulated results were used for this analysis. The number of reductions for each month, March through June, was then compared between alternatives.

### 12F.1.3 Comparisons

The Comparison of Water Surface Elevation Reductions between Alternatives tables include the following comparisons:

- Alternative A compared to No Action Alternative
- Alternative B compared to No Action Alternative
- Alternative C compared to No Action Alternative
- Alternative D compared to No Action Alternative

### 12F.1.4 Reports

For Trinity Lake, water surface elevation reductions for each alternative for March through June are presented in Table 12F-1a. All seven comparisons of water surface elevation reductions between alternatives for March through June are presented in Table 12F-1b.

**Table 12F-1a  
Trinity Lake Water Surface Elevation Reductions for Each Alternative**

| Alternative           | Water Surface Elevation Reductions of 6 feet or more for each alternative over the 82-year period of record |       |     |      |
|-----------------------|---|-------|-----|------|
|                       | March   | April | May | June |
| No Action Alternative | 0   | 0     | 14  | 21   |
| Alternative A         | 1   | 0     | 12  | 19   |
| Alternative B         | 0   | 1     | 12  | 20   |
| Alternative C         | 0   | 1     | 12  | 18   |
| Alternative D         | 0   | 0     | 13  | 22   |

**Table 12F-1b  
Comparison of Trinity Lake Water Surface Elevation Reductions between Alternatives**

| Comparison                                      | Water Surface Elevation Reductions of 6 feet or more for each comparison over the 82-year period of record |       |     |      |
|---|--|-------|-----|------|
|   | March  | April | May | June |
| Alternative A Relative to No Action Alternative | 1  | 0     | -2  | -2   |
| Alternative B Relative to No Action Alternative | 0  | 1     | -2  | -1   |
| Alternative C Relative to No Action Alternative | 0  | 1     | -2  | -3   |
| Alternative D Relative to No Action Alternative | 0  | 0     | -1  | 1    |

For Shasta Lake, water surface elevation reductions for each alternative for March through June are presented in Table 12F-2a. All seven comparisons of water surface elevation reductions between alternatives for March through June are presented in Table 12F-2b.

**Table 12F-2a**  
**Shasta Lake Water Surface Elevation Reductions for Each Alternative**

| Alternative           | Water Surface Elevation Reductions of 6 feet or more for each alternative over the 82-year period of record |       |     |      |
|-----------------------|---|-------|-----|------|
|                       | March   | April | May | June |
| No Action Alternative | 4   | 5     | 15  | 68   |
| Alternative A         | 4   | 3     | 11  | 69   |
| Alternative B         | 4   | 2     | 7   | 69   |
| Alternative C         | 4   | 3     | 10  | 69   |
| Alternative D         | 4   | 5     | 13  | 68   |

**Table 12F-2b**  
**Comparison of Shasta Lake Water Surface Elevation Reductions between Alternatives**

| Comparison                                      | Water Surface Elevation Reductions of 6 feet or more for each comparison over the 82-year period of record |       |     |      |
|---|--|-------|-----|------|
|   | March  | April | May | June |
| Alternative A Relative to No Action Alternative | 0  | -2    | -4  | 1    |
| Alternative B Relative to No Action Alternative | 0  | -3    | -8  | 1    |
| Alternative C Relative to No Action Alternative | 0  | -2    | -5  | 1    |
| Alternative D Relative to No Action Alternative | 0  | 0     | -2  | 0    |

For Lake Oroville, water surface elevation reductions for each alternative for March through June are presented in Table 12F-3a. All seven comparisons of water surface elevation reductions between alternatives for March through June are presented in Table 12F-3b.

**Table 12F-3a**  
**Lake Oroville Water Surface Elevation Reductions for Each Alternative**

| Alternative           | Water Surface Elevation Reductions of 6 feet or more for each alternative over the 82-year period of record |       |     |      |
|-----------------------|---|-------|-----|------|
|                       | March   | April | May | June |
| No Action Alternative | 3   | 2     | 11  | 45   |
| Alternative A         | 4   | 2     | 7   | 48   |
| Alternative B         | 4   | 2     | 8   | 47   |
| Alternative C         | 3   | 2     | 8   | 48   |
| Alternative D         | 4   | 1     | 9   | 45   |

**Table 12F-3b**  
**Comparison of Lake Oroville Water Surface Elevation Reductions between Alternatives**

| Comparison                                      | Water Surface Elevation Reductions of 6 feet or more for each comparison over the 82-year period of record |       |     |      |
|---|--|-------|-----|------|
|   | March  | April | May | June |
| Alternative A Relative to No Action Alternative | 1  | 0     | -4  | 3    |
| Alternative B Relative to No Action Alternative | 1  | 0     | -3  | 2    |
| Alternative C Relative to No Action Alternative | 0  | 0     | -3  | 3    |
| Alternative D Relative to No Action Alternative | 1  | -1    | -2  | 0    |

For Folsom Lake, water surface elevation reductions for each alternative for March through June are presented in Table 12F-4a. All seven comparisons of water surface elevation reductions between alternatives for March through June are presented in Table 12F-4b.

**Table 12F-4a**  
**Folsom Lake Water Surface Elevation Reductions for Each Alternative**

| Alternative           | Water Surface Elevation Reductions of 6 feet or more for each alternative over the 82-year period of record |       |     |      |
|-----------------------|---|-------|-----|------|
|                       | March   | April | May | June |
| No Action Alternative | 0   | 1     | 2   | 17   |
| Alternative A         | 0   | 2     | 2   | 16   |
| Alternative B         | 0   | 2     | 2   | 18   |
| Alternative C         | 0   | 2     | 2   | 15   |
| Alternative D         | 0   | 2     | 2   | 14   |

**Table 12F-4b**  
**Comparison of Folsom Lake Water Surface Elevation Reductions between Alternatives**

| Comparison                                      | Water Surface Elevation Reductions of 6 feet or more for each comparison over the 82-year period of record |       |     |      |
|---|--|-------|-----|------|
|   | March  | April | May | June |
| Alternative A Relative to No Action Alternative | 0  | 1     | 0   | -1   |
| Alternative B Relative to No Action Alternative | 0  | 1     | 0   | 1    |
| Alternative C Relative to No Action Alternative | 0  | 1     | 0   | -2   |
| Alternative D Relative to No Action Alternative | 0  | 1     | 0   | -3   |

For San Luis Reservoir, water surface elevation reductions for each alternative for March through June are presented in Table 12F-5a. All seven comparisons of water surface elevation reductions between alternatives for March through June are presented in Table 12F-5b.

**Table 12F-5a**  
**San Luis Reservoir Water Surface Elevation Reductions for Each Alternative**

| Alternative           | Water Surface Elevation Reductions of 6 feet or more for each Alternative over the 82-year Period of Record |       |     |      |
|-----------------------|---|-------|-----|------|
|                       | March   | April | May | June |
| No Action Alternative | 6   | 79    | 78  | 81   |
| Alternative A         | 11  | 80    | 78  | 81   |
| Alternative B         | 9   | 80    | 78  | 81   |
| Alternative C         | 9   | 80    | 78  | 81   |
| Alternative D         | 10  | 80    | 78  | 80   |

**Table 12F-5b  
Comparison of San Luis Reservoir Water Surface Elevation Reductions between Alternatives**

| Comparison                                      | Net Change in Water Surface Elevation Reductions of 6 feet or more for each Comparison over the 82-year Period of Record |       |     |      |
|---|--|-------|-----|------|
|   | March  | April | May | June |
| Alternative A Relative to No Action Alternative | 5  | 1     | 0   | 0    |
| Alternative B Relative to No Action Alternative | 3  | 1     | 0   | 0    |
| Alternative C Relative to No Action Alternative | 3  | 1     | 0   | 0    |
| Alternative D Relative to No Action Alternative | 4  | 1     | 0   | -1   |