



**STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD**

DIVISION OF WATER RIGHTS

RIGHT TO DIVERT AND USE WATER

APPLICATION 5638

PERMIT 11887

Right Holder: U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

The State Water Resources Control Board (State Water Board) authorizes the diversion and use of water by the right holder in accordance with the limitations and conditions herein SUBJECT TO PRIOR RIGHTS. The priority of this right dates from **July 30, 1927**. This right is issued in accordance with the State Water Board delegation of authority to the Deputy Director for Water Rights (Resolution 2012-0029) and the Deputy Director for Water Rights redelegation of authority dated July 6, 2012. This right supercedes any previously issued right on **Application 5638**.

The Deputy Director for Water Rights finds that: (a) the change will not operate to the injury of any lawful user of water; (b) good cause has been shown for the change; (c) the petition does not constitute the initiation of a new right; and (d) the State Water Resources Control Board (State Water Board) has made the required findings pursuant to the California Environmental Quality Act (CEQA) or the project is exempt from CEQA.

The State Water Board has complied with its independent obligation to consider the effect of the proposed change on public trust resources and to protect those resources where feasible. (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419 [189 Cal.Rptr. 346, 658 P.2d 709].)

Right holder is hereby granted a right to divert and use water as follows:

1. Source of water: **San Joaquin River**

tributary to: **Suisun Bay**

within the Counties of Madera and Fresno

2. Location of point of diversion

By California Coordinate System of 1983 in Zone 3	40-acre subdivision of public land survey or projection thereof	Section	Township	Range	Base and Meridian
Point of Diversion: Friant Dam North 1,824,400 feet and East 6,793,175 feet	NW¼ of SW¼	5	11S	21E	MD

By California Coordinate System of 1983 in Zone 3	40-acre subdivision of public land survey or projection thereof	Section (Projected) *	Township	Range	Base and Meridian
Points of Rediversion*: Mendota Dam	SE¼ of NE¼	19	13S	15E	MD

North 1,745,375 feet and East 6,598,943 feet					
<u>Canal Intakes Off Mendota Dam:</u>					
a. Main Canal – North 1,744,396 feet and East 6,598,937 feet	NE ¼	19	13S	15E	MD
b. Outside Canal – North 1,741,896 feet and East 6,599,689 feet	SE ¼	19	13S	15E	MD
c. Columbia Canal – North 1,746,420 feet and East 6,605,595 feet	NE ¼	20	13S	15E	MD
d. Columbia Canal Co. – Mowry Inlet at Mendota Pool: Zone 4, North 2,171,207 feet and East 6,167,526 feet	SW ¼	21	13S	15E	MD
e. Helm Ditch – North 1,745,022 feet and East 6,598,787 feet	NE ¼	19	13S	15E	MD
f. Firebaugh Water District Canal – North 1,741,821 feet and East 6,599,844 feet	SE ¼	19	13S	15E	MD
Intake to Arroyo Canal: North 1,816,307 feet and East 6,561,446 feet	SW ¼	12	11S	13E	MD
Intake to Sand Slough Control Structure: North 1,862,535 feet and East 6,535,468 feet	NE ¼	31	9S	13E	MD
Along East Side Bypass at Lone Tree Unit, Merced National Wildlife Refuge: North 1,883,703 feet and East 6,523,784 feet	NW ¼	11	9S	12E	MD
Intake to Mariposa Bypass Control Structure, on Eastside Bypass: North 1,895,936 feet and East 6,505,198 feet	SE ¼	30	8S	12E	MD
Along Eastside Bypass at East Bear Creek Unit, San Luis National Wildlife Refuge: North 1,914,452 feet and East 6,480,299 feet	NE ¼	8	8S	11E	MD
Jones Pumping Plant : North 2,114,400 feet and East 6,248,073 feet	SW ¼ of SW ¼	31	1S	4E	MD
Banks Pumping Plant: North 2,115,990 feet and	SW ¼	35	1S	3E	MD

Point of Rediversion for Offstream Storage - San Luis Dam: North 1,844,598 feet and East 6,394,093 feet	SW ¼ of SE ¼	15	10S	8E	MD
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* The points of rediversion are for: (a) water released from storage or (b) water previously diverted at Friant Dam that remains under the dominion and control of Reclamation from Friant Dam to the points of rediversion pursuant to Water Code section 1707.

Points of rediversion are shown on Map 1785-202-50, filed with the State Water Board.

By California Coordinate System of 1983 in Zone 3	40-acre subdivision of public land survey or projection thereof	Section (Projected) *	Township	Range	Base and Meridian
Place of Storage: Millerton Lake: North 1,824,400 feet and East 6,793,175 feet	NW¼ of SW¼	5	11S	21E	MD

Place of storage shown on Map 214-212-46, filed with the State Water Board.

3. Purposes of use	4. Place of use	Section (Projected) *	Township	Range	Base and Meridian	Acres
Municipal, Domestic, Irrigation, Incidental Domestic, Stockwatering, Preservation and Enhancement of Fish and Wildlife, Recreational	Gross area of 5,431,000 acres as shown on Maps 214-212-37, 214-208-3331, 1785-202-14 and 1785-202-50.					
Preservation and Enhancement of Fish and Wildlife, Recreational	San Joaquin River and designated bypass system from Friant Dam to the Sacramento-San Joaquin River Delta (Delta) and through the Delta Channels to the Jones and Banks Pumping Plants, as shown on Map 1785-202-50.					
Recreational, Stockwatering	Millerton Reservoir: NW ¼ of SW ¼	5	11S	21E	MD	

The place of use is shown on maps filed with the State Water Board.

Acronyms used in this water right:

- State Water Project – SWP
- Central Valley Project – CVP
- U.S. Bureau of Reclamation - Reclamation
- Department of Water Resources – DWR
- National Marine Fisheries Service – NMFS
- San Joaquin River Restoration Program – SJRRP
- Department of Fish and Wildlife – DFW
- United States Fish and Wildlife Service – USFWS
- Final Program Environmental Impact Statement/Report, SJRRP, July 2012 – Final PEIS/R
- Draft Program Environmental Impact Statement/Report, SJRRP, April 2011 – DPEIS/R

5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed **5,000 cubic feet per second** by direct diversion, to be diverted from **February 1 to October 31** of each year; and **1,210,000 acre-feet per annum** by storage to be collected from **November 1 of each year to August 1** of the succeeding year. The maximum annual diversion shall not exceed **3,917,478 acre-feet per annum**.

(000005G)

The total quantity of water to be appropriated by direct diversion under water rights issued pursuant to Applications 234, 1465 and 5638 shall not exceed **6,500 cubic feet per second**.

(0000114)

This permit does not authorize collection of water to storage outside of the specified season to offset evaporation and seepage losses or for any other purpose.

6. Construction work shall be completed on or before December 1, 1985.

(0000008)

7. Complete application of the water to the proposed use shall be made on or before December 1, 1990.

(0000009)

8. To the extent that Reclamation shall divert water from San Joaquin River at Friant Dam under rights initiated other than pursuant to Applications 234, 1465 and 5638, the amount of water diverted under rights issued pursuant to said applications shall be reduced by a like amount.

9. Reclamation shall maintain daily records of inflow into and outflow from and releases from Millerton Lake, volumes in storage and water surface elevations and shall provide and maintain such measuring facilities as may be necessary for the formulation of said records. Reclamation shall make said records of inflow, outflow, releases, volumes in storage and water surface elevations available to the State Water Board and shall allow authorized representatives of said Board access to its project works and properties for the purpose of securing supplemental information.

10. Subject to the existence of long-term water delivery contracts between the United States and public agencies and subject to the compliance with the provisions of said contracts by said public agencies, this water right is further conditioned as follows:

- (a) The right to the beneficial use of water for irrigation purposes, except where water is distributed to the general public by a private agency in charge of a public use, shall be appurtenant to the land on which said water shall be applied, subject to continued beneficial use and the right to change the point of diversion, place of use, and purpose of use as provided in Chapter 10 of Part 2 of Division 2 of the Water Code of the State of California and further subject to the right to dispose of a temporary surplus.

- (b) The right to the beneficial use of water for irrigation purposes shall, consistent with other terms of the right, continue in perpetuity.
11. The State Water Board retains continuing jurisdiction for such period as may be necessary for the purpose of conforming this water right with the provisions of the final judgment in Rank v. Krug, No. 685-ND, United States District Court, Southern District of California, Northern Division (now the Eastern District of California).
 12. Upon the request of the Board, Reclamation shall make such measurements and maintain and furnish to the Board such records and information as may be necessary to determine compliance with the terms and conditions of this water right, including the recognition of vested rights and for the further purpose of determining the quantities of water placed to beneficial use under this right, both by direct diversion and storage.

(0100300)
 13. Reclamation shall ensure that the water quality objectives for municipal and industrial beneficial uses and agricultural beneficial uses for the western Delta, interior Delta and export area as set forth in Tables 1 and 2, attached, are met on an interim basis until the Board adopts a further decision assigning responsibility for meeting these objectives. The condition, as written in Order WR 2001-05, states that unless it is renewed pursuant to a further order after notice and opportunity for hearing, this condition shall expire no later than one year after the DWR or the Reclamation requests in writing that the State Water Board convene a water right proceeding to determine whether to replace this condition with another condition that meets the objectives in Tables 1 and 2. Any extension hearing shall be for the limited purpose of determining whether additional time is necessary, and shall not include consideration of changes in allocation of responsibility. The State Water Board shall expedite any proceeding it conducts to assign long term responsibility to meet the objectives in Tables 1 and 2, in an effort to keep the proceeding under two years. This condition does not mandate that Reclamation use water under this permit if it uses other sources of water or other means to meet this condition. Order WR 2002-0012 states this condition of Order 2001-05 remains in full force and effect.
 14. Reclamation shall ensure that the water quality objectives for Delta outflow and for Sacramento River flow at Rio Vista for fish and wildlife beneficial uses as set forth in Table 3, attached, are met on an interim basis, until the Board adopts a further decision in the Bay-Delta Water Rights Hearing assigning responsibility for meeting these objectives. The condition, as written in Order WR 2001-05, states that unless it is renewed pursuant to a further order after notice and an opportunity for hearing, this condition shall expire no later than one year after the DWR or Reclamation requests in writing that the State Water Board convene a water right proceeding to determine whether to replace this condition with another condition that meets the objectives in Table 3. Any extension hearing shall be for the limited purpose of determining whether additional time is necessary, and shall not include consideration of changes in allocation of responsibility. The State Water Board shall expedite any proceeding it conducts to assign long term responsibility to meet the objectives in Table 3, in an effort to keep the proceeding under two years. This condition does not mandate that Reclamation use water under this permit if it uses other sources of water or other means to meet this condition. Order WR 2002-0012 states this condition of Order 2001-05 remains in full force and effect.
 15. Reclamation shall implement the water quality compliance and baseline monitoring plan set forth in Table 5 on an interim basis, including construction, maintenance and operation of all necessary devices, until the Board adopts a further decision in the Bay-Delta Water Rights Hearing assigning responsibility for meeting the requirements in Table 5.
 16. Reclamation shall:
 - a. In consultation with the USFWS, DFW, San Joaquin River Group Authority (SJRG), City and County of San Francisco (CCSF) and CVP/SWP Export Interests, prepare a fishery monitoring plan for the Vernalis Adaptive Management Plan (VAMP) experiment consistent with the San Joaquin River Agreement (SJRA) and with the findings in Decision 1641. The plan shall specify study objectives,

sampling locations, methodology, and sampling periods. The monitoring plan shall be submitted to the Executive Director of the State Water Board for approval by May 14, 2000.

- b. Conduct the fishery monitoring studies according to the monitoring plan for the duration of the VAMP/SJRA study period, and submit results to the Executive Director of the State Water Board on an annual basis. A monitoring report summarizing the study methodology and results from each year's experiment shall be submitted to the Executive Director of the State Water Board by December 31 of each year. A final report shall be submitted to the Executive Director of the State Water Board no later than eight months following completion of the VAMP experiment.
17. To ensure compliance with the water quality objectives as set forth in conditions 13 and 14 of this amended permit, to identify meaningful changes in any significant water quality parameters potentially related to operation of the SWP or the CVP, and to reveal trends in ecological changes potentially related to project operations, Reclamation shall, independently or in cooperation with other agencies or individuals:
 - a. Perform the Water Quality and Baseline Monitoring program described in Table 5 and in Figure 4, as it exists or may be amended by the State Water Board.
 - b. Conduct ongoing and future monitoring surveys as recommended by the DFW, the USFWS or the NMFS, and acceptable to the Executive Director of the State Water Board concerning food chain relationships, fisheries impacts, or impacts to brackish tidal marshes, as they are affected by operations of the SWP or the CVP in the Delta and Suisun Marsh.
 - c. Reclamation shall make available to the State Water Board and other interested parties the results of the above monitoring as soon as practicable. Timely posting of this information on the Internet will satisfy this requirement. Reclamation shall submit to the Executive Director of the State Water Board, by December 1 of each year, annual reports summarizing the previous calendar year's findings and detailing future study plans.
 - d. If Reclamation anticipates violations of the water quality objectives or if such violations have occurred, Reclamation shall provide immediate written notification to the Executive Director of the State Water Board.
 - e. Reclamation shall evaluate the Water Quality Compliance and Baseline Monitoring once every three years to ensure that the goals of the monitoring program are attained. Reclamation shall report to the Executive Director of the State Water Board the conclusions based upon this evaluation. Reclamation may propose appropriate modifications of the program for concurrence of the Executive Director of the State Water Board.
18. Upon request to and approval of the Executive Director of the State Water Board, variations in flow for experimental purposes for protection and enhancement of fish and wildlife may be allowed; provided, that such variations in flow do not cause violations of municipal, industrial and agricultural objectives in Tables 1 and 2.
19. For the protection of Suisun Marsh, Reclamation shall report to the State Water Board by September 30 of each year on progress toward implementation of mitigation facilities and on water quality conditions in the Suisun Marsh during the previous salinity control season.
20. This water right is conditioned upon implementation of the water quality objectives for agricultural beneficial uses in the southern Delta, as specified in Table 2, attached, at the following locations in the southern Delta:
 - a. San Joaquin River at Airport Way Bridge, Vernalis (Interagency Station No. C-10);
 - b. San Joaquin River at Brandt Bridge (Interagency Station No. C-6);

- c. Old River near Middle River (Interagency Station No. C-8); and
- d. Old River at Tracy Road Bridge (Interagency Station No. P-12).

Conditions 20.b, 20.c and 20.d are referred to as the southern delta salinity objective. This condition does not mandate that Reclamation use water under this amended permit to meet this condition if it uses other sources of water or other means to meet this condition.

Reclamation has latitude in its method for implementing the water quality objectives at Stations C-6, C-8, and P-12, above; however, a barrier program in the southern Delta may help to ensure that the objectives are met at these locations. If Reclamation exceeds the objectives at stations C-6, C-8, or P-12, Reclamation shall prepare a report for the Executive Director. The Executive Director will evaluate the report and make a recommendation to the State Water Board as to whether enforcement action is appropriate or the noncompliance is the result of actions beyond the control of Reclamation.

Reclamation shall report any expected noncompliance as soon as possible. The report of actions taken shall be submitted within three months following the period in which the requirements are not met.

- 21. Reclamation shall, at all times, meet the Vernalis water quality objectives for agricultural beneficial uses at Vernalis. Reclamation may meet these objectives through flows or other measures. Reclamation shall develop a program under which it will meet these objectives consistently. Reclamation shall conduct modeling and planning studies to evaluate the effectiveness of its program to meet the Vernalis water quality objectives. If, by December 29, 2004, Reclamation has not developed a program under which it will consistently achieve the Vernalis objectives, Reclamation shall report to the Executive Director of the State Water Board all actions it has taken in attempting to meet the objectives, including drainage and management alternatives. The Executive Director of the State Water Board will evaluate the report and will decide whether further action should be taken by the State Water Board to ensure that the objectives are met.
- 22. The State Water Board reserves continuing jurisdiction over this permit for the purpose of formulating or revising terms and conditions relative to flows to be maintained in the Delta for the protection of fish and wildlife.
(0000600)
- 23. The State Water Board reserves continuing jurisdiction over this water right for the purpose of formulating or revising terms and conditions relative to salinity control in the Sacramento-San Joaquin Delta.
(0000600)
- 24. The Board reserves continuing jurisdiction over this permit for the purpose of coordinating terms and conditions of the permit with terms and conditions which have been or which may be included in permits issued pursuant to applications of the United States in furtherance of the CVP and other applications of the State of California in furtherance of the SWP. At such time as DWR and Reclamation have entered into a coordinated operation agreement, the Board will review said agreement for the purpose of formulating and imposing such coordinated terms and conditions as may be appropriate. The Board, on its own motion or on the motion of any interested party, after hearing, may formulate and impose such coordinated terms and conditions as may be appropriate pending the execution of such agreement.
(0000600)
- 25. Direct diversion of flows originating downstream of Friant Dam is not authorized. Only water available at Friant Dam may be dedicated for preservation of fish and wildlife pursuant to Water Code section 1707 and subsequently utilized downstream of the dam at the authorized locations.
- 26. Any San Joaquin River Settlement Restoration Flows or Interim Flows that are recaptured and stored or routed through San Luis Reservoir shall be used consistent with the Settlement and Settlement Act. The water need not be delivered back to the Friant Division Contractors, but may be made available to

others through transfers, exchanges and sales. Reclamation shall document that it has taken all practicable measures to provide contract water to the Friant Division Contractors, while complying with all other conditions of this water right.

One of these practicable measures shall include implementation of the February 2011 Draft Plan for the Recirculation, Recapture, Reuse, Exchange or Transfer of Interim and Restoration Flows, unless superseded by a final recirculation plan, which is anticipated by October 31, 2013. The Recirculation Plan may be revised and amended from time to time as the physical conditions in the river change due to implementation of the SJRRP. To the extent the Recirculation Plan or any revision thereto, includes components that are subject to state approval, such as additional exchanges or transfers, those components are subject to review, modification and approval by the State Water Board. The plan shall be timely implemented.

27. The SJRRP flows dedicated for the purpose of preservation and enhancement of fish and wildlife resources are in addition to that quantity of releases otherwise required to maintain the 5 cubic feet per second (cfs) requirement at Gravelly Ford and that would be sufficient to provide necessary flow in the river reach from Friant Dam to Gravelly Ford pursuant to the obligations of the Holding Contracts executed by Reclamation.
28. Reclamation shall dedicate water to instream beneficial uses to the extent possible in compliance with this Order and the terms and conditions of the Settlement and Settlement Act. Release volumes shall be in accordance with the water-year type allocation made using either the Restoration Flow schedules included in Exhibit B of the Settlement, or a more continuous hydrograph as listed below. (DPEIS/R, Figures 2-5 and 2-6) Release rates shall be in accordance with the schedule for release volumes of Interim and Restoration flows, also as listed below, subject to the additional releases called for in Paragraph 13 and Exhibit B of the Settlement, as described below (DPEIS/R, Table 2-4).

Figure 2-6 from DPEIS/R Continuous Annual Restoration Flow in Thousand Acre-feet (TAF)			
Forecasted Water Year	Annual Flow Allocation (TAF) ¹	Continuous-Line Annual Flow Allocation (TAF)	Restoration Year Type
Inflow below Friant Dam (TAF)			
Less than 400	116.7	116.9	Critical-Low
Greater than 400 to 670	187.5	187.8	Critical-High
Greater than 670 to 930	300.8	272.3 to 330.3	Dry
Greater than 930 to 1,450	364.6	Greater than 330.3 to 400.3	Normal-Dry
Greater than 1,450 to 2,500	473	Greater than 400.3 to 574.4	Normal-Wet
Greater than 2,500	672.3	673.5	Wet

¹Friant Dam releases includes water for riparian water right holders in Reach 1 under "holding contracts", and instream flow dedication water.

Figure 2-5 from DPEIS/R

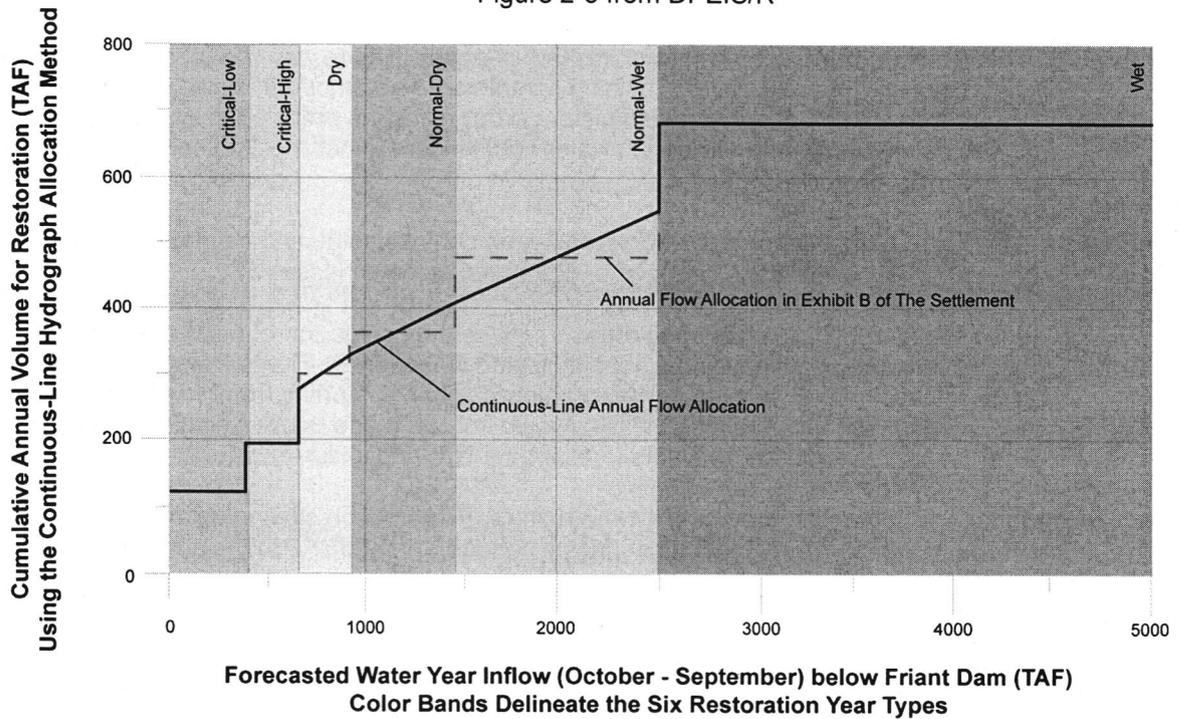


Table 2-4 from Draft PEIS/R.
Estimated Maximum Water Available for Instream Flow Dedication
Under Action Alternatives

Begin Date	End Date	Friant Dam Releases According to Settlement		Reach 1 Holding Contract Diversions Estimated as in Exhibit B1	Friant Dam Releases Eligible for Recapture ¹	
		(cfs)	(TAF)		(cfs)	(TAF)
10/1	10/31	350	22	160	190	12
11/1	11/10	700	14	130	570	11
11/11	12/31	350	35	120	230	23
1/1	2/28	350	41	100	250	29
3/1	3/15	500	14	130	370	10
3/16	3/31	1,500	48	130	1,370	43
4/1	4/15	2,500	74	150	2,350	70
4/16	4/30	4,000	119	150	3,850	115
5/1	6/30	2,000	242	190	1,810	219
7/1	8/31	350	43	230	120	15
9/1	9/30	350	21	210	140	8
Total flows released (TAF)		673		Total available for instream flow dedication² (TAF)		556
Potential buffer flows (TAF)		67		Potential buffer flows (TAF)		67
Potential additional releases pursuant to Paragraph 13(c)		100		Potential additional releases pursuant to Paragraph 13(c), minus seepage ³		0
Maximum total volume released (TAF)		840		Maximum total volume available for instream flow dedication (TAF)		623

Notes:

- 1 Under existing conditions, Friant Dam releases include water for riparian water right holders in Reach 1 under "holding contracts." The amounts in the table are approximate based on recent historical deliveries, as provided in Exhibit B of the Settlement. Water for riparian water right holders under "holding contracts" would not be eligible for recapture.
 - 2 Total eligible for recapture is a maximum potential total, and does not account for anticipated losses to seepage or other unanticipated losses.
 - 3 Paragraph 13(c) of the Settlement requires the acquisition of purchased water to overcome seepage losses not anticipated in Exhibit B. These Paragraph 13(c) releases are available for instream flow dedication starting from Friant Dam; however, because these potential releases would only be made to overcome seepage, this water would not be available for instream flow dedication downstream of Reach 5.
29. For purposes of tracking protected instream flows, Reclamation shall monitor river stage and flow conditions at the following locations during all periods when SJRRP flows are likely to be flowing at those locations:
- below Friant Dam (river mile 267);
 - at Gravelly Ford (river mile 228);
 - below Chowchilla Bifurcation Structure (river mile 216);
 - below Sack Dam (river mile 182);
 - at the head of Reach 4B1 (river mile 168); and
 - above the Merced River confluence (river mile 118).

Monitoring shall be conducted on a daily basis, and Reclamation shall make the information from such monitoring readily available to the public by posting it on a daily basis on a publicly available website whenever the flows at Friant Dam are modified, and daily for a period of three days after any modification, and on a weekly basis under all other circumstances. River stage and flow conditions shall also similarly be monitored at the Vernalis gaging station, which is operated by the U.S. Geological Survey and DWR, with provisional monitoring data reported on the California Data Exchange Center website at cdec.water.ca.gov on a daily basis. Flow conditions shall also similarly be monitored by Reclamation at the Jones Pumping Plant and the Clifton Court Forebay in coordination with DWR, with provisional monitoring data reported on a daily basis on Reclamation's website.

Reclamation shall, within 5 working days of determining that a station is non-working: (1) report the non-working flow monitoring station to the Deputy Director for Water Rights; and (2) submit to the Deputy Director for Water Rights a plan for timely restoration of the monitoring station. All stations shall be calibrated and report flow data in accordance with standards established by the U.S. Geological Survey.

After the SJRRP flows have been fully implemented and monitored for five years from date of this amended right incorporating approval of the SJRRP Petitions, this condition may be modified by the Deputy Director for Water Rights, upon written request by Reclamation showing that any requested modifications to the monitoring locations, procedures, or reporting are reasonable, prudent and provide adequate data for the Physical Monitoring and Management Plan (DPEIS/R, Appendix D.) Unless the Deputy Director for Water Rights objects in writing to the request within 30 days of notification, the request is approved.

30. The SJRRP instream flow dedication is conditioned upon implementation of the following elements of the Physical Monitoring and Management Plan (Management Plan): (a) the Flow Monitoring and Management Component Plan, (b) the Seepage Monitoring and Management Component Plan (including the Seepage Management Plan Attachment), (c) the Channel Capacity Monitoring and Management Component Plan, and (d) the Native Vegetation Monitoring and Management Component Plan. (DPEIS/R, Appendix D.) Reclamation is also required to implement the following monitoring programs from the Management Plan for the SJRRP instream flow dedication: flow monitoring, levee condition monitoring, groundwater level monitoring, aerial and topographic surveys, vegetation surveys, and sediment mobilization monitoring. (Id.) SJRRP flows shall only be released in a manner consistent with the Management Plan.

Although already incorporated in the Management Plan, it is emphasized herein that Reclamation shall establish groundwater elevation thresholds to determine when impacts to agricultural lands or levee stability are imminent. The groundwater elevation thresholds and action thresholds shall be reviewed by Reclamation annually for: (a) at least five years from approval of this amended permit incorporating approval of the SJRRP petitions, and (b) a minimum of two years after implementation of full SJRRP flows, defined as the maximum flow volume and rate as set forth in Exhibit B of the Settlement, to determine whether any updates or revisions are required based on problems reported from the seepage hotline or identified by the monitoring well network.

Reclamation shall initially publish any revisions or updates to the Management Plan on the SJRRP website for public review and comment and shall also provide this information to the Division. Reclamation shall consider any comments submitted within 20 days of initial publication and shall draft written responses within 45 days of initial publication, which shall include additional changes to the Management Plan or changes to the initially published revisions or updates. Reclamation shall publish comments, responses, and the revised Management Plan on the SJRRP website within 45 days of the initial publication and shall also submit at that time the revised Management Plan, along with the comments and responses, to the Deputy Director for Water Rights for review, modification and approval. Unless the Deputy Director for Water Rights objects in writing within 30 days of the submittal, the revised Management Plan is approved.

31. Reclamation shall implement the Seepage Monitoring and Management Plan in Appendix D of the WY 2010 EA/IS, as updated in Appendix G to the WY 2012 DEA.

As part of implementing the Seepage Monitoring Plan, Reclamation shall publish the then-current well locations, monitoring/buffer groundwater thresholds, and proposed process for development of and updates to action thresholds on the SJRRP website by January 10, 2014 for public review and comment and shall also provide this information to the Division. Reclamation shall consider any comments submitted by January 30, 2014 and shall draft written responses, which may include revisions to the thresholds, by March 1, 2014. Comments, responses, and then-current thresholds shall be published on the SJRRP website by March 1, 2014, and also provided to the Deputy Director for Water Rights for review, modification and approval. Any future revisions to action thresholds shall follow the same process.

Recognizing that many factors contribute to groundwater elevations, Reclamation shall manage Interim Flows to avoid exceeding an action threshold to the extent possible. In addition, and prior to January 10, 2014, Reclamation shall publish on the SJRRP website the location of all new monitoring wells installed in 2013 and its plans for installation for additional monitoring wells in 2014, including proposed well locations and estimated timelines for installation. Plans for installation of new monitoring wells shall include surveying well locations.

32. Reclamation shall issue a notification on the flow monitoring page of the SJRRP website, with a short description of status and decision made, within 5 working days of the following:
- a. A seepage hotline call is reported.

- b. A monitoring well crosses a threshold.
- c. An operational change or constraint arises from the daily coordination call; or
- d. A flow change is made.

33. Seepage will be monitored for at least five years from implementation of full SJRRP flows, defined as the maximum flow volume and rate as set forth in Exhibit B of the Settlement, subject to discontinuation as provided for in this condition, and Reclamation shall submit an annual report with its electronic report of water diversion and use covering the previous water year describing: (a) the stream reach where any modifications to SJRRP flows were made to address seepage issues, (b) the flow modification, and (c) whether construction measures or other actions have been taken, or will be taken (and the time schedule for implementation) to address the problem. If the fourth and fifth annual reports indicate that no monitoring wells have crossed the identified threshold during the reporting period, and the water year classification was normal or better during this time period, the monitoring program may be discontinued.

If the fourth or fifth annual report indicates that one or more monitoring wells has crossed the threshold during the reporting period, seepage management techniques will be implemented to correct the identified problem and monitoring shall continue until corrective action is completed and two consecutive reports during water years classified as normal or better indicate that no wells have crossed the threshold during the reporting period.

If the water year was dry, very dry or critical, monitoring shall be continued past the fifth year until two consecutive reports during normal or better water years indicate that no monitoring wells have crossed the identified threshold during the reporting period.

Reclamation shall indicate in the appropriate electronic annual report of water diversion and use the discontinuance of seepage monitoring authorized consistent with this condition.

34. SJRRP flows shall not exceed the channel capacities identified in DEIS/R Table 11-1 – Design Capacities of San Joaquin River and Bypasses within the Restoration Area and in the USACE 2003 San Joaquin River Mainstem, California Reconnaissance Report Sacramento District, but are subject to periodic update. (Final PEIS/R, p. 4-216, Table 11-1.) Reclamation shall also operate in accordance with the Seepage Monitoring and Management Plan. In the event of a conflict between these two requirements, the most restrictive channel flow shall prevail.
35. The Channel Capacity Advisory Group established and convened by Reclamation provides independent review of then-existing San Joaquin River estimated channel capacities that are determined and updated by Reclamation. (DPEIS/R, p. 2-24 to 2-25, and p. 11-43) Reclamation shall timely submit to the Deputy Director for Water Rights any revised channel capacity final informational report prepared in accordance with the process described on page 2-25 of the DPEIS/R. Thereafter, the updated channel capacity information may be utilized in lieu of previous channel capacity information.
36. In the event that SJRRP flows create seepage conditions, Reclamation shall reduce or redirect SJRRP flows to the last known flow volume that did not result in seepage conditions until Reclamation determines that increasing flows would not create seepage conditions (i.e., seepage is caused by an activity not related to the SJRRP flows). Recognizing that many factors contribute to groundwater elevations, Reclamation shall manage SJRRP flows to avoid exceeding a seepage action threshold to the extent possible.
37. Reclamation shall coordinate its operations with the Central California Irrigation District (CCID) and the San Luis Canal Company (SLCC). When SJRRP flows are or are anticipated to be flowing into Mendota Pool, Reclamation shall communicate with CCID, as the owner/operator of Mendota Dam, at least once daily via telephone, email, or other written communication. This daily communication shall identify, for the following 24 hours: (1) how much water is expected as inflow into the Mendota Pool for

the purposes of the SJRRP flows; (2) how much water is to be exchanged to satisfy the Exchange Contract at Mendota Pool; and (3) how much water is to be released below Mendota Dam for the SJRRP flows. Reclamation shall communicate with SLCC, as the owner/operator of Sack Dam, at least once daily via telephone, email, or other written communication when SJRRP flows are being released from Mendota Dam. This daily communication shall identify, for the following 24 hours: (1) how much water is expected as inflow into Reach 3 below Mendota Pool for the purposes of the SJRRP flows; (2) how much water is to be exchanged to satisfy water delivery contracts at the Arroyo Canal; and (3) how much water is to be released below Sack Dam for the SJRRP flows.

Reclamation shall also notify facility owners annually that flows dedicated for preservation and enhancement of fish and wildlife resources pursuant to Water Code section 1707 are protected under the California Water Code and shall not be diverted or stored unless otherwise authorized by Reclamation, subject to the conditions of Reclamation's water rights.

38. The authorization to release and to dedicate SJRRP flows for instream use at Friant Dam shall not be construed as authorizing any act that results in damage that could result in imminent failure to:
(a) private levees located along the San Joaquin River, (b) facilities, including levees and related structures, which are part of the San Joaquin River Flood Control Project, (c) Mendota Dam, (d) bifurcation structure at Chowchilla Bypass, (e) Sand Slough control structure, or (f) headworks of Mariposa Bypass. Reclamation shall be responsible for operating the SJRRP in a way that does not result in such damage.
39. Release and dedication of SJRRP flows for instream use at Friant Dam shall be managed to avoid interference with operations of the Lower San Joaquin River Flood Control Project.
40. Until the features of the SJRRP program are fully implemented, Reclamation shall annually consult with the Central Valley Flood Protection Board, Lower San Joaquin Levee District, DWR, or any other appropriate agency to ensure that the proposed flows will not compromise the flood safety features of the San Joaquin River and Eastside and Mariposa Bypasses. A finding by an agency with regulatory oversight on flood control that the full SJRRP flows will not compromise the flood safety features may substitute for annual consultation. Reclamation shall provide information on the consultation to the Deputy Director for Water Rights with the electronic annual report of water diversion and use, until compliance is achieved and shall document achievement of compliance in the appropriate electronic annual report of water diversion and use.
41. Approval of the SJRRP petitions shall not modify or amend the rights and obligations of the parties to:
(a) the San Joaquin River Exchange Contract, Ilr-1144, as amended February 14, 1968, and
(b) contracts executed as of the date of this amended permit incorporating approval of the SJRRP petitions, between the United States and various contracting entities providing for adjustment and settlement of certain claimed water rights in and to the use of the San Joaquin River to satisfy obligations of the United States under Schedule 1 and Schedule 2, respectively, of the Contract for Purchase of Miller and Lux Water Rights (Contract Ilr-1145, dated July 27, 1939). Nothing herein changes Reclamation's obligations with respect to the Exchange Contractors or with respect to obligations under Schedule 2 of Contract Ilr-1145.
42. Pumping and conveyance of SJRRP flows under Permits 11885, 11886 and 11887 and License 1986 by or through CVP and SWP facilities: (1) shall be consistent with all applicable provisions of law (including the Agreement of November 24, 1986, between the United States of America and the Department of Water Resources of the State of California for the coordinated operation of the CVP and the SWP as authorized by Congress in section 2(d) of the Act of August 26, 1937 (50 Stat. 850, 100 Stat. 3051)), or any successor agreement, and (2) is limited to pumping and conveyance that is available at the C.W. Jones Pumping Plant, at the Harvey O. Banks Pumping Plant, in the Delta-Mendota Canal or in the California Aqueduct, after satisfying the Secretary's obligation to make CVP water (other than the SJRRP Flows) and water acquired through the transfer agreements available to existing south-of-Delta CVP contractors.

43. Pumping of SJRRP flows at the Jones Pumping Plant and the Banks Pumping Plant is subject to compliance by the operators with the objectives currently required of Reclamation or DWR set forth in Tables 1, 2, and 3 on pages 181 to 187 of State Water Board Revised Decision 1641 (D-1641), or any future State Water Board order or decision implementing Bay-Delta water quality objectives at those plants, including compliance with the various plans required under D-1641 as prerequisites for the use of the Joint Points of Diversion by Reclamation and DWR. Pumping of SJRRP flows at the Jones Pumping Plant and the Banks Pumping Plant is also subject to compliance by the operators with all applicable biological opinions and any court orders applicable to these operations.
44. Reclamation shall include the following information in its electronic annual report of water diversion and use to the State Water Board: documentation for each individual water right of (a) monthly quantities stored in Millerton Reservoir (for water rights authorizing storage), (b) monthly direct diversion quantities (for water rights authorizing direct diversion), (c) quantities bypassed or released and dedicated for instream use at Friant Dam pursuant to Water Code section 1707, and (d) separate information on quantities of flow dedicated pursuant to Water Code section 1707 diverted at each authorized location downstream, including Clifton Court Forebay and the Jones Pumping Plant.

Reclamation shall also submit documentation of its compliance with the conditions established by the State Water Board for the SJRRP. For those mitigation measures with sunset clauses, Reclamation shall note on its report when it is the final year of reporting on the measure, and need not report on compliance with the mitigation measure in subsequent years.
45. Reclamation shall implement the Mendota Pool Water Quality Plan dated February 1, 2011 (2011 Plan) until such time as the Deputy Director for Water Rights determines that the 2011 Plan is no longer needed (for example, after the Mendota Pool Bypass called for in Paragraph 11(a)(1) of the Settlement is constructed and operational). Reclamation shall submit any changes to the 2011 Plan in writing to the Deputy Director for Water Rights for review, modification and approval. Reclamation shall also submit any recommendation for elimination of the 2011 plan in writing to the Deputy Director for Water Rights for approval. Unless the Deputy Director for Water Rights objects in writing to a requested change or recommended elimination within 30 days of notification, the request is approved.
46. Reclamation shall monitor temperature in Millerton Reservoir as needed for the purpose of determining the availability of cold water for fishery purposes. Consistent with the Settlement and Settlement Act, Reclamation shall coordinate its SJRRP releases of the available cold-water pool made at Friant Dam for instream flow dedication with USFWS, NMFS, DFW and DWR to maximize benefits to fishery resources. Consistent with the Settlement and Settlement Act, Reclamation shall also coordinate the ramping of SJRRP releases made at Friant Dam for instream flow dedication with USFWS, NMFS, DFW and DWR to protect fishery resources.
47. Consistent with the Settlement and Settlement Act, Reclamation shall coordinate any flow modifications with the USFWS and NMFS, as applicable. Recapture of water dedicated for instream flow shall be in compliance with the USFWS and NMFS biological opinions.
48. Reclamation shall implement the Conservation Measures for Biological Resources that May Be Affected by Settlement Actions as described in Table 2-7 (p. 4-135 through p. 4-159) of the Final PEIS/R, in accordance with the schedule found therein, only for those items identified as "project level". Reclamation shall document completion of the mitigation measures within its electronic report of water diversion and use filed with the Division of Water Rights. Reclamation shall inform the Division of Water Rights once specific mitigation measures have been completed, and eliminate those measures from future reporting.
49. Reclamation shall prepare and submit an Annual Work Plan consistent with section 6.2 of the ROD.
50. The State Water Board's authorization for releases and dedication of SJRRP flows at Friant Dam and the conditions specified thereof, including authorized releases for dedication of flows at Friant Dam and levels and timing of flows in reaches of the San Joaquin River and Bypass System, are provided solely

for the purpose of implementing the Settlement and Settlement Act. The State Water Board has not imposed any water quality flow standards on the upper mainstem San Joaquin River in the stream reach covered by the SJRRP petitions; any future adoption of such standards would have to be accomplished in compliance with all applicable laws. Nothing in this order determines or predetermines whether or not the Board would find the SJRRP Flows sufficient to satisfy potential future water quality standards or any other instream beneficial use requirement.

51. Nothing in this water right authorizes the use of, or access to, any lands or facilities not owned by Reclamation. Reclamation is solely responsible for obtaining any necessary access agreements.
52. Reclamation shall comply with the Steelhead Monitoring Plan in Appendix B to the Final PEIS/R.
53. Reclamation shall continue to implement the recreation outreach plan developed for the water year 2012 Interim Flows Project.
54. To the extent practicable, given operational constraints and other factors, Reclamation shall provide notice to Paramount of determination of the expected presence of flows in Reach 2B below the Chowchilla Bifurcation Structure in excess of flows needed to satisfy CVP purposes within 24 hours of determining that such flows are: (a) present at Friant Dam, and (b) no longer present at Friant Dam. Flows at Friant Dam are subject to conveyance and other losses prior to entering Reach 2B. For description and location of Reach 2B, see Fig. 1-2 of DPEIS/R; Fig. ES-2 and p. 17 of DPEIS/R Executive Summary.

CVP purposes shall include, but are not limited to, uses (including instream flow dedication pursuant to the Settlement and State Water Board order) authorized by License 1986, Permit 11885, Permit 11886, and Permit 11887 and by any licenses issued pursuant to these Permits, certain contracts known as Holding Contracts and the maintenance of a 5 cubic feet per second flow requirement at Gravelly Ford; and the San Joaquin River Exchange Contract, Ilr-1144, as amended February 14, 1968.

Reclamation shall not object to the diversion of flows from the San Joaquin River for reasonable use at the New Columbia Ranch, located on the east side of Reach 2B of the San Joaquin River and just upstream of the Mendota Pool, to the extent that there are flows present in Reach 2B below the Chowchilla Bifurcation Structure in excess of flows needed to satisfy CVP purposes, provided such reasonable diversion and use are conducted pursuant to and to the extent of any valid water right. This condition is for notification purposes only, and shall not be used as the basis for determining the quantities available for diversion by Paramount. Diversions by others under valid basis of right and conveyance losses may affect water availability.

THIS RIGHT IS ALSO SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

- A. Right holder is on notice that: (1) failure to timely commence or complete construction work or beneficial use of water with due diligence, (2) cessation or partial cessation of beneficial use of water, or (3) failure to observe any of the terms or conditions of this right, may be cause for the State Water Board to consider revocation (including partial revocation) of this right. (Cal. Code Regs., tit. 23, § 850.) (0000016)
- B. Right holder is on notice that when the State Water Board determines that any person is violating, or threatening to violate, any term or condition of a right, the State Water Board may issue an order to that person to cease and desist from that violation. (Wat. Code, § 1831.) (0000017)
- C. Right holder is not authorized to make any modifications to the location of diversion facilities, place of use or purposes of use, or make other changes to the project that do not conform with the terms and conditions of this right, prior to submitting a change petition and obtaining approval of the State Water Board. (0000018)
- D. Once the time to develop beneficial use of water ends under this permit, right holder is not authorized to increase diversions beyond the maximum annual amount diverted or used during the authorized development schedule prior to submitting a time extension petition and obtaining approval of the State Water Board. (0000019)
- E. Only the amount of water applied to beneficial use during the authorized diversion season, as determined by the State Water Board, shall be considered when issuing a license. (Wat. Code, § 1610.) (0000006)
- F. Right holder shall maintain records of the amount of water diverted and used under this right to enable the State Water Board to determine the amount of water that has been applied to beneficial use. (0000015)
- G. Right holder shall promptly submit any reports, data, or other information that may reasonably be required by the State Water Board, including but not limited to documentation of water diversion and use under this right and documentation of compliance with the terms and conditions of this right. (0000010)
- H. No water shall be diverted under this right unless right holder is operating in accordance with a compliance plan, satisfactory to the Deputy Director for Water Rights. Said compliance plan shall specify how right holder will comply with the terms and conditions of this right. Right holder shall comply with all reporting requirements in accordance with the schedule contained in the compliance plan. (0000070)
- I. Right holder shall grant, or secure authorization through right holder's right of access to property owned by another party, the staff of the State Water Board, and any other authorized representatives of the State Water Board the following:
1. Entry upon property where water is being diverted, stored or used under a right issued by the State Water Board or where monitoring, samples and/or records must be collected under the conditions of this right;
 2. Access to copy any records at reasonable times that are kept under the terms and conditions of a right or other order issued by State Water Board;

3. Access to inspect at reasonable times any project covered by a right issued by the State Water Board, equipment (including monitoring and control equipment), practices, or operations regulated by or required under this right; and,
4. Access to photograph, sample, measure, and monitor at reasonable times for the purpose of ensuring compliance with a right or other order issued by State Water Board, or as otherwise authorized by the Water Code.

(0000011)

- J. This right shall not be construed as conferring right of access to any lands or facilities not owned by right holder.

(0000022)

- K. All rights are issued subject to available flows. Inasmuch as the source contains treated wastewater, imported water from another stream system, or return flow from other projects, there is no guarantee that such supply will continue.

(0000025)

- L. This right does not authorize diversion of water dedicated by other right holders under a senior right for purposes of preserving or enhancing wetlands, habitat, fish and wildlife resources, or recreation in, or on, the water. (Wat. Code, § 1707.) The Division of Water Rights maintains information about these dedications. It is right holders' responsibility to be aware of any dedications that may preclude diversion under this right.

(0000212)

- M. No water shall be diverted or used under this right, and no construction related to such diversion shall commence, unless right holder has obtained and is in compliance with all necessary permits or other approvals required by other agencies. If an amended right is issued, no new facilities shall be utilized, nor shall the amount of water diverted or used increase beyond the maximum amount diverted or used during the previously authorized development schedule, unless right holder has obtained and is in compliance with all necessary requirements, including but not limited to the permits and approvals listed in this term.

Within 90 days of the issuance of this right or any subsequent amendment, right holder shall prepare and submit to the Division of Water Rights a list of, or provide information that shows proof of attempts to solicit information regarding the need for, permits or approvals that may be required for the project. At a minimum, right holder shall provide a list or other information pertaining to whether any of the following permits or approvals are required: (1) lake or streambed alteration agreement with the Department of Fish and Wildlife (Fish & G. Code, § 1600 et seq.); (2) Department of Water Resources, Division of Safety of Dams approval (Wat. Code, § 6002); (3) Regional Water Quality Control Board Waste Discharge Requirements (Wat. Code, § 13260 et seq.); (4) U.S. Army Corps of Engineers Clean Water Act section 404 permit (33 U.S.C. § 1344); and (5) local grading permits.

Right holder shall, within 30 days of issuance of any permits, approvals or waivers, transmit copies to the Division of Water Rights.

(0000203)

- N. Urban water suppliers must comply with the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.). An "urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.

Agricultural water users and suppliers must comply with the Agricultural Water Management Planning Act (Act) (Water Code, § 10800 et seq.). Agricultural water users applying for a permit from the State Water Board are required to develop and implement water conservation plans in accordance with the Act. An "agricultural water supplier" means a supplier, either publicly or privately owned, supplying more

than 50,000 acre-feet of water annually for agricultural purposes. An agricultural water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.

(0000029D)

- O. Pursuant to Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this right, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this right with a view to eliminating waste of water and to meeting the reasonable water requirements of right holder without unreasonable draft on the source. Right holder may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this right and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by right holder in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution, article X, section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

(0000012)

- P. The quantity of water diverted under this right is subject to modification by the State Water Board if, after notice to right holder and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

(0000013)

- Q. This right does not authorize any act which results in the taking of a candidate, threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under the federal Endangered Species Act (16 U.S.C. § 1531 et seq.). If a "take" will result from any act authorized under this right, right holder shall obtain any required authorization for the take consistent with the federal Endangered Species Act prior to construction or operation of the project. Right holder shall be responsible for meeting all requirements of the federal Endangered Species Act for the project authorized under this right.

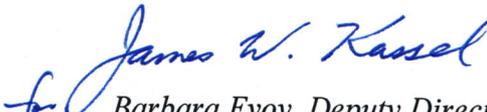
(0000014)

This right is issued and right holder takes it subject to the following provisions of the Water Code:

Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer .

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

STATE WATER RESOURCES CONTROL BOARD


for *Barbara Evoy, Deputy Director*
Division of Water Rights

Dated: **OCT 21 2018**

Attachments: Table 1 – Water Quality Objectives for Municipal and Industrial Beneficial Uses
Table 2 – Water Quality Objectives for Agricultural Beneficial Uses
Table 3 – Water Quality Objectives for Fish and Wildlife Beneficial Uses
Table 4 – Number of Days When Maximum Daily Average Electrical Conductivity of
2.64 mmhos/cm Must Be Maintained at Specified Location
Table 5 – Water Quality Compliance and Baseline Monitoring
Figure 1 – Sacramento Valley Water Year Hydrologic Classification
Figure 2 – San Joaquin Valley Water Year Hydrologic Classification
Figure 3 – NDOI and Percent Inflow Diverted
Figure 4 – Bay-Delta Estuary Monitoring Stations

TABLE 1
WATER QUALITY OBJECTIVES FOR
MUNICIPAL AND INDUSTRIAL BENEFICIAL USES

COMPLIANCE LOCATION	INTERAGENCY STATION NUMBER (RKI [1])	PARAMETER	DESCRIPTION (UNIT)	WATER YEAR TYPE [2]	TIME PERIOD	VALUE
Contra Costa Canal at Pumping Plant #1 -or- San Joaquin River at Antioch Water Works Intake	C-5 (CHCCC06)	Chloride (Cl ⁻)	Maximum mean daily 150 mg/l Cl ⁻ for at least the number of days shown during the Calendar Year. Must be provided in intervals of not less than two weeks duration. (Percentage of Calendar Year shown in parenthesis)			No. of days each Calendar Year ≤ 150 mg/l Cl ⁻
				W		240 (66%)
				AN		190 (52%)
				BN		175 (48%)
				D		165 (45%)
C		155 (42%)				
Contra Costa Canal at Pumping Plant #1	C-5 (CHCCC06)	Chloride (Cl ⁻)	Maximum mean daily (mg/l)	All	Oct-Sep	250
-and- West Canal at mouth of Clifton Court Forebay	C-9 (CHWST0)					
-and- Delta-Mendota Canal at Tracy Pumping Plant	DMC-1 (CHDMC004)					
-and- Barker Slough at North Bay Aqueduct Intake	---					
-and- Cache Slough at City of Vallejo Intake [3]	C-19 (SLCCH16)					

[1] River Kilometer Index station number.

[2] The Sacramento Valley 40-30-30 water year hydrologic classification index (see Figure 1) applies for determinations of water year type.

[3] The Cache Slough objective to be effective only when water is being diverted from this location.

**TABLE 2
WATER QUALITY OBJECTIVES FOR AGRICULTURAL BENEFICIAL USES**

COMPLIANCE LOCATION	INTERAGENCY STATION NUMBER (RKI [1])	PARAMETER	DESCRIPTION (UNIT) [2]	WATER YEAR TYPE [3]	TIME PERIOD	VALUE
WESTERN DELTA						
Sacramento River at Emmaton	D-22 (RSAC092)	Electrical Conductivity (EC)	Maximum 14-day running average of mean daily EC (mmhos/cm)		0.45 EC	EC from date shown to Aug 15 [4]
					April 1 to date shown	----
				W	Aug 15	----
				AN	Jul 1	0.63
				BN	Jun 20	1.14
D	Jun 15	1.67				
C	----	2.78				
San Joaquin River at Jersey Point	D-151 (RSAN018)	Electrical Conductivity (EC)	Maximum 14-day running average of mean daily EC (mmhos/cm)		0.45 EC	EC from date shown to Aug 15 [4]
					April 1 to date shown	----
				W	Aug 15	----
				AN	Aug 15	----
				BN	Jun 20	0.74
D	Jun 15	1.35				
C	----	2.20				
INTERIOR DELTA						
South Fork Mokelumne River at Terminus	C-13 (RSMKL08)	Electrical Conductivity (EC)	Maximum 14-day running average of mean daily EC (mmhos/cm)		0.45 EC	EC from date shown to Aug 15 [4]
					April 1 to date shown	----
				W	Aug 15	----
				AN	Aug 15	----
				BN	Aug 15	----
D	Aug 15	----				
C	----	0.54				
San Joaquin River at San Andreas Landing	C-4 (RSAN032)	Electrical Conductivity (EC)	Maximum 14-day running average of mean daily EC (mmhos/cm)		0.45 EC	EC from date shown to Aug 15 [4]
					April 1 to date shown	----
				W	Aug 15	----
				AN	Aug 15	----
				BN	Aug 15	----
D	Jun 25	0.58				
C	----	0.87				
SOUTHERN DELTA						
San Joaquin River at Airport Way Bridge, Vernalis	C-10 (RSAN112)	Electrical Conductivity (EC)	Maximum 30-day running average of mean daily EC (mmhos/cm)	All	Apr-Aug Sep-Mar	0.7 1.0
-and- San Joaquin River at Brandt Bridge site [5]	C-6 (RSAN073)					
-and- Old River near Middle River [5]	C-8 (ROLD69)					
-and- Old River at Tracy Road Bridge [5]	P-12 (ROLD59)					
EXPORT AREA						
West Canal at mouth of Clifton Court Forebay	C-9 (CHWST0)	Electrical Conductivity (EC)	Maximum monthly average of mean daily EC (mmhos/cm)	All	Oct-Sep	1.0
-and- Delta-Mendota Canal at Tracy Pumping Plant	DMC-1 (CHDMC004)					

[1] River Kilometer Index station number.

[2] Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period for the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance.

[3] The Sacramento Valley 40-30-30 water year hydrologic classification index (see Figure 1) applies for determinations of water year type.

[4] When no date is shown, EC limit continues from April 1.

[5] The 0.7 EC objective becomes effective on April 1, 2005. The DWR and the USBR shall meet 1.0 EC at these stations year round until April 1, 2005. The 0.7 EC objective is replaced by the 1.0 EC objective from April through August after April 1, 2005 if permanent barriers are constructed, or equivalent measures are implemented, in the southern Delta and an operations plan that reasonably protects southern Delta agriculture is prepared by the DWR and the USBR and approved by the Executive Director of the SWRCB. The SWRCB will review the salinity objectives for the southern Delta in the next review of the Bay-Delta objectives following construction of the barriers.

TABLE 3
WATER QUALITY OBJECTIVES FOR FISH AND WILDLIFE BENEFICIAL USES

COMPLIANCE LOCATION	INTERAGENCY STATION NUMBER (RKI [1])	PARAMETER	DESCRIPTION (UNIT) [2]	WATER YEAR TYPE [3]	TIME PERIOD	VALUE
SAN JOAQUIN RIVER SALINITY						
San Joaquin River at and between Jersey Point and Prisoners Point [4]	D-15 (RSAN018) -and- D-29 (RSAN038)	Electrical Conductivity (EC)	Maximum 14-day running average of mean daily EC(mmhos/cm)	W,AN,BN,D	Apr-May	0.44 [5]
EASTERN SUISUN MARSH SALINITY						
Sacramento River at Collinsville -and- Montezuma Slough at National Steel -and- Montezuma Slough near Beldon Landing	C-2 (RSAC081) S-64 (SLMZU25) S-49 (SLMZU11)	Electrical Conductivity (EC)	Maximum monthly average of both daily high tide EC values (mmhos/cm), or demonstrate that equivalent or better protection will be provided at the location	All	Oct Nov-Dec Jan Feb-Mar Apr-May	19.0 15.5 12.5 8.0 11.0
WESTERN SUISUN MARSH SALINITY						
Chadbourne Slough at Sunrise Duck Club -and- Suisun Slough, 300 feet south of Volanti Slough	S-21 (SLCBN1) S-42 (SLSUS12)	Electrical Conductivity (EC)	Maximum monthly average of both daily high tide EC values (mmhos/cm), or demonstrate that equivalent or better protection will be provided at the location	All but deficiency period [6] Deficiency Period [6]	Oct Nov Dec Jan Feb-Mar Apr-May Oct Nov Dec-Mar Apr May	19.0 16.5 15.5 12.5 8.0 11.0 19.0 16.5 15.6 14.0 12.5

TABLE 3 (continued)
WATER QUALITY OBJECTIVES FOR FISH AND WILDLIFE BENEFICIAL USES

COMPLIANCE LOCATION	INTERAGENCY STATION NUMBER(RKI1[1])	PARAMETER	DESCRIPTION (UNIT) [2]	WATER YEAR TYPE [3]	TIME PERIOD	VALUE
DELTA OUTFLOW						
		Net Delta Outflow Index (NDOI) [7]	Minimum monthly average [8] NDOI (cfs)	All	Jan	4,500 [9]
				All	Feb-Jun	[10]
				W,AN	Jul	8,000
				BN		6,500
				D		5,000
				C		4,000
				W,AN,BN	Aug	4,000
				D		3,500
				C		3,000
				All	Sep	3,000
				W,AN,BN,D	Oct	4,000
				C		3,000
				W,AN,BN,D	Nov-Dec	4,500
				C		3,500
RIVER FLOWS						
Sacramento River at Rio Vista	D-24 (RSAC101)	Flow rate	Minimum monthly average [11] flow rate (cfs)	All	Sep	3,000
				W,AN,BN,D	Oct	4,000
				C		3,000
				W,AN,BN,D	Nov-Dec	4,500
				C		3,500
San Joaquin River at Airport Way Bridge, Vernalis	C-10 (RSAN112)	Flow rate	Minimum monthly average [12] flow rate (cfs) [13]	W,AN	Feb-Apr 14 and	2,130 or 3,420
				BN,D	May 16-Jun	1,420 or 2,280
				C		710 or 1,140
				W	Apr 15-	7,330 or 8,620
				AN	May 15 [14]	5,730 or 7,020
				BN		4,620 or 5,480
				D		4,020 or 4,880
				C		3,110 or 3,540
				All	Oct	1,000 [15]
EXPORT LIMITS						
		Combined export rate [16]	Maximum 3-day running average (cfs)	All	Apr 15-May 15 [17]	[18]
			Maximum percent of Delta inflow diverted [19] [20]	All	Feb-Jun	35% Delta inflow [21]
				All	Jul-Jan	65% Delta inflow
DELTA CROSS CHANNEL GATES CLOSURE						
Delta Cross Channel at Walnut Grove	—	Closure of gates	Closed gates	All	Nov-Jan	[22]
					Feb-May 20	—
					May 21-	[23]
					Jun 15	

Table 3 Footnotes

- [1] River Kilometer Index station number.
- [2] Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. The averaging period commences with the first day of the time period of the applicable objective. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance.
- [3] The Sacramento Valley 40-30-30 Water Year Hydrologic Classification Index (see Figure 1) applies unless otherwise specified.
- [4] Compliance will be determined at Jersey Point (station D15) and Prisoners Point (station D29).
- [5] This standard does not apply in May when the best available May estimate of the Sacramento River Index for the water year is less than 8.1 MAF at the 90% exceedence level. [Note: The Sacramento River Index refers to the sum of the unimpaired runoff in the water year as published in the DWR Bulletin 120 for the following locations: Sacramento River above Bend Bridge, near Red Bluff; Feather River, total unimpaired inflow to Oroville Reservoir; Yuba River at Smartville; and American River, total unimpaired inflow to Folsom Reservoir.]
- [6] A deficiency period is: (1) the second consecutive dry water year following a critical year; (2) a dry water year following a year in which the Sacramento River Index (described in footnote 5) was less than 11.35 MAF; or (3) a critical water year following a dry or critical water year. The determination of a deficiency period is made using the prior year's final Water Year Type determination and a forecast of the current year's Water Year Type; and remains in effect until a subsequent water year is other than a Dry or Critical water year as announced on May 31 by DWR and USBR as the final water year determination.
- [7] Net Delta Outflow Index (NDOI) is defined in Figure 3.
- [8] For the May-January objectives, if the value is less than or equal to 5,000 cfs, the 7-day running average shall not be less than 1,000 cfs below the value; if the value is greater than 5,000 cfs, the 7-day running average shall not be less than 80% of the value.
- [9] The objective is increased to 6,000 cfs if the best available estimate of the Eight River Index for December is greater than 800 TAF. [Note: The Eight River Index refers to the sum of the unimpaired runoff as published in the DWR Bulletin 120 for the following locations: Sacramento River flow at Bend Bridge, near Red Bluff; Feather River, total inflow to Oroville Reservoir; Yuba River flow at Smartville; American River, total inflow to Folsom Reservoir; Stanislaus River, total inflow to New Melones Reservoir; Tuolumne River, total inflow to Don Pedro Reservoir; Merced River, total inflow to Exchequer Reservoir; and San Joaquin River, total inflow to Millerton Lake.]
- [10] The minimum daily net Delta outflow shall be 7,100 cfs for this period, calculated as a 3-day running average. This requirement is also met if either the daily average or 14-day running average EC at the confluence of the Sacramento and the San Joaquin rivers is less than or equal to 2.64 mmhos/cm (Collinsville station C2). If the best available estimate of the Eight River Index (described in footnote 9) for January is more than 900 TAF, the daily average or 14-day running average EC at station C2 shall be less than or equal to 2.64 mmhos/cm for at least one day between February 1 and February 14; however, if the best available estimate of the Eight River Index for January is between 650 TAF and 900 TAF, the Executive Director of the SWRCB is delegated authority to decide whether this requirement applies. If the best available estimate of the Eight River Index for February is less than 500 TAF, the standard may be further relaxed in March upon the request of the DWR and the USBR, subject to the approval of the Executive Director of the SWRCB. The standard does not apply in May and June if the best available May estimate of the Sacramento River Index (described in footnote 5) for the water year is less than 8.1 MAF at the 90% exceedence level.

Under this circumstance, a minimum 14-day running average flow of 4,000 cfs is required in May and June. Additional Delta outflow objectives are contained in Table 4.

- [11] The 7-day running average shall not be less than 1,000 cfs below the monthly objective.
- [12] Partial months are averaged for that period. For example, the flow rate for April 1-14 would be averaged over 14 days. The 7-day running average shall not be less than 20% below the flow rate objective, with the exception of the April 15-May 15 pulse flow period when this restriction does not apply.
- [13] The water year classification for the San Joaquin River flow objectives will be established using the best available estimate of the 60-20-20 San Joaquin Valley Water Year Hydrologic Classification (see Figure 2) at the 75% exceedence level. The higher flow objective applies when the 2-ppt isohaline (measured as 2.64 mmhos/cm surface salinity) is required to be at or west of Chippis Island.
- [14] This time period may be varied based on real-time monitoring. One pulse, or two separate pulses of combined duration equal to the single pulse, should be scheduled to coincide with fish migration in San Joaquin River tributaries and the Delta. The USBR will schedule the time period of the pulse or pulses in consultation with the USFWS, the NMFS, and the DFG. Consultation with the CALFED Operations Group established under the Framework Agreement will satisfy the consultation requirement. The schedule is subject to the approval of the Executive Director of the SWRCB.
- [15] Plus up to an additional 28 TAF pulse/attraction flow during all water year types. The amount of additional water will be limited to that amount necessary to provide a monthly average flow of 2,000 cfs. The additional 28 TAF is not required in a critical year following a critical year. The pulse flow will be scheduled by the DWR and the USBR in consultation with the USFWS, the NMFS and the DFG. Consultation with the CALFED Operations Group established under the Framework Agreement will satisfy the consultation requirement.
- [16] Combined export rate for this objective is defined as the Clifton Court Forebay inflow rate (minus actual Byron-Bethany Irrigation District diversions from Clifton Court Forebay) and the export rate of the Tracy pumping plant.
- [17] This time period may be varied based on real-time monitoring and will coincide with the San Joaquin River pulse flow described in footnote 18. The DWR and the USBR, in consultation with the USFWS, the NMFS and the DFG, will determine the time period for this 31-day export limit. Consultation with the CALFED Operations Group established under the Framework Agreement will satisfy the consultation requirement.
- [18] Maximum export rate is 1,500 cfs or 100% of 3-day running average of San Joaquin River flow at Vernalis, whichever is greater. Variations to this maximum export rate may be authorized if agreed to by the USFWS, the NMFS and the DFG. This flexibility is intended to result in no net water supply cost annually within the limits of the water quality and operational requirements of this plan. Variations may result from recommendations of agencies for protection of fish resources, including actions taken pursuant to the State and federal Endangered Species Act. Any variations will be effective immediately upon notice to the Executive Director of the SWRCB. If the Executive Director of the SWRCB does not object to the variations within 10 days, the variations will remain in effect. The Executive Director of the SWRCB is also authorized to grant short-term exemptions to export limits for the purpose of facilitating a study of the feasibility of recirculating export water into the San Joaquin River to meet flow objectives.
- [19] Percent of Delta inflow diverted is defined in Figure 3. For the calculation of maximum percent Delta inflow diverted, the export rate is a 3-day running average and the Delta inflow is a 14-day running average, except when the CVP or the SWP is making storage withdrawals for export, in which case both the export rate and the Delta inflow are 3-day running averages.

- [20] The percent Delta inflow diverted values can be varied either up or down. Variations are authorized subject to the process described in footnote 18.
- [21] If the best available estimate of the Eight River Index (described in footnote 9) for January is less than or equal to 1.0 MAF, the export limit for February is 45% of Delta inflow. If the best available estimate of the Eight River Index for January is greater than 1.5 MAF, the February export limit is 35% of Delta inflow. If the best available estimate of the Eight River Index for January is between 1.0 MAF and 1.5 MAF, the DWR and the USBR will set the export limit for February within the range of 35% to 45%, after consultation with the USFWS, the NMFS and the DFG. Consultation with the CALFED Operations Group established under the Framework Agreement will satisfy the consultation requirement.
- [22] For the November-January period, close Delta Cross Channel gates for a total of up to 45 days. The USBR will determine the timing and duration of the gate closure after consultation with the USFWS, the NMFS and the DFG. Consultation with the CALFED Operations Group established under the Framework Agreement will satisfy the consultation requirement.
- [23] For the May 21-June 15 period, close Delta Cross Channel gates for a total of 14 days. The USBR will determine the timing and duration of the gate closure after consultation with the USFWS, the NMFS and the DFG. Consultation with the CALFED Operations Group established under the Framework Agreement will satisfy the consultation requirement.

Figure 1
Sacramento Valley
Water Year Hydrologic Classification

Year classification shall be determined by computation of the following equation:

$$\text{INDEX} = 0.4 * X + 0.3 * Y + 0.3 * Z$$

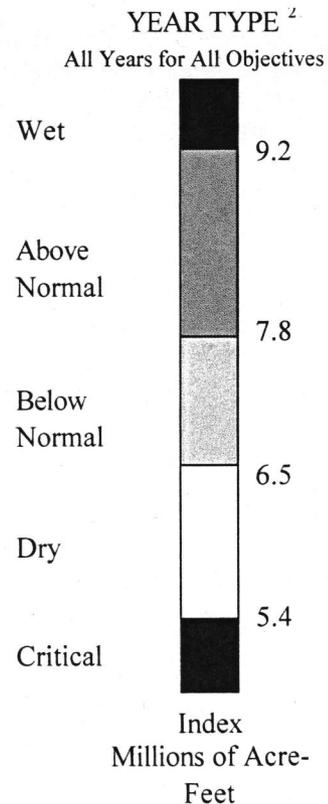
Where: X = Current year's April – July
 Sacramento Valley unimpaired runoff

Y = Current October – March
 Sacramento Valley unimpaired runoff

Z = Previous year's index¹

The Sacramento Valley unimpaired runoff for the current water year (October 1 of the preceding calendar year through September 30 of the current calendar year), as published in California Department of Water Resources Bulletin 120, is a forecast of the sum of the following locations: Sacramento River above Bend Bridge, near Red Bluff; Feather River, total inflow to Oroville Reservoir; Yuba River at Smartville; American River, total inflow to Folsom Reservoir. Preliminary determinations of year classification shall be made in February, March, and April with final determination in May. These preliminary determinations shall be based on hydrologic conditions to date plus forecasts of future runoff assuming normal precipitation for the remainder of the water year.

<u>Classification</u>	<u>Index</u> <u>Millions of Acre-Feet (MAF)</u>
Wet.....	Equal to or greater than 9.2
Above Normal.....	Greater than 7.8 and less than 9.2
Below Normal.....	Equal to or less than 7.8 and greater than 6.5
Dry.....	Equal to or less than 6.5 and greater than 5.4
Critical.....	Equal to or less than 5.4



¹ A cap of 10.0 MAF is put on the previous year's index (Z) to account for required flood control reservoir releases during wet years.
² The year type for the preceding water year will remain in effect until the initial forecast of unimpaired runoff for the current water year is available.

Figure 2
San Joaquin Valley
Water Year Hydrologic Classification

Year classification shall be determined by computation of the following equation:

$$\text{INDEX} = 0.6 * X + 0.2 * Y + 0.2 * Z$$

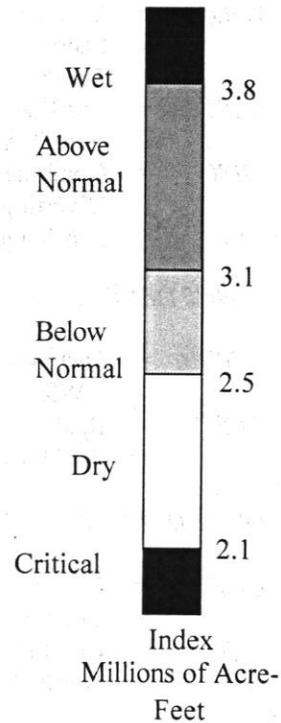
Where: X = Current year's April – July
 San Joaquin Valley unimpaired runoff

Y = Current October – March
 San Joaquin Valley unimpaired runoff

Z = Previous year's index¹

The San Joaquin Valley unimpaired runoff for the current water year (October 1 of the preceding calendar year through September 30 of the current calendar year), as published in California Department of Water Resources Bulletin 120, is a forecast of the sum of the following locations: Stanislaus River, total flow to New Melones Reservoir; Tuolumne River, total inflow to Don Pedro Reservoir; Merced River, total flow to Exchequer Reservoir; San Joaquin River, total inflow to Millerton Lake. Preliminary determinations of year classification shall be made in February, March, and April with final determination in May. These preliminary determinations shall be based on hydrologic conditions to date plus forecasts of future runoff assuming normal precipitation for the remainder of the water year.

YEAR TYPE²
 All Years for All Objectives



<u>Classification</u>	<u>Index</u> <u>Millions of Acre-Feet (MAF)</u>
Wet	Equal to or greater than 3.8
Above Normal	Greater than 3.1 and less than 3.8
Below Normal	Equal to or less than 3.1 and greater than 2.5
Dry	Equal to or less than 2.5 and greater than 2.1
Critical	Equal to or less than 2.1

¹ A cap of 4.5 MAF is put on the previous year's index (Z) to account for required flood control reservoir releases during wet years.
² The year type for the preceding water year will remain in effect until the initial forecast of unimpaired runoff for the current water year is available.

Figure 3
NDOI and PERCENT INFLOW DIVERTED¹

The NDOI and the percent inflow diverted, as described in this footnote, shall be computed daily by the DWR and the USBR using the following formulas (all flows are in cfs):

$$NDOI = DELTA\ INFLOW - NET\ DELTA\ CONSUMPTIVE\ USE - DELTA\ EXPORTS$$

$$PERCENT\ INFLOW\ DIVERTED = (CCF + TPP) \div DELTA\ INFLOW$$

where $DELTA\ INFLOW = SAC + SRTP + YOLO + EAST + MISC + SJR$

- SAC* = Sacramento River at Freeport mean daily flow for the previous day; the 25-hour tidal cycle measurements from 12:00 midnight to 1:00 a.m. may be used instead.
- SRTP* = Sacramento Regional Treatment Plant average daily discharge for the previous week.
- YOLO* = Yolo Bypass mean daily flow for the previous day, which is equal to the flows from the Sacramento Weir, Fremont Weir, Cache Creek at Rumsey, and the South Fork of Putah Creek.
- EAST* = Eastside Streams mean daily flow for the previous day from the Mokelumne River at Woodbridge, Cosumnes River at Michigan Bar, and Calaveras River at Bellota.
- MISC* = Combined mean daily flow for the previous day of Bear Creek, Dry Creek, Stockton Diverting Canal, French Camp Slough, Marsh Creek, and Morrison Creek.
- SJR* = San Joaquin River flow at Vernalis, mean daily flow for the previous day.

where $NET\ DELTA\ CONSUMPTIVE\ USE = GDEPL - PREC$

- GDEPL* = Delta gross channel depletion for the previous day based on water year type using the DWR's latest Delta land use study.²
- PREC* = Real-time Delta precipitation runoff for the previous day estimated from stations within the Delta.

and where $DELTA\ EXPORTS^3 = CCF + TPP + CCC + NBA$

- CCF* = Clifton Court Forebay inflow for the current day.⁴
- TPP* = Tracy Pumping Plant pumping for the current day.
- CCC* = Contra Costa Canal pumping for the current day.
- NBA* = North Bay Aqueduct pumping for the current day.

1 Not all of the Delta tributary streams are gaged and telemetered. When appropriate, other methods of estimating stream flows, such as correlations with precipitation or runoff from nearby streams, may be used instead.

2 The DWR is currently developing new channel depletion estimates. If these new estimates are not available, DAYFLOW channel depletion estimates shall be used.

3 The term "Delta Exports" is used only to calculate the NDOI. It is not intended to distinguish among the listed diversions with respect to eligibility for protection under the area of origin provisions of the California Water Code.

4 Actual Byron-Bethany Irrigation District withdrawals from Clifton Court Forebay shall be subtracted from Clifton Court Forebay inflow. (Byron-Bethany Irrigation District water use is incorporated into the GDEPL term.)

Table 4. Number of Days When Maximum Daily Average Electrical Conductivity of 2.64 mmhos/cm Must Be Maintained at Specified Location

Number of Days When Maximum Daily Average Electrical Conductivity of 2.64 mmhos/cm Must Be Maintained at Specified Location ^[a]																	
PMI ^[b] (TAF)	Chippis Island (Chippis Island Station D10)					PMI ^[b] (TAF)	Port Chicago (Port Chicago Station C14) ^[d]					PMI ^[b] (TAF)	Port Chicago (Port Chicago Station C14) ^[d]				
	FEB	MAR	APR	MAY	JUN		FEB	MAR	APR	MAY	JUN		FEB	MAR	APR	MAY	JUN
≤ 500	0	0	0	0	0	0	0	0	0	0	0	5250	27	29	25	26	6
750	0	0	0	0	0	250	1	0	0	0	0	5500	27	29	26	28	9
1000	28 ^[c]	12	2	0	0	500	4	1	0	0	0	5750	27	29	27	28	13
1250	28	31	6	0	0	750	8	2	0	0	0	6000	27	29	27	29	16
1500	28	31	13	0	0	1000	12	4	0	0	0	6250	27	30	27	29	19
1750	28	31	20	0	0	1250	15	6	1	0	0	6500	27	30	28	30	22
2000	28	31	25	1	0	1500	18	9	1	0	0	6750	27	30	28	30	24
2250	28	31	27	3	0	1750	20	12	2	0	0	7000	27	30	28	30	26
2500	28	31	29	11	1	2000	21	15	4	0	0	7250	27	30	28	30	27
2750	28	31	29	20	2	2250	22	17	5	1	0	7500	27	30	29	30	28
3000	28	31	30	27	4	2500	23	19	8	1	0	7750	27	30	29	31	28
3250	28	31	30	29	8	2750	24	21	10	2	0	8000	27	30	29	31	29
3500	28	31	30	30	13	3000	25	23	12	4	0	8250	28	30	29	31	29
3750	28	31	30	31	18	3250	25	24	14	6	0	8500	28	30	29	31	29
4000	28	31	30	31	23	3500	25	25	16	9	0	8750	28	30	29	31	30
4250	28	31	30	31	25	3750	26	26	18	12	0	9000	28	30	29	31	30
4500	28	31	30	31	27	4000	26	27	20	15	0	9250	28	30	29	31	30
4750	28	31	30	31	28	4250	26	27	21	18	1	9500	28	31	29	31	30
5000	28	31	30	31	29	4500	26	28	23	21	2	9750	28	31	29	31	30
5250	28	31	30	31	29	4750	27	28	24	23	3	10000	28	31	30	31	30
≤ 5500	28	31	30	31	30	5000	27	28	25	25	4	>10000	28	31	30	31	30

- [a] The requirement for number of days the maximum daily average EC (EC) of 2.64 mmhos per centimeter (mmhos/cm) must be maintained at Chippis Island and Port Chicago can also be met with maximum 14-day running average EC of 2.64 mmhos/cm, or 3-day running average NDOIs of 11,400 cfs and 29,200 cfs, respectively. If salinity/flow objectives are met for a greater number of days than the requirements for any month, the excess days shall be applied to meeting the requirements for the following month. The number of days for values of the PMI between those specified in this table shall be determined by linear interpolation.
- [b] PMI is the best available estimate of the previous month's Eight River Index. (Refer to Footnote 10 for Table 3 for a description of the Eight River Index.)
- [c] When the PMI is between 800 TAF and 1000 TAF, the number of days the maximum daily average EC of 2.64 mmhos/cm (or maximum 14-day running average EC of 2.64 mmhos/cm, or 3-day running average NDOI of 11,400 cfs) must be maintained at Chippis Island in February is determined by linear interpolation between 0 and 28 days.
- [d] This standard applies only in months when the average EC at Port Chicago during the 14 days immediately prior to the first day of the month is less than or equal to 2.64 mmhos/cm.

Table 5. Water Quality Compliance and Baseline Monitoring

Station Number	Station Description	Cont. Rec. ¹	Physical/Chemical ²	Multi-parameter ³	Phytoplankton ⁴	Zooplankton ⁵	Benthos ⁶
C2 ■	Sacramento River @ Collinsville	*					
C3 ▲	Sacramento River @ Greens Landing		*	*	*		
C4 ■	San Joaquin River @ San Andreas Ldg.	*					
C5 ■	Contra Costa Canal @ Pumping Plant #1	*					
C6 ■	San Joaquin River @ Brandt Bridge site	*					
C7 ▲	San Joaquin River @ Mossdale Bridge			*			
C8 ■	Old River near Middle River	*					
C9 •	West Canal at mouth of CCC Forebay Intake				*		*
C10 •	San Joaquin River near Vernalis		*		*		
C13 ■	Mokelumne River @ Terminous	*					
C14 ■	Sacramento River @ Port Chicago	*					
C19 ■	Cache Slough @ City of Vallejo Intake	*					
D4 ▲	Sacramento River above Point Sacramento		*		*	*	*
D6 ▲	Suisun Bay @ Bulls Head Pt. nr. Martinez		*	*	*	*	*
D7 ▲	Grizzly Bay @ Dolphin nr. Suisun Slough		*		*	*	*
D8 ▲	Suisun Bay off Middle Point near Nichols		*		*	*	
D10 •	Sacramento River @ Chipps Island			*		*	
D12 •	San Joaquin River @ Antioch Ship Canal			*		*	
D15 ■	San Joaquin River @ Jersey Point	*					
D16 ▲	San Joaquin River @ Twitchell Island					*	*
D22 •	Sacramento River @ Emmaton					*	
D24 •	Sacramento River below Rio Vista Bridge			*			*
D26 ▲	San Joaquin River @ Potato Point		*		*	*	
D28A ▲	Old River near Rancho Del Rio		*	*	*	*	*
D29 ■	San Joaquin River @ Prisoners Point	*					
D41 ▲	San Pablo Bay near Pinole Point		*		*		*
D41A ▲	San Pablo Bay nr. mouth of Petaluma R.						*
DMC1 •	Delta-Mendota Canal at Tracy Pump. Plt.			*			
P8 ▲	San Joaquin River @ Buckley Cove		*	*	*	*	*
P12 ■	Old River @ Tracy Road Bridge	*					
MD10 ▲	Disappointment Slough near Bishop Cut		*		*	*	
S21 ■	Chadbourne Slough @ Sunrise Duck Club	*					
S35 ▲	Goodyear Sl. @ Morrow Is. Clubhouse	*					
S42 •	Suisun Slough 300' so. of Volanti Slough	*				*	
S49 ■	Montezuma Slough near Beldon Landing	*					
S64 ■	Montezuma Slough @ National Steel	*					
S97 ▲	Cordelia Slough @ Ibis Club	*					
NZ032 ▲	Montezuma Slough, 2nd bend from mouth					*	

(continued)

■ Compliance monitoring station ▲ Baseline monitoring station • Compliance and baseline monitoring station

Table 5. Water Quality Compliance and Baseline Monitoring (continued)

Station Number	Station Description	Cont. Rec.	Physical/Chemical	Multi-parameter	Phytoplankton	Zooplankton	Benthos
-- ■	Sacramento R. (I St. Bridge to Freeport) (RSAC155)	*					
-- ▲	San Joaquin R. (Turner Cut to Stockton) (RSAN050-RSAN061)	*					
-- ■	Barker Sl. at No. Bay Aqueduct (SLBAR3)	*					
-- ▲	Water supply intakes for waterfowl management areas on Van Sickle Island and Chipps Island	*					

■ Compliance monitoring station ▲ Baseline monitoring station • Compliance and baseline monitoring station

- 1 Continuous recorder only (EC, dissolved oxygen, and/or temperature). For municipal and industrial intake chlorides objectives, EC can be monitored and converted to chlorides.
- 2 Physical/chemical monitoring is conducted monthly at discrete sites and includes the following parameters: water column depth, secchi, nutrient series (inorganic and organic N-P), water temperature, dissolved oxygen, electrical conductivity, turbidity, and chlorophyll *a*. In addition, on-board recording for vertical and horizontal profiles is conducted intermittently for the following parameters: water temperature, dissolved oxygen, electrical conductivity, turbidity, and chlorophyll *a*.
- 3 Multi-parameter monitoring is conducted continuously and provides telemetered data on the following parameters: water temperature, pH, dissolved oxygen, electrical conductivity, turbidity, chlorophyll *a*, wind speed and direction, solar radiation, air temperature, and tidal elevation.
- 4 Sampling occurs monthly at discrete sites.

