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Biological Assessment for the California WaterFix

United States Department of the Interior, Bureau of Reclamation, Federal Lead Agency

Contact: Brook Miller-Levy (916) 414-2402

State of California, Department of Water Resources, Applicant

Contact: Cindy Messer (916) 651-6736



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Parameter	Criteria	Summary of CALSIM II Modeling Assumptions ^a
Spring Outflow	<p>March, April, May: Initial operations will maintain the March–May average delta outflow that would occur with existing facilities under the operational criteria described in the 2008 USFWS BiOp and 2009 NMFS BiOp (U.S. Fish and Wildlife Service 2008; National Marine Fisheries Service 2009).</p> <p>The 2011 NMFS BiOp action IV.2.1 (San Joaquin River i-e ratio) will be used to constrain Apr–May total Delta exports under the PA to meet March–May Delta outflow targets per current operational practices (National Marine Fisheries Service 2009).²¹</p> <p>March–May average delta outflow targets representative of the modeled outflows under the current BiOps with existing facilities at the time the North Delta Diversion will be operational are tabulated below for 10% exceedance intervals (U.S. Fish and Wildlife Service 2008; National Marine Fisheries Service 2009).</p>	<ul style="list-style-type: none"> 2011 NMFS RPA for San Joaquin River i-e ratio constraint is the primary driver for the Apr-May Delta outflow under the No Action Alternative, this criterion was used to constrain Apr-May total Delta exports under the PA to meet Mar-May Delta outflow targets.
Rio Vista minimum flow standard ²²	<ul style="list-style-type: none"> January through August: flows will exceed 3,000 cfs September through December: flows per D-1641 	<ul style="list-style-type: none"> Same as PA criteria
Key Existing Delta Criteria Included in Modeling²³		
Fall Outflow	<ul style="list-style-type: none"> No change. September, October, November: implement the USFWS 2008 BO Fall X2 requirements in wet (W) and above normal (AN) year types. 	<ul style="list-style-type: none"> September, October, November: implement the 2008 USFWS BiOp “Action 4: Estuarine Habitat During Fall” (Fall X2) requirements (U.S. Fish and Wildlife Service 2008).
Winter and summer outflow	<ul style="list-style-type: none"> No change. Flow constraints established under D-1641 will be followed if not superseded by criteria listed above. 	<ul style="list-style-type: none"> SWRCB D-1641 Delta outflow and February – June X2 criteria.

²¹ For example, if best available science resulting from collaborative scientific research program shows that Longfin Smelt abundance can be maintained in the absence of spring outflow, and DFW concurs, an alternative operation for spring outflow could be to follow flow constraints established under D-1641. Any changes in the PA will be implemented consistent with the Collaborative Science and Adaptive Management Program, including coordination with USFWS and NMFS.

²² Rio Vista minimum monthly average flow in cfs (7-day average flow not be less than 1,000 below monthly minimum), consistent with the SWRCB D-1641

²³ All the CALSIM II modeling assumptions are described in Appendix 5.A, *CALSIM Methods and Results*.