

The VSA is the AFLA submitted to FERC on November 14, 2018 (AFLA), with the following modifications. Except as expressly modified herein, all other measures identified in the AFLA are part of this VSA.

1. AFLA proposed seasonal base flows, modified to increase June 1 to October 15 flows below the infiltration galleries (IGs) from 75 to 125 cfs in C and D WYs and reduce flows at La Grange from June 1 to October 15 in W, AN, and BN WYs from 350 cfs to 300 cfs. Consistent with the AFLA, flow below the IGs will not be measured via stream gage, but shall be the difference between the required flow measured at La Grange and the flow diverted at the IGs.
2. No change to AFLA outmigration pulse flows with AFLA dry year relief.
3. Floodplain pulse flow as follows:
  - A. 2,750 cfs for 20 days in W and AN WYs with decision on WY type in March using SJR Index 60-20-20 at 90% exceedance for floodplain pulse.
  - B. 2,750 cfs for 18 days in BN WYs with decision on WY type in March using SJR Index 60-20-20 at 90% exceedance for floodplain pulse.
  - C. 2,750 cfs for 14 days in D WYs with decision on WY type in March using SJR Index 60-20-20 at 90% exceedance for floodplain pulse.
  - D. 2,750 cfs for 9 days in C WYs with decision on WY type in March using the SJR Index 60-20-20 at 90% exceedance for floodplain pulse.
  - E. Dry year relief would occur in sequences of D, C and BN WYs. If a scheduled floodplain pulse were to occur in what is a sequential D or C WY, then the floodplain pulse goes to zero for that year and any following sequential D or C WY. In any BN WY occurring in a sequence of C and/or D WYs, the floodplain pulse flow will be 2,750 cfs for a duration of 14 days. Any BN WY occurring within a sequence of D and/or C does not restart the D and/or C sequence. Example: In a sequence of C, D, BN, C, D, WYs, there would be no floodplain pulse in the first and second D and second C WYs in the sequence because a BN WY does not restart the sequence. In this example, there would be a floodplain pulse of 2,750 cfs for a duration of 14 days in the BN WY. Also, in a sequence of C, BN, D WYs, there would be a floodplain pulse in the BN WY of 2,750 cfs for a duration of 14 days, but there would be no floodplain pulse in the D WY.  
  
In the 3<sup>rd</sup> sequential BN WY, MID, TID, CCSF and DFW shall meet and confer to see what if any water is available for a floodplain pulse. Example: In a sequence of W, BN, BN, BN WYs, the meet and confer would occur in the third BN WY.  
  
For purposes of determining dry year relief, a sequence cannot start with a BN year (excluding sequential BN WYs as set-forth above). Example: in a sequence of BN, C and D WYs, there would be a floodplain pulse of 2,750 cfs for a duration of 18 days in the BN WY, a floodplain pulse of 2,750 cfs for a duration of 9 days in the C WY, and then no floodplain pulse in the D year.
  - F. Floodplain pulse is inclusive of the AFLA-required seasonal base flow. Example: If the AFLA-required seasonal base flow is 200 cfs, then the additional flow to achieve the floodplain pulse flow is 2,550 cfs.

G. In the event that the floodplain pulse and the AFLA-required outmigration pulse flow overlap in whole or part, the floodplain pulse will be inclusive of the AFLA-required outmigration pulse. Example: the floodplain pulse is 2,750 cfs, and the overlapping AFLA-required outmigration pulse is 3,000 cfs, the total required flow for the period of overlap is 3,000 cfs.

4. Floodplain pulse ramp rates not to exceed: 300 cfs/hr up-ramp and 200 cfs/hr down-ramp. All up-ramping and down-ramping flows are part of the floodplain pulse duration.

5. Permanent predation barrier and counting weir to be designed in consultation with DFW and may be constructed with permanent concrete abutments and necessary appurtenances and will be a part of annual predator suppression activities.

DFW agrees to facilitate, license, permit and participate in annual predator suppression activities identified in the AFLA, including removal and/or isolation methods such as electro-fishing, fyke netting, seining, and other positive collection methods. This does not include support for any effort to change fishing regulations as to the catchable size, bag limits, or length of the season for any predator fish, although MID, TID and CCSF are free to seek such changes.

6. AFLA non-flow measures, including spill management plan, Tuolumne River Partnership Advisory Committee (including DFW), and habitat improvement fund as suggested by FWS and agreed to by Districts on November 14, 2018.

7. MID, TID and CCSF will, in good faith, engage in cooperative feasibility level studies for future projects and/or programs to provide additional instream flows in successive D and C WYs to improve the conditions of the fishery in the Tuolumne River. Initial feasibility level studies will be completed within 2 years from the date of execution of this VSA by DFW. Initial feasibility level studies will be provided to DFW for review. Any determination to proceed will be subject to mutual agreements on allocation of benefits and costs. Examples include, but are not limited to:

A. Groundwater "Banking"

The Modesto and Turlock sub-basins are designated as high priority sub-basins by the Department of Water Resources and are subject to the provisions of the Sustainable Groundwater Management Act. TID is a member of the West Turlock Subbasin Groundwater Sustainability Agency (GSA) and MID is a member of the Stanislaus and Tuolumne Rivers GSA. The GSA's have identified additional groundwater recharge as one of the mechanisms that will likely be included in their Groundwater Sustainability Plans.

In approximately 50% of WY types, the Tuolumne River yields water in excess of existing/future urban and agricultural demand. A portion of this spill water could be used to recharge the Modesto and/or Turlock ground water sub-basins in W and AN WYs in coordination with activities undertaken by the GSA. It is possible these efforts could be augmented to develop water for extraction, use and management by MID, TID and CCSF in coordination with DFW to augment Tuolumne River instream flows in C and D WYs.

The Districts and CCSF could make the predefined volume of water available at a location yet to be defined. A mutually agreeable financing structure will be developed that fairly and proportionally allocates responsibility for any and all construction costs, environmental permitting, operation, maintenance, design, etc.

Example: In 2017, approximately 3.4 MAF of water was released at La Grange above the required instream flows. Consistent with SGMA and the physical limitations of the Modesto and/or Turlock groundwater sub-basins, a portion of this volume of water could have been diverted to spreading basins or directly injected into the groundwater aquifers within the Modesto and/or Turlock groundwater sub-basins and "banked" for later extraction and delivery to MID and/or TID's irrigation conveyance system in exchange for releases to the Tuolumne river at La Grange in C and D WYs.

#### B. Spillway Modification

The New Don Pedro Dam has two spillways that are located approximately 1,500 feet west of the right abutment. The service spillway is a concrete ogee crest controlled by three radial gates, 45 feet wide by 30 feet high. The gated spillway crest is at elevation 800.0 and the top of gates is at elevation 830.0. The gates have a rated capacity of 172,500 cfs (approx. 57,500 cfs per gate) with all 3 gates fully open and the reservoir at elevation 850 feet. The 995-foot crest length ungated emergency spillway has a discharge capacity of 300,000 cfs at its current elevation of 830.0 feet. The peak outflow and stage at New Don Pedro Dam during the Probable Maximum Flood are currently estimated to be 525,600 cfs and elevation 852.0 feet, respectively.

A modest raise of the spillway gates and ogee crest of 4 to 8 feet would add additional storage available in wet years. A portion of this water could be provided in successive D and C WYs when no floodplain pulse occurs and outmigration pulse flows have been reduced per the AFLA. The amount of additional water that could be made available is unknown at this time.

#### c. Inter Basin Collaborations

There are a number of potential collaborations among and between the San Joaquin tributaries that could develop additional water supplies, some of which could be utilized to enhance fishery flows. There are also potential collaborative non flow measures (i.e. improved and augmented hatchery activities on the Merced River) that could benefit all of the tributaries.

#### 8. Collaboration

As set forth in the Districts' revised AFLA, submitted to FERC on November 14, 2018, MID, TID, and CCSF shall establish the Tuolumne River Partnership Advisory Committee (TRPAC). The membership shall include USFWS and DFW. Additional members shall be considered. The TRPAC will provide policy recommendations to MID, TID and CCSF on development and implementation of a spill management plan and Lower Tuolumne River Habitat Improvement Program and associated capital fund and annual funding. The TRPAC will also be utilized to provide policy recommendations concerning the timing of the floodplain pulse and the outmigration pulse, and annual predation suppression activities.

#### 9. FERC Process

- A. Notwithstanding approval of the VSA by the SWB, MID, TID, CCSF and DFW shall enter into a settlement agreement consistent with the terms and conditions of this VSA, which shall be jointly submitted to FERC.

- B. MID, TID and CCSF's performance of the terms and conditions set forth in this VSA are contingent upon (1) approval of the VSA by the SWB in a manner that does not result in any obligation inconsistent with the terms of the VSA during or following the termination or expiration of this VSA, and (2) SWB issuance of a CWA Section 401 permit for the relicensing of Don Pedro and the licensing of La Grange that is consistent with the terms and conditions of this VSA.

#### 10. Performance

MID, TID and CCSF shall provide the flows established in the flow schedule established in this VSA within 90 days following adoption of this VSA by the SWB consistent with the other terms and conditions of this VSA.

MID, TID and CCSF shall begin performing all environmental, regulatory, permitting and other work necessary to implement the non-flow measures identified in this VSA, including creation of the TRPAC, within 60 days of adoption of this VSA by the SWB consistent with the other terms and conditions of the VSA, with the intention of constructing/implementing such non-flow measures as soon as possible.

#### 11. Term

The term of this VSA shall be 15 water years with the option for extensions that may be mutually agreed to by the parties.

#### 12. Compliance

Performance with the quantities, volumes, rates and times specified in the VSA shall be considered compliant with the VSA regardless of any change or improvement to the Tuolumne River fishery.

Further, MID, TID and CCSF shall not be liable for stranding or loss of any fish that may result from performance of this VSA.