

**ANNUAL REVIEW OF AMERICAN RIVER OPERATIONS AS THEY RELATE TO  
IMPLEMENTATION OF THE REASONABLE AND PRUDENT ALTERNATIVE FOR THE  
CENTRAL VALLEY PROJECT AND STATE WATER PROJECT OPERATIONS CRITERIA  
AND PLAN**

**October 2010**

**Introduction**

This report is intended to inform the annual review process specified in the Reasonable and Prudent Alternative (RPA) for the Central Valley Project and State Water Project Operations Criteria and Plan in relation to American River operations. Regarding this process, the RPA states, “Not later than November 30 of every year, in conjunction with the CALFED Science Program or other Science Peer Review process, Reclamation and NMFS shall host a workshop to review the prior water years’ operations and to determine whether any measures prescribed in this RPA should be altered in light of information learned from prior years’ operations or research.” The RPA includes six action suites for the American River, each of which are discussed below in the context of informing the annual review process. Additionally, monitoring is discussed below in this context because the RPA calls for monitoring in CVP/SWP waterways, including the American River.

**Action II.1. Lower American River Flow Management**

This action specifies that the U.S. Bureau of Reclamation (Reclamation) shall implement the flow schedule specified in the Water Forum’s Flow Management Standard (FMS). The FMS flow schedules identify minimum flows and implementing those schedules does not preclude Reclamation from making higher releases at Nimbus Dam. Flows in the lower American River (i.e., downstream of Nimbus Dam) have met or surpassed the FMS minimum flow schedules since implementation of the RPA commenced in June 2009, with two exceptions, one in September 2009 and one in September 2010. Each September lower American River flows must be decreased below the FMS minimum level to allow for installation of the Nimbus Hatchery weir. The installation typically takes just a few hours and flows are less than the FMS minimum levels for about six hours. A draft description of lower American River fish actions, including flow changes, for the period from June 4, 2009 (issuance of the OCAP biological opinion) through September 30, 2010 was prepared by the United States Fish and Wildlife Service (USFWS) and is included as an attachment to this report (**Attachment 1**).

In accordance with implementing the lower American River flow management action, from June 2009 to present, Reclamation convened the American River Group (ARG), comprised of agency representatives from Reclamation, the National Marine Fisheries Service (NMFS), the USFWS, the California Department of Fish and Game (CDFG), to make recommendations for management within the constraints of the FMS. ARG meeting notes summarize the flow (and water temperature) discussions; those notes have been compiled and are attached to this report (**Attachment 2**).

## **Action II.2. Lower American River Temperature Management**

This action states:

“Each year, Reclamation shall prepare a draft Operations Forecast and Temperature Management Plan based on forecasted conditions and submit the draft Plan to NMFS for review by May 1 of each year. The information provided in the Operations Forecast will be used in the development of the Temperature Plan. The draft plan shall contain: (1) forecasts of hydrology and storage; (2) a modeling run or runs, using these forecasts, demonstrating that the temperature compliance point can be attained (see Coldwater Management Pool Model approach in Appendix 2-D); (3) a plan of operation based on this modeling run that demonstrates that all other non-discretionary requirements are met; and (4) allocations for discretionary deliveries that conform to the plan of operation.”

A draft water temperature management plan for the summer of 2010 was submitted by Reclamation to NMFS containing (1) and (2) from the preceding quote, but not (3) or (4). In coordination with ARG agencies, a mean daily water temperature of 66°F at Watt Avenue was identified as the compliance target for 2010. This target was met throughout the entire season. That is mean daily water temperatures in the lower American River at Watt Avenue never exceeded 66°F. A final water temperature management plan for the summer of 2010 was submitted to NMFS, but it did not contain information addressing (3) or (4) in the above quote.

Reclamation worked diligently, in coordination with the Water Forum and NMFS to develop an iterative modeling approach to help assess what water temperatures can be achieved in a given year, as specified in the RPA. Results from the iterative model helped inform identification of the Watt Avenue water temperature target. It is expected that the iterative model will be used exclusively to develop the 2011 water temperature plan.

### **Action II.3. Structural Improvements**

This action is not germane to the annual review process of reviewing the prior water years' operations and determining whether any measures prescribed in the RPA should be altered in light of information learned from prior years' operations or research.

### **Action II.4. Minimize Flow Fluctuation Effects**

This RPA action suite identifies three objectives:

- 1) From January 1 through May 30, at flow levels <5,000 cfs, flow reductions shall not exceed more than 500 cfs/day and not more than 100 cfs per hour.
- 2) From January 1 through May 30, Reclamation shall coordinate with NMFS, CDFG, and USFWS to fund and implement monitoring in order to estimate the incidental take of salmonids associated with reductions in Nimbus Dam releases.
- 3) Minimize the occurrence of flows exceeding 4,000 cfs throughout the year, except as may be necessary for flood control or in response to natural high precipitation events.

Each of these three objectives has been achieved since RPA implementation commenced, with the exception of the flow reduction objective during September 2009 and September 2010. Each September lower American River flows must be decreased to allow for installation of the Nimbus Hatchery weir. The flow reduction objectives are relaxed during the installation in order to minimize the duration of reduced flows.

Surveys to look for juvenile steelhead or salmon that may have become isolated following flow fluctuations were conducted as necessary from January 1 through May 30, and a final survey was conducted in early August. These surveys were not conducted following flow reductions associated with the Nimbus Hatchery weir installation because those flow reductions generally do not create isolated pools where juvenile salmonids could become trapped, and if they did, those areas would quickly become reconnected as flows are returned to their pre-installation levels.

### **Action II.5. Fish Passage at Nimbus and Folsom Dams**

This action is not germane to the annual review process of reviewing the prior water years' operations and determining whether any measures prescribed in the RPA should be altered in light of information learned from prior years' operations or research.

## **Action Suite II.6. Implement the Following Actions to Reduce Genetic Effects of Nimbus and Trinity River Fish Hatchery Operations**

This action is not germane to the annual review process of reviewing the prior water years' operations and determining whether any measures prescribed in the RPA should be altered in light of information learned from prior years' operations or research.

### **Monitoring**

Section 11.2.1.3. Monitoring and Reporting in the RPA indicates that, "1. Reclamation and DWR shall participate in the design, implementation, and funding of the comprehensive CV steelhead monitoring program, under development through ERP, that includes adult and juvenile direct counts, redd surveys, and escapement estimates on CVP and SWP controlled streams. This program is necessary to develop better juvenile production estimates that form the basis of incidental take limits and will also provide necessary information to calculate triggers for operational actions." Under Section 11.2.1.3 (8a), Upstream Monitoring Requirements, Reclamation and DWR are required to jointly fund monitoring through 2030 to ensure compliance with the RPA : "Adult escapement and juvenile monitoring for spring-run, winter-run, and steelhead on the Sacramento River, American River, Feather River, Clear Creek, Mill Creek, Deer Creek and Battle Creek. These may be performed through carcass surveys, redd surveys, weir counts, and rotary screw trapping."

While no comprehensive steelhead monitoring program has been developed, Reclamation conducted steelhead redd surveys during the 2010 spawning season and submitted bi-weekly progress reports to NMFS. Those reports will be made available upon request.