

**U.S. FISH AND WILDLIFE SERVICE AND U.S. BUREAU OF RECLAMATION**

**WATER YEAR 2011 FINAL ACCOUNTING  
FISHERY AND WATER QUALITY CONTROL PLAN ACTIONS**

**January 26, 2012**

**BACKGROUND**

The Central Valley Project (CVP) began Water Year 2011 on October 1, 2010 with relatively high storage levels in Trinity, Shasta, and Folsom reservoirs. Subsequent precipitation in the winter and spring was well above average (except January was very dry) and annual inflows to the CVP reservoirs ranged from 108% to 177% of the 15-year average. In the 2011 water year both the Sacramento River basin and the San Joaquin River basin were classified as wet using D-1641 year type classifications. Consistent with Section 3406(b)(2) of the Central Valley Project Improvement Act (CVPIA) and the Department of the Interior's (Interior) May 2003 (b)(2) Policy, the total (b)(2) water allocation was 800,000 acre feet during the 2011 water year.

Due to the wet conditions in water year 2011, only 348.8 thousand acre feet (TAF) of the 800 TAF of (b)(2) water was needed for primary purpose fish actions, Endangered Species Act (ESA) requirements, and/or Water Quality Control Plan (WQCP) requirements. In water year 2006, Interior decided to bank unused (b)(2) water in Shasta Reservoir, which was used to augment low baseline flows in the Sacramento River in the fall and winter of 2006/2007, consistent with the CVPIA, Sections 3406(b)(2) and 3408(d). Since that time, both the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) have issued new biological opinions pursuant to Section 7 of the ESA, both of which include new requirements for CVP-controlled streams. Given these new requirements and uncertainty over water conditions in 2012, Interior decided to not bank the unused (b)(2) water from water year 2011.

CVP operations during the 2011 water year were subject to implementation of two biological opinions: (1) the FWS Biological Opinion on the Coordinated Operations of the CVP and the State Water Project (SWP) for the protection of federally-listed delta smelt, issued in December 2008 (FWS BiOp), and (2) the NMFS Biological Opinion on the Long-term Operations of the CVP and SWP for the protection of listed salmonids and Green Sturgeon, issued in June 2009 (NMFS BiOp). Both biological opinions included a reasonable and prudent alternative (RPA) to avoid jeopardy to the subject species.

Interior manages (b)(2) water consistent with the Ninth Circuit Court's decision in Bay Inst. of San Francisco v. United States, 87 Fed. Appx 637 (2004), confirming Interior's discretion to give effect to the "hierarchy of purposes" in Section 3406(b)(2), and the District Court for the Eastern District of California's memorandum opinion in San Luis & Delta Mendota Water Authority v. Department of the Interior, 1:97-cv-6140, 1:98-cv-5261 OWW DLB (E.D. Cal. Sept. 19, 2008) (hereinafter SLDMWA),

concerning Interior's (b)(2) accounting for the 2004 water year.<sup>1</sup> Interior also continues to implement its May 9, 2003 (b)(2) Policy and December 17, 2003 (b)(2) Guidance.

The purpose of this document is to explain Interior's final accounting of fish actions covered by CVPIA Section 3406(b)(2) in water year 2011. This narrative, together with the attached table, "Water Year 2011 Final CVP Accounting of (b)(2) Fish Actions in TAF", constitutes Interior's final accounting of fishery actions, including ESA and WQCP actions, covered by CVPIA Section 3406(b)(2) during water year 2011 and explains how Interior exercised its authority and discretion under CVPIA Section 3406(b)(2) during that same period.

### **Water Year 2011 Fish Actions Covered By (b)(2) Water**

#### **October 2010:**

On Clear Creek, approximately 4.1 thousand acre feet (TAF) of (b)(2) water was released (maintaining approximately 200 cubic feet per second (cfs)) to meet temperature requirements for spring-run Chinook salmon (ESA Threatened) egg incubation and rearing, pursuant to the NMFS Biological Opinion. This release also helped meet FWS Anadromous Fish Restoration Program (AFRP) flow objectives and improved instream conditions for spawning fall-run Chinook salmon. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

On the Stanislaus River, Interior released approximately 3.8 TAF of (b)(2) water in conjunction with CVPIA 3406(b)(3) acquired water<sup>2</sup> to provide minimum flow requirements (approximately 200 cfs) for rearing steelhead (ESA Threatened), pursuant to the NMFS BiOp, and to provide a fall upstream migration flow (approximate peak of 1500 cfs) for spawning fall-run Chinook salmon. The October (b)(2) and (b)(3) flows represented the Stanislaus River's contribution towards the October San Joaquin River pulse flows at Vernalis. (State Water Resources Control Board (SWRCB), D-1641, Table 3, Footnote 15). In its May, 1995 Environmental Report (ER) for the 1995 WQCP (Appendix 1), the SWRCB described the purpose of the Vernalis pulse flow requirement in October as follows:

The purpose of the pulse flow standard is to attract adult fall-run Chinook salmon into the San Joaquin River. . . . A pulse of water down the mainstem San Joaquin River will provide additional velocity and olfactory cues which should direct salmon to the main river and facilitate passage through the lower Delta.

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<sup>1</sup> In that opinion, Judge Wanger stated that the "primary purpose" of CVPIA Section 3406(b)(2) "includes all those fish and wildlife restoration activities specifically described in section 3406(b)," including "water dedicated to accomplish the anadromous fish doubling goal set forth in section 3406(b)(1)" and "water needed to accomplish any of the other specifically enumerated programs listed in section 3406(b)(2). SLDMWA, at 43 (underline in original). Judge Wanger also recognized that some WQCP and/or ESA actions "may serve the primary purpose of the CVPIA." Id. at 47. Thus, "if an action taken under the WQCP and/or ESA predominantly contributes to one of the primary purpose programs (e.g., fish doubling), it must be counted toward the 800,000 AF limit." Id. at 48. In so doing, Judge Wanger recognized that there may be some "primacy" to section 3406(b)(1) in relation to other stated purposes of section 3406(b), but he did not rule on that question. Id. at 45.

<sup>2</sup> 26 TAF of (b)(3) acquired water was obtained for fall 2010.

The release of approximately 3.8 TAF of (b)(2) water (in addition to the acquired (b)(3) water) predominantly contributed to the primary purpose of Section 3406(b)(2) of the CVPIA and was accounted as a (b)(2) fish action.

**November 2010:**

On Clear Creek, approximately 5.8 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to help meet AFRP flow objectives for spring-run Chinook egg incubation and rearing, and improved instream conditions for spawning fall-run Chinook salmon. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

On the Stanislaus River, approximately 2.9 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to meet minimum flows for steelhead, pursuant to the NMFS BiOp. This release also improved instream conditions for spawning fall-run Chinook salmon. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

**December 2010:**

On Clear Creek, approximately 6.0 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to help meet AFRP flow objectives to benefit spring-run Chinook fry, steelhead juveniles and pre-spawning adults, and instream conditions for fall-run Chinook salmon spawning and emergence. This release predominantly contributed to the primary purpose of Section 3406 (b)(2) and was accounted as a (b)(2) fish action.

On the Stanislaus River, approximately 2.1 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to improve conditions for steelhead, pursuant to the NMFS BiOp. This release also improved instream conditions for fall-run Chinook salmon spawning and emergence. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

**January 2011:**

On Clear Creek, approximately 9.1 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to help meet AFRP flow objectives to benefit spring-run Chinook fry, fall-run Chinook spawning and emergence, and spawning steelhead. This release predominantly contributed to the primary purpose of Section 3406 (b)(2) and was accounted as a (b)(2) fish action.

On the Stanislaus River, approximately 3.9 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to improve conditions for spawning steelhead, pursuant to the NMFS BiOp. This release also improved instream conditions for fall-run Chinook salmon spawning and emergence. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

**February 2011:**

On Clear Creek, approximately 8.2 TAF of (b)(2) water was released (maintaining approximately 200 cfs)

to help meet AFRP flow objectives to benefit spring-run Chinook rearing, fall-run Chinook emergence and rearing, and spawning steelhead. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

On the Sacramento River, approximately 10.9 TAF of (b)(2) water was released early in the month, maintaining approximately 3,800 to 4,000 cfs to help meet AFRP flow objectives for late fall and fall-run Chinook spawning and emergence. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

On the Stanislaus River, approximately 3.1 TAF of (b)(2) water was released to maintain approximately 200 cfs to improve conditions for spawning steelhead, pursuant to the NMFS BiOp. This release also contributed to improved instream conditions for fall-run Chinook salmon emergence and rearing. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

#### **March 2011:**

On Clear Creek, approximately 9.1 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to help meet AFRP flow objectives for fall-run Chinook salmon rearing and steelhead spawning and emergence. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

On the Stanislaus River, approximately 3.6 TAF of (b)(2) water was released to maintain approximately 200 cfs for the first 19 days of the month for steelhead spawning and emergence, pursuant to the NMFS BiOp. This release also improved instream conditions for fall-run Chinook rearing. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

In the Delta, from March 14-21, CVP exports were curtailed to an average of approximately 3,557 cfs to assist in meeting the Old and Middle River (OMR) flow requirement included in NMFS RPA IV.2.3. During that period, CVP exports were reduced below base case pumping levels by approximately 10.2 TAF to reduce the vulnerability of emigrating juvenile winter-run Chinook salmon (ESA Endangered), yearling spring-run Chinook salmon, and steelhead within the lower Sacramento and San Joaquin rivers to entrainment into the channels of the South Delta and at the pumps. This export reduction predominantly contributed to the primary purpose of CVPIA 3406(b)(2) and was counted as a (b)(2) fish action this year.

#### **April 2011:**

On Clear Creek, approximately 9.1 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to help meet AFRP flow objectives for fall-run Chinook rearing and steelhead juveniles. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

**May 2011:**

On Clear Creek, approximately 11.9 TAF of (b)(2) water was released. Approximately half of that water was released to help meet AFRP flow objectives of 200 cfs for fall-run Chinook rearing and steelhead juveniles. The other half of that water was released May 23 – 29 to provide an attraction flow of up to approximately 700 cfs for spring-run Chinook salmon, in accordance with NMFS RPA I.1.1. These releases predominantly contributed to the primary purpose of Section 3406(b)(2) and were accounted as (b)(2) fish actions.

In the Delta, the NMFS RPA IV.2.1 required the CVP and SWP projects to meet a combined 4:1 Vernalis flow/export ratio. From May 12-May 31, CVP exports were reduced below base case pumping levels by approximately 51.6 TAF (to an average of approximately 1,275 cfs), pursuant to NMFS RPA IV.2.1 to increase the survival of emigrating juvenile steelhead. This export reduction predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action this year.

**June 2011:**

On Clear Creek, approximately 6.0 TAF of (b)(2) water was released (maintaining approximately 200 cfs) to help meet the AFRP flow objective and the NMFS BiOp's temperature requirements for steelhead juveniles and spring-run Chinook adults. In addition, approximately 4 TAF was released from June 6 – 12 to provide an attraction flow of up to approximately 600 cfs for spring run Chinook salmon, pursuant to the NMFS BiOp. These releases predominantly contributed to the primary purpose of Section 3406(b)(2) and were accounted as (b)(2) fish actions.

In the Delta, from June 8 – 22 CVP exports were reduced from approximately 4,200 cfs to approximately 3,000 cfs pursuant to CVPIA (b)(2) authority to protect fall-run Chinook salmon and other anadromous fish that were still emigrating from the San Joaquin Basin from loss at the CVP pumping plant. See the June Exports and Replacement Pumping (July – September) for a more detailed discussion.

**July 2011:**

On Clear Creek, approximately 4.7 TAF of (b)(2) water was released (maintaining approximately 125 cfs) to help meet the NMFS BiOp's temperature requirements for steelhead juveniles and spring-run Chinook adults. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

**August 2011:**

On Clear Creek, approximately 4.7 TAF of (b)(2) water was released (maintaining approximately 125 cfs) to help meet the NMFS BiOp temperature requirements for steelhead juveniles and spring-run Chinook adults. This release predominantly contributed to the primary purpose of Section 3406(b)(2) and was accounted as a (b)(2) fish action.

## **September 2011:**

On Clear Creek, approximately 7.0 TAF of (b)(2) water was released (maintaining approximately 130 cfs through September 13, then ramping up to approximately 200 cfs by September 17, and then increasing to 225 cfs by September 28<sup>th</sup>) to help meet the NMFS BiOp's temperature requirements for steelhead juveniles and spring-run Chinook adults and spawning. These releases predominantly contributed to the primary purpose of Section 3406(b)(2) and were accounted as (b)(2) fish actions.

## **June Exports and Replacement Pumping (July – September):**

On June 8, CVP exports were reduced from approximately 4,200 cfs to approximately 3,000 cfs pursuant to CVPIA 3406(b)(2) authority for a 14-day period to protect fall-run Chinook and other anadromous fish that were still emigrating from the San Joaquin Basin from loss at the CVP pumping plant. Had CVP exports been held at 4,200 cfs, instead of 3,000 cfs, during that 14-day period, CVP exports would have been about 35 TAF greater.<sup>3</sup> During that same period, however, the base case CVP exports for CVPIA 3406(b)(2) purposes was 3,000 cfs, so actual CVP exports were equivalent to base case CVP exports and there was no (b)(2) cost associated with this 14-day action in the month of June.<sup>4</sup> Rather, as explained below, Interior accounted for this action as part of foregone replacement pumping in the months of July, August, and September. Outside of this 14-day period in June, actual CVP exports exceeded the base case's 3,000 cfs CVP export pumping level by about 28 TAF.

Under Condition 3 of D-1485<sup>5</sup> and Article 10(b) of the "Agreement Between the United States of America and State of California for the Coordinated Operation of [CVP] and State Water Project" (COA), Interior would have been able to replace up to about 195 TAF of exports foregone in May and June due to D-1485 requirements later in the year (generally July through September).<sup>6</sup> This ability to make up

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<sup>3</sup> Generally, flow rate that is measured in cfs is converted to an equivalent volume measured in TAF per day as follows: (cfs x 1.98). For example, in a single day, at a rate of 1,200 cfs, the CVP Jones Pumping Plant could export approximately 2.38 TAF of water (1,200 cfs x 1.98). Over a 14-day period, at the same rate of 1,200 cfs, the CVP Jones Pumping Plant could export almost 35 TAF of water (1,200 cfs x 1.98 x 14 days).

<sup>4</sup> In implementing CVPIA 3406(b)(2), Interior uses the "pre-1992 base CVP operations with D-1485 water obligations as the baseline CVP operations." (Interior, May 2003 (b)(2) Policy, n. 6). "Any export reductions prescribed below the baseline operation will be accounted for as a (b)(2) action." (*Id.* at 6). In May and June, under D-1485, CVP exports were limited to 3,000 cfs. (SWRCB, D-1485, Table II, p. 39). Generally, if actual CVP exports are equivalent to base case operations under D-1485, there is no (b)(2) cost.

<sup>5</sup> Condition 3 of D-1485 states, "To the extent that operational constraints on the Central Valley Project to minimize diversion of young striped bass from the Delta during May and June reduce project exports, permittee, the United States Bureau of Reclamation, shall be allowed through coordinated operations to make up such deficiencies during later periods of the year by direct diversion or by redirection of releases of stored water through State Water Project facilities."

<sup>6</sup> Generally, the 195 TAF of replacement pumping allowed under D-1485 and the COA is calculated as the difference between the designed pumping capacity of the Jones Pumping Plant (4,600 cfs) and allowable exports under D-1485 (3,000 cfs) during the 61 days in May and June. Interior assumes that replacement pumping under

for reductions in exports during May and June of any year under D-1485 is commonly referred to as “replacement pumping” and is considered part of the base case operation for CVPIA 3406(b)(2) purposes, consistent with Interior’s 2003 (b)(2) Policy. If actual CVP exports are more than the 3,000 cfs base case operation in May or June, the incremental amount of exports above 3,000 cfs is subtracted from the nominal 195 TAF of replacement pumping allowed under D-1485 and the COA. In June 2011, the CVP exported 28 TAF more than if exports were equivalent to the base case rate of 3,000 cfs all month. Therefore, in water year 2011, in the base case operation under D-1485, the CVP would have been entitled to a reduced replacement pumping volume of 167 TAF (195 TAF minus 28 TAF).

However, Condition 8 of SWRCB Decision 1641 (D-1641) eliminated Interior’s ability to make up for export reductions later in the year by rescinding Condition 3 of D-1485.<sup>7</sup> The SWRCB’s decision to rescind Condition 3 and eliminate replacement pumping is a WQCP requirement mandated through D-1641 and, therefore, any replacement pumping foregone in the 2011 water year due to Condition 8 of D-1641 was considered a WQCP action. Additionally, as explained above, Interior considers operations under D-1485, including the ability to replace foregone CVP pumping in May and June, to be part of the base case condition, consistent with Interior’s May 2003 (b)(2) Policy.

In water year 2011, Interior accounted for the 167 TAF of replacement pumping foregone due to D-1641 uniformly throughout July, August, and September.<sup>8</sup> In July, although the Jones Pumping Plant operated to full capacity, total CVP exports were less than base case exports under D-1485, which included about 56.3 TAF of foregone replacement pumping. In August, CVP exports were less than base case operations under D-1485, which included about 56.3 TAF of foregone replacement pumping under D-1641 and the current WQCP. In September, CVP exports were less than base case operations, which included about 54.4 TAF of foregone replacement pumping under D-1641 and the current WQCP. Interior considered the 167 TAF of foregone replacement pumping to be a WQCP action that did not predominantly contribute to the primary purpose of CVPIA 3406(b)(2). Nonetheless, due to the favorable conditions in 2011 and the availability of (b)(2) water, Interior exercised its discretion and accounted for the foregone replacement pumping as a (b)(2) action this year.

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D-1485 would have occurred at a uniform rate from July 1 through September 30. Thus, Interior accounts for replacement pumping foregone due to D-1641 based on a uniform rate in July, August, and September.

<sup>7</sup> Condition 8 of SWRCB Water Rights Decision 1641 (D-1641) rescinded Condition 3 of D-1485 stating, “SWRCB Decision 1485 (D-1485) ordered that certain terms and conditions in this license/permit be added or amended. Except as amended or deleted herein, the terms and conditions set forth in D-1485 remain in this license/permit. The terms and conditions in D-1485 numbered 2, 3, 4, 5, and 8 are rescinded.”

<sup>8</sup> See note 6.