

## **NMFS Determination based on DOSS call 10/21/09**

### **Action IV.1.2 DCC Gate Operation**

Between October 1 and November 30 close the Delta Cross Channel (DCC) Gates for up to 3 days when either Knights Landing Index (KLCI) or Sacramento Catch Index (SCI) are greater than 3 fish per day or less than or equal to 5 fish per day and water quality criteria per D-1641 are being met (pg. 636. NMFS OCAP 2009).

### **Analysis**

DCC gate closures are necessary to reduce direct and indirect mortality of emigrating juvenile salmonids as they migrate downstream through the Sacramento River.

#### **1. Salmonid and Sturgeon Distribution**

NMFS concludes that a portion of the juvenile winter-run Chinook population has left the upper Sacramento River above Red Bluff and should be in the vicinity of the DCC by this week. This was based on the recent storm event and rotary screw trap data at RBDD. In addition, juvenile spring-run Chinook were observed in the Mill and Deer Creek traps, indicating they could be present shortly in the Sacramento River. Adult sturgeon have been observed holding in the area below the GCID diversion.

#### **2. Abundance**

NMFS concludes that the winter-run Chinook population is at critically low levels of abundance (preliminary estimates 2,000 -3,000 adults), and as a result, the juveniles migrating downstream are more vulnerable to increased mortality associated with travel through the central Delta. Recent hydrological events (*i.e.*, first storm event and critically dry water year) also increase the risk associated with emigration this year.

#### **3. Entrainment**

No entrainment has been observed todate, however, NMFS concludes that the risk associated with juvenile winter-run and spring-run reduced survival is increased if the DCC gates are left open. This is based on numerous survival studies that show mortality is greater for juveniles passing through the central Delta than those that stay in the Sacramento mainstem (Kjelson and Brandes 1989, Brandes and McLain 2001, Perry and Skalski 2008, Newman 2008, Vogel 2004, 2008).

#### **4. Water Quality Criteria**

Salinity, temperature, and outflow as required in D-1641 are being met at this time.

### **Conclusion**

After review of the data provided through the Data Analysis Team (DAT) it was concluded that some juvenile salmonids (winter-run and spring-run) had begun to move downstream with the first storm event. A spike in tributary flows and turbidity indicated the first alert had occurred. Therefore, NMFS requested an initial meeting of the Delta Operations for Salmonids and Sturgeon (DOSS) group on 10/21, as required in the NMFS BiOp. This technical team reviewed the status of the current fish monitoring and the criteria described in the biological opinion. The DOSS initially recommended to NMFS that the DCC gate remain open, since the criteria in the NMFS BiOp had not been

met. Shortly after the DOSS met, the KLCI reached 3.02, therefore, NMFS immediately notified WOMT that the criteria for DCC gate closure had been met. Since water quality was adequate in the Delta, the DCC gates were closed for 3 days starting on Friday 10/23.

The purpose of this closure is to increase survival of juvenile winter-run and spring-run as they travel through the Delta. Without the closure, a greater proportion of juvenile salmonids would enter the central Delta and be exposed to higher mortality and eventual entrainment at the CVP or SWP export facilities.

The basis for the determination is meeting the Knights Landing Index of 3.0 catch-per-unit of-effort on 10/21, pursuant to the criteria in the NMFS BiOp.

### **Potential Harm to Others**

The potential harm to water quality and costs associated with the 3-day DCC gate closure were not evaluated. There may be some slight worsening of water quality in the south Delta, however the short duration of the action is unlikely to result in exceedances in water quality criteria. No export reduction was caused by this action, therefore, there was no cost associated with water diversions from the Delta.