

## Description of Alternative 4A

DWR 601

Implementation of the proposed project will include operations of both new and existing water conveyance facilities once the new north Delta facilities are completed and become operational, thereby enabling joint management of north and south Delta diversions. Operational limits included in this proposed project for south Delta export facilities would supplement the south Delta operational limits currently implemented in compliance with the USFWS (2008) and NMFS (2009) BiOps. The proposed project also incorporates existing criteria from the 2008 and 2009 BiOps (including Fall X2), and adds additional criteria for spring outflow and new minimum flow criteria at Rio Vista from January through August. The North Delta Diversions and the head of Old River barrier are new facilities for the CVP and SWP and will be operated consistent with the proposed operating criteria for each of these facilities. All other criteria included in the USFWS (2008) and NMFS (2009) BiOps and D-1641 will continue to be complied with, subject to adjustments made pursuant to the adaptive management process as already described in the 2008 and 2009 BiOps, as part of the continued operations of the CVP and SWP. The proposed project includes modified or new operations of only the following:

- North Delta bypass flows
- South Delta export operations (including export rates and OMR flows)
- Head of Old River barrier operations
- Spring Delta outflow
- Rio Vista minimum flow standard in January through August

The proposed criteria are further described in the following subsections and in Table 4.1-2. The proposed project operations include a preference for south Delta pumping in July through September to provide limited flushing for improving general water quality conditions and reduced residence times.

## Spring outflow

- March, April, May: To ensure maintenance of longfin smelt abundance, initial operations will provide a March–May average Delta outflow bounded by the requirements of Scenario H3, which are consistent with D-1641 standards, and Scenario H4, which would be scaled to Table 3-24 in Chapter 3, Section 3.6.4.2 of the Draft EIR/EIS. Over the course of the 2081(b) permit term the longfin smelt indices of annual recruitment based upon the 1980–2011 trend in recruitment relative to winter-spring flow conditions will be used to evaluate the effect of operations on longfin smelt (i.e., evaluate positive cohort over cohort population growth). Adjustments to the criteria above and these outflow targets may be made using the Adaptive Management Process and the best available scientific information available regarding all factors affecting longfin smelt abundance.<sup>17</sup>

Spring Outflow for Alternative 4A (SWRCB-3), RDEIS/RDEIS Section 4- Alternatives 4A, 2D and 5A, Table 4.1-2, pp. 4.1-9.

Description of Alternatives

**Table 3-24. March-May Average Outflow Criteria for “High Outflow” Outcome of Spring Outflow Decision Tree**

Exceedance	Outflow criterion (cfs)
10%	>44,500
20%	>44,500
30%	>35,000
40%	>32,000
50%	>23,000
60%	17,200
70%	13,300
80%	11,400
90%	9,200

Table 3-24 in Chapter 3, Section 3.6.3.2 of Draft EIR/S (SWRCB -4), p.3-207

Parameter	Criteria	Modeling <sup>a</sup>
South Delta operations	<ul style="list-style-type: none"> <li>• October, November: No south Delta exports during the D-1641 San Joaquin River 2-week pulse, no Old and Middle River (OMR) flow restriction during 2 weeks prior to pulse, and a monthly average of -5,000 cfs in November after pulse.</li> <li>• December: OMR flows will not be more negative than an average of -5,000 cfs when the Sacramento River at Wilkins Slough pulse triggers, and no more negative than an average of -2,000 cfs when the delta smelt action 1 triggers. No OMR flow restriction prior to the Sacramento River pulse, or delta smelt action 1 triggers.</li> <li>• January, February<sup>15</sup>: OMR flows will not be more negative than an average of 0 cfs during wet years, -3,500 cfs during above-normal years, or -4,000 cfs during below-normal to critical years, except -5,000 in January of dry and critical years.</li> <li>• March<sup>16</sup>: OMR flows will not be more negative than an average of 0 cfs during wet or above-normal years or -3,500 cfs during below-normal and dry year and -3,000 cfs during critical years.</li> <li>• April, May: Allowable OMR flows depend on gaged flow measured at Vernalis, and will be determined by a linear relationship. If Vernalis flow is below 5,000 cfs, OMR flows will not be more negative than -2,000 cfs. If Vernalis is 6,000 cfs, OMR flows will not be less than +1,000 cfs. If Vernalis is 10,000 cfs, OMR flows will be at least 1,000 cfs. If Vernalis exceeds 10,000 cfs, OMR flows will be at least +2,000 cfs. If Vernalis is 15,000 cfs, OMR flows will be at least +3,000 cfs. If Vernalis is at or exceeds 30,000 cfs, OMR flows will be at least 6,000 cfs.</li> <li>• June: Similar to April, allowable flows depend on gaged flow measured at Vernalis. However, if Vernalis is less than 3,500 cfs, OMR flows will not be more negative than -3,500 cfs. If Vernalis exceeds 3,500 cfs and up to 10,000 cfs, OMR flows will be at least 0 cfs. If Vernalis exceeds 10,000 cfs and up to 15,000 cfs, OMR flows will be at least +1,000 cfs. If Vernalis exceeds 15,000 cfs, OMR flows will be at least +2,000 cfs.</li> <li>• July, August, September: No OMR flow constraints.</li> </ul>	<ul style="list-style-type: none"> <li>• October, November: Assumed no south Delta exports during the D-1641 San Joaquin River 2-week pulse, no OMR restriction during 2 weeks prior to pulse, and -5,000 cfs in November after pulse.</li> <li>• December: -5,000 cfs only when the Sacramento River pulse based on the Wilkins Slough flow (same as the pulse for the north Delta diversion) occurs, if no OMR requirement was applied. If the USFWS (2008) BiOp Action 1 is triggered, after which -2,000 cfs requirement is assumed.</li> <li>• April, May: OMR requirement for the Vernalis flows falling between the specified flows were determined by linear interpolation. When Vernalis flow is between 5,000 cfs and 6,000 cfs, OMR requirement is determined by linearly interpolating between -2,000 cfs and +1,000 cfs.</li> <li>• January-March and July-September: Same as CM1 criteria</li> </ul>

(SWRCB-3), RDEIS/RDEIS Section 4-Alternatives 4A, 2D and 5A, Table 4.1-2, pp. 4.1-8.