Preliminary Fish Actions for Water Year 2009
Calfed Operations Group
April 22, 2009

Following successive dry and critical year types, the Central Valley Project began Water Year (WY) 2009 with very low storage levels in Trinity, Shasta, Folsom, and New Melones reservoirs. From October 1, 2008 through April 2009 precipitation has been below average and as of today's date the Sacramento Valley Water Year Type Index (40-30-30) is classified as critical and the San Joaquin Valley Water Year Type Index (60-20-20) is classified as dry (both at the 90% exceedence level). Based on the shortage criteria in the Department of the Interior's (Interior) May 9, 2003 Decision on Implementation of Section 3406 (b)(2) of the Central Valley Project Improvement Act, the (b)(2) water allocation in WY 2009 will be 600,000 acre-feet (AF) or 700,000 AF depending on the May runoff forecast.

The fish actions described below are a combination of actual operations and projected operations through the end of the water year on September 30, 2009. Interior has completed the preliminary accounting for these fish actions for the period October 1, 2008 through January 31, 2009. Final accounting for the potential forecasted fish actions will take place at the end of the water year and be presented at the Calfed Operations Group meeting in December 2009.

UPSTREAM RIVER RELEASES
OCTOBER 2008 THROUGH SEPTEMBER 2009

Description

Upstream actions are primarily intended to provide increased flows in the Central Valley Project (CVP) -controlled streams of Clear Creek, Sacramento, American, and Stanislaus rivers for improved habitat conditions for anadromous and resident fish populations, including benefits to Chinook salmon and steelhead upstream migration, spawning, egg incubation, rearing, and downstream migration.

Biological Benefits and Technical Basis for Actions

In general, the improved flows in CVP-controlled streams: (1) provide improved spawning and rearing habitat for salmon and steelhead; (2) improve survival of downstream migrating Chinook salmon smolts; (3) improve water temperatures and increase habitat for rearing juvenile steelhead; and (4) increase Delta outflow pursuant to the Water Quality Control Plan (WQCP) and for the benefit of delta smelt and other estuarine species.

The rationale and scientific basis for the improved flows are found in a variety of sources including Anadromous Fish Restoration Program (AFRP) documents, published

literature, California Department of Fish and Game (CDFG) reports, and other restoration programs and are generally based on results of instream flow and temperature studies conducted by the Fish and Wildlife Service (FWS), CDFG or others, as well as relationships between flow and adult returns, correlation analyses, and other life history information.

Real-time Implementation Process

The flow objectives being targeted for each CVP-controlled stream are generally consistent with the AFRP's January 2001 Final Restoration Plan. These flow objectives are higher than the current existing minimum flow requirements in each stream. The fish flow objectives being targeted are influenced by CVP reservoir storage and forecasted inflow. Fisheries and hydrologic monitoring information is considered when determining higher flow releases. In general, spawning flows will be initiated in October or November when adult salmon are observed in the CVP-controlled streams and river temperatures are 60 degrees F or lower.

Any decisions regarding the modification of flow releases using (b)(2) water will be made in accordance with Interior's May 2003 Decision, Interior's December 2003 Guidance Memo, and relevant Court orders, and will be coordinated with the use of the limited amount of the Environmental Water Account (EWA) water consistent with the Calfed process (B2IT, EWAT, DAT, and WOMT, et. al.).

Clear Creek:

From October 1, 2008 through January 31, 2009, a combination of CVP project reoperation and some (b)(2) water has been used to maintain Clear Creek flows at approximately 200 cfs. Species benefitting from these flows include steelhead trout as well as fall-run, late fall-run, and spring-run Chinook salmon.

Interior anticipates fish flow releases will decrease to approximately 150 cubic feet per second (cfs) in June, and decrease further in July to the flows required to meet the NOAA 2004 Biological Opinion water temperature criteria for steelhead and spring-run Chinook through the summer months (in past years, the usual range has been 70 cfs to 120 cfs).

Sacramento River:

Keswick releases peaked in late October 2008 in response to the rice decomposition program, and were gradually reduced in November and December Flows in the January through March 2009 period were at the legal minimum of 3,250 cfs.

From April through September, Interior anticipates increased flow releases from Keswick to help meet WQCP requirements, to manage for temperature requirements in the NOAA 2004 Biological Opinion for winter-run Chinook salmon, and for increased project

demands.

American River:

From October through December, some (b)(2) water was used to augment low flows in the American River for fall-run Chinook salmon spawning and emergence and maintained fish flow releases in the 925 cfs -1,200 cfs range. In addition, approximately 500 cfs of water was released through the lower river outlets at Folsom Dam from November 10 – 28 to access the remaining cold water in Folsom Reservoir. This operation was successful in reducing instream temperatures by approximately three degrees Fahrenheit at the Hazel Avenue Bridge to improve salmonid spawning habitat. The Calfed EWA compensated the CVP for the foregone power.

From January through mid-March 2009 fish flows were maintained at approximately 800 cfs for steelhead trout spawning. In mid-March, flow releases were gradually increased to approximately 1,600 cfs due to encroachment into the flood control space at Folsom Reservoir and to manage the fill rate of Folsom Reservoir.

From April through September Interior anticipates increased flow releases from Nimbus Dam to help meet WQCP requirements, to manage for temperature requirements in the NOAA 2004 Biological Opinion for steelhead trout, and for increased project demands.

Stanislaus River:

Acquired (b)(3) water was used to provide a short-duration fall attraction flow to approximately 850 cfs in mid-October, and used thereafter to maintain flows at approximately 250 cfs until late December for fall-run Chinook and steelhead spawning and emergence. A small amount of (b)(2) water was used to maintain flows at 165 cfs in early February to protect salmon and steelhead habitat.

By February 8, flow releases gradually increased from 165 cfs to approximately 450 cfs in March for WQCP salinity requirements at Vernalis.

Due to the dry year classification in the San Joaquin Basin, the 31-day VAMP flow releases will not take place in 2009. Interior anticipates that Goodwin releases in the 550 cfs to 700 cfs range will be made in April and May to meet WQCP salinity requirements. Interior also anticipates that some (b)(2) water and (b)(3) acquired water will be used on the Stanislaus River to provide a modest spring pulse flow from April 17 – May 17 to assist fall-run Chinook and steelhead smolt outmigration.

From June through September Interior anticipates Stanislaus River releases in the 250 cfs – 550 cfs range to help meet WQCP and dissolved oxygen requirements.

DELTA CROSS CHANNEL GATE OPERATIONS

In the fall of 2008 the North/Central Delta Salmon Outmigration Study was conducted to assess salmon outmigration pathways and water quality impacts of different Delta Cross Channel Gate positions. Beginning on November 10, a series of tagged salmon releases were conducted at different gate positions (halfway closed, night closures, and open) and the fish were monitored as they moved through the system. The experiment was curtailed and the gates were closed on December 22 due to concerns for emigrating winter and spring-run Chinook salmon. CVP exports were reduced from an assumed pre-1992 operation due to water quality impacts from the DCC gate operations.

CVP DELTA EXPORT REDUCTIONS

Due to dry conditions and low inflows, CVP exports were relatively low in late November and December 2008. Beginning in January 2009 CVP exports were reduced to help meet WQCP requirements for Delta outflow.

In February and March CVP exports were reduced by a combination of WQCP requirements for Delta outflow and Old and Middle River (OMR) flow objectives in the FWS 2008 Biological Opinion for the protection of delta smelt.

Delta Export Reductions for Salmonids in April and May 2009

Due to the dry year classification in the San Joaquin Basin, the 31-day VAMP export curtailments will not take place in 2009. Interior anticipates CVP exports will be curtailed per the WQCP between April 17 and May 17, and the exports will likely be approximately 2,000 cfs combined between the CVP and SWP. The Head of Old River Barrier will not be installed.

After May 17, CVP exports may be controlled by either WQCP requirements, OMR flow objectives in the FWS 2008 Biological Opinion, or limited water supplies.