

# Temperature Management of the CVP Northern System

## Shasta & Trinity Divisions

### **Problem**

Meeting temperature management targets for fisheries is a complex, lengthy, and uncertain endeavor. The Sacramento River Temperature Task Group (SRTTG) has a formal annual process for monitoring CVP river and reservoir temperatures, and making operational recommendations to Reclamation for meeting temperature targets. The current process raises a number of issues.

1. The process is semi-formal and at times ad hoc.
2. The decision making process for operating Reclamation CVP northern system facilities is not clear outside of Reclamation.
3. Decisions, especially the analysis and data inputs, need to be rigorous, while maintaining the flexibility of the informality of the current process.

### **Solution**

A written, published plan outlining and annotating the annual decision making process for meeting regulatory and administrative temperature management targets in the northern system of the CVP.

### **Purpose**

To facilitate operational decision making for Sacramento and Trinity River temperature management.

### **Goal**

Transparent, concise, open, flexible, responsive, pertinent, comprehensive (to a degree) plan of operational recommendations for meeting regulatory and administrative temperature management targets in the northern system of the CVP, namely the Shasta and Trinity divisions.

### **Champions**

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## Elements of the Plan

### ***CVP Northern System Specifications and Capabilities***

#### **Shasta Division**

##### **Physical**

Outlets  
SOP  
Monitoring

##### **Biological**

Species  
Timing  
Monitoring/Compliance locations

#### **Trinity Division**

##### **Physical**

Outlets  
SOP  
Monitoring

##### **Biological**

Species  
Timing  
Monitoring/Compliance locations

## Regulatory Requirements

1. BO's
2. WRO's
3. ROD's
4. OPAC
5. SOP's
6. SOD
7. Flow schedules/forecasts/hydrographs

## Models

Forecasts

Mass Balance

CVO tools

CALSIM II

Temperature

Shasta Division

Shasta reservoir

Sacramento River

Trinity Division

Trinity reservoir  
Lewiston reservoir  
Trinity River  
Clear Creek  
Whiskeytown reservoir  
Clear Creek

## **Data Streams**

Meteorology – W

Shasta/Clear Creek/Sacramento River  
Trinity

Flow – Q

Shasta/Sacramento  
Trinity

USGS & CDEC

Temperature – T

Shasta  
NCAO  
Other

Trinity

NCAO  
USFWS  
Other

Clear Creek

NCAO  
Other

Fish Health – ?

## **Coordinations**

Periodic meetings/conference calls/emails, etc

Schedule of data, analyses, and decisions at each meeting

How to handle ad hoc requests outside of schedule

## ***Non-Regulatory***

## ***Regulatory***

## **Annual Tasks/Cycles**

Timelines for various types of water years, meteorological years, and exigent conditions

Periodic meetings/conference calls/emails, etc

Schedule of data, analyses, and decisions at each meeting

How to handle ad hoc requests outside of schedule

## **Other Issues**

This section will become a 'Parking Lot' of ideas, concerns, and other issues outside the current scope of this plan (the current scope is detailed in the sections above.) The issues will be parsed and directed towards the proper divisions/offices within the Mid Pacific Region of Reclamation as well as other agencies/tribes/governments as appropriate.

### ***Reservoir Carryover***

OCAP references

### ***Statistically Based Forecast of Long-term lake levels***

Recap EIS analyses