

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

**In the Matter of Specified License and Permits¹ of the
Department of Water Resources and U.S. Bureau of Reclamation
for the State Water Project and Central Valley Project**

**APRIL 11, 2014 ORDER MODIFYING AN ORDER THAT
APPROVED A TEMPORARY URGENCY CHANGE
IN LICENSE AND PERMIT TERMS AND CONDITIONS
REQUIRING COMPLIANCE WITH DELTA WATER QUALITY
OBJECTIVES IN RESPONSE TO DROUGHT CONDITIONS**

BY THE EXECUTIVE DIRECTOR

1.0 INTRODUCTION

On January 29, 2014, the Department of Water Resources (DWR) and the United States Bureau of Reclamation (Reclamation) (hereinafter Petitioners) jointly filed a Temporary Urgency Change Petition (TUCP) pursuant to Water Code section 1435 et seq., to temporarily modify requirements in their water right permits and license for the State Water Project (SWP) and Central Valley Project (CVP) for the next 180 days in response to drought conditions. An order approving the TUCP was issued on January 31, 2014. That Order was modified on February 7, 2014, February 28, 2014, March 18, 2014, and April 9, 2014. This Order further modifies the TUCP Order.

2.0 BACKGROUND

In the January 29, 2014 TUCP the Petitioners requested temporary modification of requirements included in State Water Resources Control Board (State Water Board) Revised Decision 1641 (D-1641) to meet water quality objectives in the Water Quality Control Plan (Plan) for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta) (attached). Specifically, the TUCP requested modifications to the requirement to meet the Delta Outflow objective during February and the Delta Cross Channel (DCC) Gate closure objective from February through May 20.

¹ The petition was filed for Permits 16478, 16479, 16481, 16482 and 16483 (Applications 5630, 14443, 14445A, 17512 and 17514A, respectively) of the Department of Water Resources for the State Water Project and License 1986 and Permits 11315, 11316, 11885, 11886, 11887, 11967, 11968, 11969, 11970, 11971, 11972, 11973, 12364, 12721, 12722, 12723, 12725, 12726, 12727, 12860, 15735, 16597, 20245, and 16600 (Applications 23, 234, 1465, 5638, 13370, 13371, 5628, 15374, 15375, 15376, 16767, 16768, 17374, 17376, 5626, 9363, 9364, 9366, 9367, 9368, 15764, 22316, 14858A, 14858B, and 19304, respectively) of the United States Bureau of Reclamation for the Central Valley Project.

The TUCP also proposed limits on exports at the SWP and CVP pumping facilities in the south Delta and a process to determine other changes that will best balance protection of all beneficial uses. The Petitioners requested these temporary modifications in order to respond to unprecedented critically dry hydrological conditions as California enters its third straight year of below average rainfall and snowmelt runoff. Additional information concerning the drought and the TUCP can be found on the State Water Board's website at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/tucp.shtml

2.1 January 31 Order

The January 31, 2014 TUCP Order allowed DWR and Reclamation to meet a lower Delta Outflow level of 3,000 cubic feet per-second (cfs) in February and allowed the DCC Gates to be operated flexibly from February 1 through May 20.² The Order restricted exports in the Delta at the SWP and CVP pumping facilities to health and safety needs of no more than 1,500 cfs, with the exception of transfers. The Order also required that DWR and Reclamation consult with the State Water Board, Department of Fish and Wildlife, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (collectively the fisheries agencies) through a Real-Time Drought Operations Management Team (RTDOMT) to discuss real time operational issues. The Order further required DWR and Reclamation to calculate and maintain a record of the amount of water conserved by the changes and keep that water in storage for use later in the year for purposes of maintaining water supplies, improving water quality, or protecting flows for fisheries. The Order required DWR and Reclamation to develop a water balance and to conduct necessary modeling and monitoring to inform real time operational decisions. The Order stated that it may be modified based on additional public input or changed circumstances.

2.2 February 7 Modification

The February 7, 2014 modification to the TUCP Order clarified requirements that would apply when the requirements of D-1641 are met. The February 7 Modified Order adjusted the temporary export limitations when precipitation events occur that enable DWR and Reclamation to comply with the Delta Outflow and DCC Gate Closure requirements contained in Table 3 of D-1641. In these circumstances, exports greater than 1,500 cfs would be allowed up to the export limits contained in D-1641, except that any SWP and CVP exports greater than 1,500 cfs shall be limited to natural or abandoned flows, or transfers. The Order did not require DWR and Reclamation to meet the D-1641 Delta Outflow requirements unless exports were greater than 1,500 cfs. All other provisions of the January 31, 2014 Order were continued.

2.3 February 28 Modification

The February 28, 2014 modification to the TUCP Order continued the modified Delta Outflow levels of 3,000 cfs originally approved on January 31, 2014, through the month of March. It continued to allow DWR and Reclamation to conserve stored water needed to maintain water supplies, improve water quality, and protect fishery resources later in the year. All other provisions of the TUCP Order continued to be in effect.

² The required Delta Outflow pursuant to D-1641 without the temporary change in February was 7,100 cfs. In addition, without the temporary change, D-1641 requires that the DCC Gate be closed from February through May 20 of each year.

2.4 March 18 Modification

The March 18, 2014 modification of the TUCP Order provided additional flexibility to export water while Delta inflows were elevated following precipitation events by adding an alternate set of compliance requirements for the end of March that would be in effect while higher Delta inflows persisted. Specifically, when precipitation and runoff events occurred that allowed the DCC Gates to be closed and compliance with the flow or salinity requirements included in footnote 10 of D-1641, but the additional Delta Outflow requirements contained in Table 4 of D-1641 were not being met, the Order permitted exports of natural and abandoned flows up to the Export Limits contained in Table 3 of D-1641. The March 18, 2014 Modified TUCP Order also clarified the use of exported water when D-1641 Delta Outflow or DCC Gate requirements are not being met.

2.5 April 9, Modification

In response to an April 9, 2014 joint request from DWR and Reclamation, the TUCP Order was again modified on April 9, 2014. The April 9 joint request from DWR and Reclamation requested changes to the TUCP Order identified in DWR's and Reclamation's April 8, 2014 Drought Operations Plan (DOP), with the exception of the San Joaquin River flow requirements. The DOP was developed in coordination with the RTDOMT, and lays out DWR's and Reclamation's proposed range of coordinated operations from April through mid-November, including for the San Joaquin River flow requirements that are the subject of this Modified TUCP Order, other changes to D-1641 and Endangered Species Act requirements. Along with the April 9 joint request and DOP, DWR and Reclamation submitted letters from the fisheries agencies that included concurrence with the changes to the San Joaquin River flow requirements. The April 9 Modified TUCP Order extended the provisions of the March 18 Order into April but did not act upon the other requests in the April 9 joint request that are not needed in April. The April 9 Modified TUCP Order states that the other changes described in the DOP and April 9 joint request will be addressed in a comprehensive update to the TUCP Order that will be issued in the near future. The April 9 Modified TUCP Order further states that the comprehensive update will address objections received to date and other issues associated with the DOP. The April 9 Modified TUCP Order also states that another interim modified order for San Joaquin River flows would soon follow.

2.6 April 9 San Joaquin River Flows Request

In addition to the April 9 joint request from DWR and Reclamation to modify the TUCP Order, Reclamation submitted a separate request on April 9, 2014, to modify Reclamation's water right requirements to meet the San Joaquin River flow objectives included in Table 3 of D-1641 from March through June. Pursuant to D-1641, monthly average San Joaquin River flows are required to be 710 cfs or 1,140 cfs in critical water years (the current water year classification for the San Joaquin River) from March 1 through April 14 and May 16 through June, referred to as the base flow period. The higher flows apply when the 2 parts per thousand isohaline (X2) is required to be at or west of Chipps Island pursuant to Table 4 of D-1641. During the April 15 through May 15³ time period, referred to as the pulse flow period, monthly average flows are required to be 3,100 cfs or 3,540 cfs in critical water years, again with the higher flows required when X2 is required to be at or west of Chipps Island.

³ Pursuant to footnote 14 of D-1641, the time period may be varied and should be scheduled through consultation with the fisheries agencies.

In their April 9, 2014 letter, Reclamation requests that the San Joaquin River flow requirements in D-1641 be modified as follows this year:

- The monthly average for March base flows – 710 cfs
- From April 1 to the start of the pulse flow period – maintain at or above 700 cfs for base flow period (3-day running average)
- For the 31-day pulse flow period, create a 16-day pulse averaging 3,300 cfs with flows averaging 1,500 cfs for the remainder of the 31 days. The start date and flow schedule for the overall pulse flow volume may be modified with the concurrence of the fisheries agencies
- From the end of the pulse flow period through May 31 – maintain an average flow of 500 cfs
- For June, operate to achieve the Stanislaus River dissolved oxygen and NMFS Biological Opinion requirements and the San Joaquin River salinity requirements included in D-1641.⁴

Reclamation states that many San Joaquin Basin hydrologic indicators are now running near levels experienced during one of California's most severe droughts of 1977. Reclamation states that the San Joaquin Valley Hydrologic Index will most likely be critical this year and that unimpaired inflow forecasts for the major tributaries to the San Joaquin River are only at about a third of the historical average and that the major reservoirs on the tributaries to the lower San Joaquin River are all at below average storage levels.⁵ Reclamation further states that it has attempted to purchase water in 2014 but has not been able to due to critically dry conditions throughout the basin. Accordingly, additional water from tributaries other than the Stanislaus River is not available for purchase by Reclamation to meet the pulse flow requirements as it has been in the past. In addition, contract deliveries to New Melones contractors has been reduced to 55 percent. Based on the above, Reclamation believes the above proposal is a reasonable contribution from the Stanislaus River toward meeting the pulse flow requirements.

The above proposal was discussed by the fisheries agencies at the Stanislaus Operations Group (SOG). As provided for in Reclamation's request, the SOG proposed a different flow schedule that meets the total volume of flows indicated in the above proposal. The RTDOMT has concurred with their recommendation. Accordingly, upon approval by the Executive Director, the modified SOG proposal will be implemented.

3.0 MODIFIED TUCP ORDER

This Order modifies the TUCP Order based on the April 9, 2014 request from Reclamation. This modified TUCP Order changes Reclamation's San Joaquin River flow requirements included in D-1641 from now through June of this year to provide additional operational flexibility to help improve storage conditions in New Melones Reservoir, improve water temperatures needed for aquatic resources on the Stanislaus River and assist with salinity control at Vernalis on the San Joaquin River. The State Water Board cannot retroactively change the terms and

⁴ Reclamation's water right permits for New Melones require it to maintain a dissolved oxygen concentration of 7.0 mg/L in the Stanislaus River as measured at Ripon, the NMFS Biological Opinion requires Reclamation to meet a flow of 150 cfs in June during critical water years and D-1641 requires Reclamation to meet an electrical conductivity level (a measure of salinity) of 0.7 millimhos per centimeter on the San Joaquin River at Vernalis.

⁵ Reclamation's April 9 letter states that storage levels in New Melones Reservoir, Don Pedro Reservoir, and Lake McClure are only at about 68, 74 and 42 percent of average for this date.

conditions of a water right permit or license (see Order WR 2009-0013-EXEC). Accordingly the requested change for the time period prior to the date of this order is not approved. From the date of this Order through June, the modified order provides that minimum San Joaquin River flows at Vernalis shall be no less than 700 cfs on a 3-day average until the start of the pulse flow period. During the pulse flow period, minimum flows shall be no less than 3,300 cfs for 16 days and 1,500 cfs for the remaining 31 day pulse flow period, or a pulse or pulses with an equivalent flow volume that is approved by the fisheries agencies. From the end of the pulse flow period through May, flows shall average no less than 500 cfs. For June, Reclamation shall operate to achieve the applicable NMFS Biological Opinion flows, dissolved oxygen requirements on the Stanislaus River at Ripon and D-1641 salinity requirements at Vernalis.

4.0 APPLICABILITY OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) AND WATER CODE SECTION 13247

As discussed in section 4.0 of the January 31 TUCP Order, pursuant to the Governor's Drought Proclamation, CEQA and Water Code section 13247 are suspended as applied to action on the TUCP.

5.0 PROCEDURAL REQUIREMENTS CONCERNING THE TEMPORARY URGENCY CHANGE PETITION

The procedural requirements for a TUCP are described in section 5 of the January 31 TUCP Order.

6.0 REQUIRED FINDINGS OF FACT

The required findings of fact for a TUCP order are described in section 6.0 of the January 31 TUCP Order. As necessary, additional findings of fact as they apply to this Order are described below.

6.1 Urgency of the Proposed Change

The urgency of the changes included in this modified TUCP Order is consistent with the previous versions of the TUCP Order. During February, March and early April the State received several precipitation events. Those precipitation events have, and continue to, improve hydrologic conditions in the San Joaquin River watershed for an interim period. However, as discussed in section 2.6 above, hydrologic conditions on the San Joaquin River are expected to remain critical for the remainder of the year. At the same time, storage levels in San Joaquin River reservoirs are at below average levels and opportunities for Reclamation to purchase water are not available. In addition, water supplies to New Melones contractors have been reduced, and remaining supplies will need to be stretched to meet multiple purposes this year and in 2015, including temperature management and salinity control. Based on the above information and additional information included in the previous versions of the TUCP Order, the proposed change is urgent.

6.2 No Injury to Any Other Lawful User of Water

Other lawful users of water will not be injured by the proposed change because Reclamation will continue to meet modified San Joaquin River flow requirements and adequate flows are expected to remain in the system to meet the demands of other lawful users of water.

Moreover, approval of the proposed modification does not affect Reclamation's obligation to curtail their diversions of natural and abandoned flows to the extent necessary to protect senior water right holders. A condition was added to the March 18 Modified TUCP Order to ensure that Reclamation (and DWR) bypasses adequate natural and abandoned flows to prevent injury to senior water right holders.

6.3 No Unreasonable Effect upon Fish, Wildlife, or Other Instream Beneficial Uses

This Modified TUCP Order provides a reasonable balance between protection of fish, wildlife and other instream beneficial uses of water and other needed uses for water from the Stanislaus River and does not result in unreasonable effects on those beneficial uses in this critically dry water year following two previous below average water years. This Modified TUCP Order provides for a significant increase in flows on the Stanislaus River above the NMFS Biological Opinion requirements that should aid in the survival of fall-run Chinook salmon, steelhead and other species in the Stanislaus and lower San Joaquin Rivers. At the same time, this Modified TUCP Order allows water to be maintained in storage to improve cold water pool resources for temperature management for fisheries and to meet other water needs on the Stanislaus River this year and in 2015. As discussed above, the fisheries agencies have also concurred with this proposal.

6.4 The Proposed Change is in the Public Interest

As discussed above, the temporary modifications to the San Joaquin River flow requirements are in the public interest because they balance the need for water for fisheries protection now with the need for flows and cold water pool later for fisheries protection and water supplies for other purposes now and in the future. The changes will help improve storage conditions in New Melones Reservoir, improve water temperatures needed for aquatic resources on the Stanislaus River and assist with salinity control at Vernalis on the San Joaquin River. Retained water supply will be available to meet multiple purposes later this year and in 2015, including temperature management and salinity control.

7.0 CONCLUSIONS

The State Water Board has adequate information in its files to make the evaluation required by Water Code section 1435 concerning the additional modifications of the TUCP Order discussed above. Changes to the TUCP Order from the April 9, 2014 version are provided in **bold underline** and **~~bold strikethrough~~** below.

I conclude that, based on the available evidence:

1. The Petitioners have an urgent need to make the proposed changes;
2. The petitioned changes, as conditioned by this Order, will not operate to the injury of any other lawful user of water;
3. The petitioned changes, as conditioned by this Order, will not have an unreasonable effect upon fish, wildlife, or other instream beneficial uses; and,
4. The petitioned changes, as conditioned by this Order, are in the public interest.

ORDER

NOW, THEREFORE, IT IS ORDERED that the petition for temporary urgency change in permit and license conditions under Permits 16478, 16479, 16481, 16482 and 16483 (Applications 5630, 14443, 14445A, 17512 and 17514A, respectively) of the Department of Water Resources (DWR) for the State Water Project (SWP) and License 1986 and Permits 11315, 11316, 11885, 11886, 11887, 11967, 11968, 11969, 11970, 11971, 11972, 11973, 12364, 12721, 12722, 12723, 12725, 12726, 12727, 12860, 15735, 16597, 20245, and 16600 (Applications 23, 234, 1465, 5638, 13370, 13371, 5628, 15374, 15375, 15376, 16767, 16768, 17374, 17376, 5626, 9363, 9364, 9366, 9367, 9368, 15764, 22316, 14858A, 14858B, and 19304, respectively) of the United States Bureau of Reclamation (Reclamation) for the Central Valley Project (CVP); is approved subject to the following terms and conditions. All other terms and conditions of the subject license and permits, including those added by the State Water Resources Control Board (State Water Board) in Revised Decision 1641 (D-1641) shall remain in effect. This Order shall be effective until July 30, 2014.

1. Except as otherwise provided in condition 2, below, for a period not to exceed 180 days or until such time as this Order is amended or rescinded based on changed circumstances, the requirements of D-1641 for DWR and Reclamation (or Petitioners) to meet specified water quality objectives are amended as follows:
 - a. The minimum Delta Outflow levels specified in Table 3 are modified as follows: the minimum Net Delta Outflow Index (NDOI) described in Figure 3 of D-1641 during the months of February, March, and April shall be no less than 3,000 cubic-feet per second (cfs). In addition to base Delta Outflows, pursuant to this Order, a higher pulse flow may also be required through the Real-Time Drought Operations Management Process described below.
 - b. The maximum Export Limits included in Table 3 are modified as follows: during March and April when footnote 10 of D-1641 is not being met, or the Delta Cross Channel (DCC) Gates are open, the combined maximum SWP and CVP export rate for SWP and CVP contractors at the Harvey O. Banks and C.W. "Bill" Jones pumping plants shall be no greater than 1,500 cfs on a 3-day running average. When precipitation and runoff events occur that allow the DCC to be closed and footnote 10 of D-1641 to be met (Delta Outflow of 7,100 cfs or electrical conductivity of 2.64 millimhos per centimeter on a daily or 14-day running average at the confluence of the Sacramento and the San Joaquin rivers (Collinsville station C2)), but the additional Delta Outflow requirements contained in Table 4 of D-1641 are not being met, then exports of natural and abandoned flows are permitted up to D-1641 Export Limits contained in Table 3. The use of the water exported pursuant this ordering provision 1.b, including previous versions of this ordering provision, is conditioned on DWR and Reclamation following the process described in their March 18, 2014 letter. These limitations do not apply to water transfers under non-SWP or CVP water rights or between SWP and CVP contractors. DWR and Reclamation shall refine estimates of export amounts and deliveries required to maintain health and safety and shall provide these estimates to the State Water Board by March 21. Based on additional information or changed circumstances, the export limits imposed

pursuant to this Order may be modified through the Real-Time Drought Operations Management Process described below.

- c. The Delta Cross Channel (DCC) Gate Closure requirements included in Table 3 are modified as follows: the DCC gates may be opened from February 1 through May 20 as necessary to preserve limited storage in upstream reservoirs and reduce infiltration of high salinity water into the Delta while reducing impacts on migrating Chinook salmon. Requirements for closure of the DCC gates during March through May 20 shall be determined through the Real-Time Drought Operations Management Process described below.
 - d. **Table 3 San Joaquin River flow requirements at Airport Way Bridge, Vernalis, from the date of this order through June are modified as follows:**
 - o **From the date of this Order to the start of the pulse flow period, flows shall be no less than 700 cfs, on a 3-day running average.**
 - o **The 31-day pulse flow period shall consist of an overall pulse flow volume equivalent to 16-days of flow at 3,300 cfs, and 15 days of flow at 1,500 cfs. The start date and flow schedule for the overall pulse flow volume of water shall be determined through consultation with the Department of Fish and Wildlife, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (fisheries agencies).**
 - o **From the end of the pulse flow period through May 31, an average flow of 500 cfs shall be maintained.**
 - o **For the month of June, flows shall be maintained on the Stanislaus River to meet the NMFS Biological Opinion requirements and water right permit requirements for dissolved oxygen on the Stanislaus River and water right permit salinity requirements on the San Joaquin River at Vernalis.**
2. During the effective period of this Order, if precipitation events occur that enable DWR and Reclamation to fully comply with the Delta Outflow and DCC Gate Closure requirements contained in D-1641, then D-1641 requirements shall be operative, except that any SWP and CVP exports greater than 1500 cfs shall be limited to natural or abandoned flow, or transfers as specified in condition 1b.
 3. DWR and Reclamation shall convene a Real-Time Drought Operations Management Team with designated representatives from DWR, Reclamation, the State Water Board, ~~Department of Fish and Wildlife, National Marine Fisheries Service and U.S. Fish and Wildlife Service~~ (fisheries agencies). The Real-Time Drought Operations Management Team shall be convened to discuss potential changes to SWP and CVP operations to meet health and safety requirements and to reasonably protect all beneficial uses of water. The team shall meet on a regular basis, and no less than weekly, to discuss current conditions and may be combined with the existing Water Operations Management Team as appropriate. The State Water Board representative shall be designated by the Executive Director of the State Water Board and shall be authorized to make real-time operational decisions to modify requirements to meet pulse

flows associated with the modification to the Delta Outflow objective described above, Export Limits, DCC gate closures, and the associated requirements of this Order. If the State Water Board approves any additional temporary urgency changes pursuant to the temporary urgency change petition that is the subject of this Order, or otherwise modifies this Order, the State Water Board will provide notice and an opportunity for interested persons to comment or object. Based on public comments or objections, further changes may be made to this Order. Information concerning changes to this Order will be posted on the State Water Board's website within 24 hours.

4. DWR and Reclamation shall calculate and maintain a record of the amount of water conserved through the changes authorized by this Order. The water conserved shall be maintained in storage to protect flows for fisheries, used to maintain water supplies, or used to improve water quality. The use of such water shall be determined through the Real-Time Drought Operations Management Team Process described above.
5. DWR and Reclamation shall develop monthly water balance estimates indicating actual and proposed operations through the end of the water year. Specifically, actual and projected inflows, north of Delta contract deliveries, other channel depletions, exports, and Delta outflows shall be identified. The water balance shall be posted on DWR's website and updated as necessary based on changed conditions.
6. DWR and Reclamation shall conduct necessary modeling and monitoring to inform real time operational decisions. Required modeling and monitoring shall be determined through the Real-Time Drought Operations Management Team Process or as may be required pursuant to any modification to this Order.
7. DWR and Reclamation shall bypass natural and abandoned flows to the extent necessary to prevent injury to senior water right holders.
8. This Order may be further modified by the Executive Director based on additional public input or changed circumstances. Specifically, the State Water Board held a workshop on February 18 and 19, 2014, to receive public comment on what if any modifications should be made to this Order to ensure that the changes approved by this Order will not injure any lawful user of water, will not unreasonably affect fish and wildlife, and will be in the public interest.
9. This Order does not authorize any act that results in the taking of a candidate, threatened or endangered species, or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). If a "take" will result from any act authorized under this Order, the Petitioners shall obtain authorization for an incidental take permit prior to construction or operation of the project. Petitioners shall be responsible for meeting all requirements of the applicable Endangered Species Act for the temporary urgency change authorized under this Order.

10. Petitioners shall immediately notify the Executive Director of the State Water Board if any significant change in conditions occurs that warrants reconsideration of this Order.

STATE WATER RESOURCES CONTROL BOARD

A handwritten signature in black ink that reads "Thomas Howard". The signature is written in a cursive style with a large, sweeping initial "T".

Thomas Howard
Executive Director
Dated: April 11, 2014

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 | C-5 (CHCCC06) | Chloride (Cl ⁻) | Maximum mean daily 150 mg/l Cl ⁻ for at least the number of days shown during the Calendar Year. | W | | No. of days each Calendar Year ≤ 150 mg/l Cl ⁻ |
| -or- | | | | | | |
| San Joaquin River at Antioch Water Works Intake | D-12 (near) (RSAN007) | | Must be provided in intervals of not less than two weeks duration. (Percentage of Calendar Year shown in parenthesis) | AN | | 240 (66%) |
| | | | | BN | | 190 (52%) |
| | | | | D | | 175 (48%) |
| | | | | C | | 165 (45%) |
| 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 | ---- (SLSAR3) | | | | | |
| -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 | Aug 15 | ---- |
| | | | | W | Aug 15 | ---- | 0.63 |
| | | | | AN | Jul 1 | ---- | 1.14 |
| | | | | BN | Jun 20 | ---- | 1.67 |
| | D | Jun 15 | ---- | 2.78 | | | |
| | C | ---- | ---- | ---- | ---- | | |
| San Joaquin River at Jersey Point | D-15I (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 | Aug 15 | ---- |
| | | | | W | Aug 15 | ---- | 0.74 |
| | | | | AN | Aug 15 | ---- | 1.35 |
| | | | | BN | Jun 20 | ---- | 2.20 |
| | D | Jun 15 | ---- | ---- | ---- | | |
| | C | ---- | ---- | ---- | ---- | | |
| INTERIOR DELTA | | | | | | | |
| South Fork Mokelumne River at Terminous | 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 | Aug 15 | ---- |
| | | | | W | Aug 15 | ---- | 0.54 |
| | | | | AN | Aug 15 | ---- | ---- |
| | | | | BN | Aug 15 | ---- | ---- |
| | D | Aug 15 | ---- | ---- | ---- | | |
| | C | ---- | ---- | ---- | ---- | | |
| 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 | Aug 15 | ---- |
| | | | | W | Aug 15 | ---- | 0.58 |
| | | | | AN | Aug 15 | ---- | 0.87 |
| | | | | BN | Aug 15 | ---- | ---- |
| | D | Jun 25 | ---- | ---- | ---- | | |
| | C | ---- | ---- | ---- | ---- | | |
| 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 | 0.7 | |
| | | | | | Sep-Mar | 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 (ROLD69) | | | | | | |
| | | | | | | | |
| 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 | C-2 (RSAC081) | 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 | 19.0 |
| -and- Montezuma Slough at National Steel | S-64 (SLMZU25) | 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 | | Nov-Dec | 15.5 |
| -and- Montezuma Slough near Beldon Landing | 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 | | Jan | 12.5 |
| | | | | | Feb-Mar | 8.0 |
| | | | | | Apr-May | 11.0 |
| WESTERN SUISUN MARSH SALINITY | | | | | | |
| Chadbourne Slough at Sunrise Duck Club | S-21 (SLCBN1) | 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] | Oct | 19.0 |
| -and- Suisun Slough, 300 feet south of Volanti Slough | 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 | Deficiency Period [6] | Nov | 16.5 |
| | | | | | Dec | 15.5 |
| | | | | | Jan | 12.5 |
| | | | | | Feb-Mar | 8.0 |
| | | | | | Apr-May | 11.0 |
| | | | | | Oct | 19.0 |
| | | | | | Nov | 16.5 |
| | | | | | Dec-Mar | 15.6 |
| | | | | | Apr | 14.0 |
| | | | | | May | 12.5 |

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

| COMPLIANCE LOCATION | INTERAGENCY STATION NUMBER(RK14[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 May 16-Jun | 2,130 or 3,420 1,420 or 2,280 710 or 1,140 |
| | | | | BN,D | | |
| | | | | C | | |
| | | | | W | Apr 15- May 15 [14] | 7,330 or 8,620 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 Feb-May 20 May 21- Jun 15 | [22] ---- [23] |

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 Chipps 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:

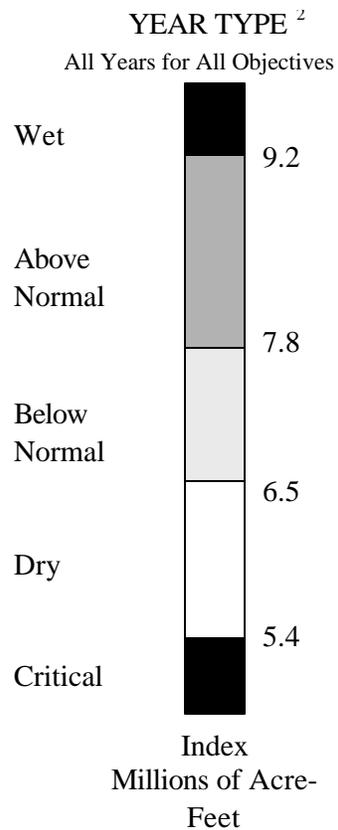
$$\text{INDEX} = 0.4 * X + 0.3 * Y + 0.3 * Z$$

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:

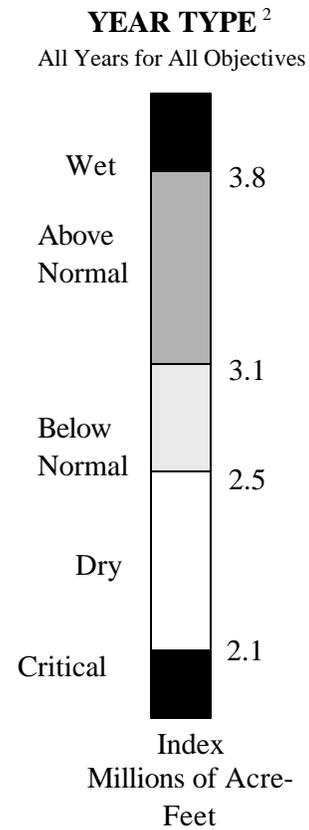
$$\text{INDEX} = 0.6 * X + 0.2 * Y + 0.2 * Z$$

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.



| <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.