

Table 1. DRAFT Proposed BDCP Water Operations Criteria (June 25, 2009)

Range A	Proposed Operations	Range B
<p>1. North Delta Diversion Bypass Flows</p>		
<p><i>Considerations include (1) minimum flows for screen sweeping criteria, (2) minimum flows to avoid tidal upstream transport from downstream channels, (3) minimum flows to support salmonid and pelagic fish transport to regions of suitable habitat, and (4) flows to minimize predation effects downstream.</i></p>		
<p>None Proposed (may establish to reflect low estimate of criteria established under “Proposed Operations”)</p>	<p>Flows or functional equivalent to achieve the following criteria:</p> <ol style="list-style-type: none"> 1. Maintain fish screen sweeping velocities (2-3 times approach velocity ~0.2 fps): 2. Avoid upstream transport from downstream channels (no diversion when instantaneous flows are reversing Sacramento River – Sutter Slough confluence) 3. Support salmonid and pelagic transport to regions of suitable habitat 4. Provide flows to minimize predation in downstream channels <p>[Need to evaluate whether Fremont Weir flows have a significant effect on the water supply objectives.]</p>	<p>None Proposed (may establish to reflect high estimate of criteria established under “Proposed Operations”)</p>
<p>2. South Delta Channel Flows</p>		
<p><i>Minimize take at south Delta pumps by reducing incidence and magnitude of reverse flows during critical periods for pelagic species.</i></p>		
<p>None Proposed</p>	<p><u>OMR Flows</u></p> <ul style="list-style-type: none"> • FWS smelt BO model of adaptive restrictions (temperature, turbidity, salinity, smelt presence) 	<p><u>South Delta Export – San Joaquin Inflow Ratio</u></p> <ul style="list-style-type: none"> • Consider replacement of OMR with sliding scale SJR EI ratio that provides similar or greater protection than FWS smelt BO

Month	W	AN	BN	D	C
Jan	-4000	-4000	-4000	-5000	-5000
Feb	-5000	-4000	-4000	-4000	-4000
Mar	-5000	-4000	-4000	-3500	-3000
Apr	-5000	-4000	-4000	-3500	-2000
May	-5000	-4000	-4000	-3500	-2000
Jun	-5000	-5000	-5000	-5000	-2000
Jul	-99999	-99999	-99999	-99999	-99999
Aug	-99999	-99999	-99999	-99999	-99999
Sep	-99999	-99999	-99999	-99999	-99999
Oct	-99999	-99999	-99999	-99999	-99999
Nov	-99999	-99999	-99999	-99999	-99999
Dec	-6839	-6839	-6258	-6258	-6065

* Values are monthly average for use in modeling. December 20-31 targets are -5000 cfs (W, AN), -3500 cfs (AN, D), and -3000 cfs (C), and are averaged with an assumed background of -8000 cfs for December 1-19. Values are reflective of the “most likely” operation under the FWS Delta Smelt Biological Opinion. Values for modeling may be updated based on review by fishery agencies.

South Delta Export - San Joaquin Inflow Ratio

- Sliding scale for flows above the established OMR to share additional SJR flows between export and environment; export share would increase at higher flows
- Time value of benefit; crediting outside of period in which flows are acquired

3. Fremont Weir/Yolo Bypass

Considerations include (1) increasing spawning and rearing habitat for splittail and rearing habitat for salmonids, (2) providing alternate migration corridor to the mainstem Sacramento River, and (3) increasing effectiveness of habitat and food transport in Cache Slough.

None Proposed

Modified Fremont Weir and Control Gate

- Spills into Yolo Bypass enabled at water surface elevation 17.5 ft NAVD88 (~15,000 cfs Sac R at Fremont flow) by notch and new gates, as compared to current weir elevation of 33.5 ft (~56,000 cfs Fremont flow).

None Proposed

	<ul style="list-style-type: none"> • Flows: 3-6,000 cfs depending on hydrology • Duration: 30-45 days • Period: Gates operable December - April 15 (occasionally April 16-May 15 depending of hydrologic conditions) 	
4. Delta Cross Channel Gate Operations <i>Considerations include (1) reduce transport of outmigrating Sacramento River fish into central Delta, (2) maintain flows downstream on Sacramento River, (3) and providing sufficient Sacramento River flow into interior Delta when water quality for M&I and AG may be of concern.</i>		
None Proposed	Not yet defined (Possibly package with North Delta diversion operations)	None Proposed
5. Rio Vista Minimum Instream Flows <i>Maintain minimum flows for outmigrating salmonids and smelt.</i>		
None Proposed	Not yet defined (Possibly package with North Delta diversion operations)	None Proposed
6. Delta Inflow & Outflow <i>Considerations include (1) Provide sufficient outflow to maintain desirable salinity regime downstream of Collinsville during the spring, (2) explore range of approaches toward providing additional variability to Delta inflow and outflow.</i>		
<u>Delta Outflow:</u> Jul-Jan: Per D-1641 Feb-Jun: Per D-1641, except no Roe Island triggering * Current relaxation of Collinsville standard to 4,000 cfs in May and June revised to state when the Eight River Index is 10.0 or less as established on May 1. ** Proportional Reservoir Release concept will continue to be evaluated to the extent that it	Not yet defined	<u>Delta Outflow:</u> Jul-Aug & Jan: Per D-1641 Sep-Nov: Fall X2 per FWS Smelt BO Feb-Jun: NGO X2-Eight River Index approach (storage offramps to be refined) * Continue analysis of NGO watershed unimpaired runoff approach as it relates to PREs and parties outside of BDCP. Carry into "related action" alternative.

provides similar response to outflow and upstream storage conditions		
7. Operations for Delta Water Quality and Residence Time <i>Considerations include (1) maintain a minimum level of pumping from the south Delta during summer to provide limited flushing for general water quality conditions (reduce residence times), (2) for M&I and AG salinity improvements, and (3) to allow operational flexibility during other periods to operate either north or south diversions based on real-time assessments of benefits to fish and water quality .</i>		
None Proposed	Not yet defined	None Proposed

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