

## Barbara Byrne

---

**From:** Field, Randi C <RField@usbr.gov>  
**Sent:** Wednesday, May 05, 2010 2:19 PM  
**To:** Barbara Byrne; Barnett-Johnson, Rachel; Fujitani, Paul E; Garwin.Yip@noaa.gov; Hannon, John M; Kiteck, Elizabeth G; Merriweather, Audrey; Rhonda Reed; Vasquez, Elizabeth A  
**Subject:** 3 Day Ave Max Stan R Temp

Greetings:

This e-mail serves as formal notification, as required by the 2009 NMFS BiOp, that the Exception criteria under Action III.1.2 (Stanislaus River temperature objective at Orange Blossom Bridge) was triggered on 04/29/10 on a seven-day average daily maximum temperature. Verbal notification of the three-day notice was provided during the Stanislaus Operations Group (SOG) meeting on 4/28/10. It was advised by the SOG that the target temperature (between Jan 1 and May 31) for Orange Blossom Bridge be the more conservative of the two targets listed, 55 °F, rather than 57 °F (NMFS BiOp, p. 621). A table of maximum daily temperatures at Orange Blossom Bridge is provided below in Table 1. (As discussed via conference call between Reclamation and NMFS staff on July 13, 2009 requesting direction on BiOp RPA procedural actions.)

In the last seven days, the Orange Blossom Bridge seven-day average daily maximum temperatures ranged from 54.7 °F to 55.1°F.

Releases from Goodwin have been held constant at 1000 cfs from 4/9/10 to the present day. At the current release rate, it is expected the three-day running average and seven-day average daily maximum temperature criteria may continue to exceed at Orange Blossom Bridge.

Reclamation is coordinating data collection efforts to receive regular reservoir temperature profile information from the California Department of Fish and Game. Reservoir temperature profiles have been collected for March and April. Releases from New Melones Reservoir are approximately the coldest obtainable. Currently, Reclamation has limited flexibility to control downstream temperature. Flow rates of 1,000 cfs from Goodwin Dam are not offering the 7-day average daily maximum temperature protection below 52 °F at Knights Ferry and below 55 °F at Orange Blossom Bridge. Based on Reclamation's modeling of the April 2010 50% exceedence forecast, lower storage conditions at New Melones still appear to be a concern for the fall months. Reclamation is taking conservative actions to build storage and develop a cold water pool to help meet summer and fall BiOp RPA temperature criteria.

Historical May temperatures just downstream of Goodwin Dam range between 49.6 °F and 56.8 °F, average temperature was 52.8 °F (Figure 1).

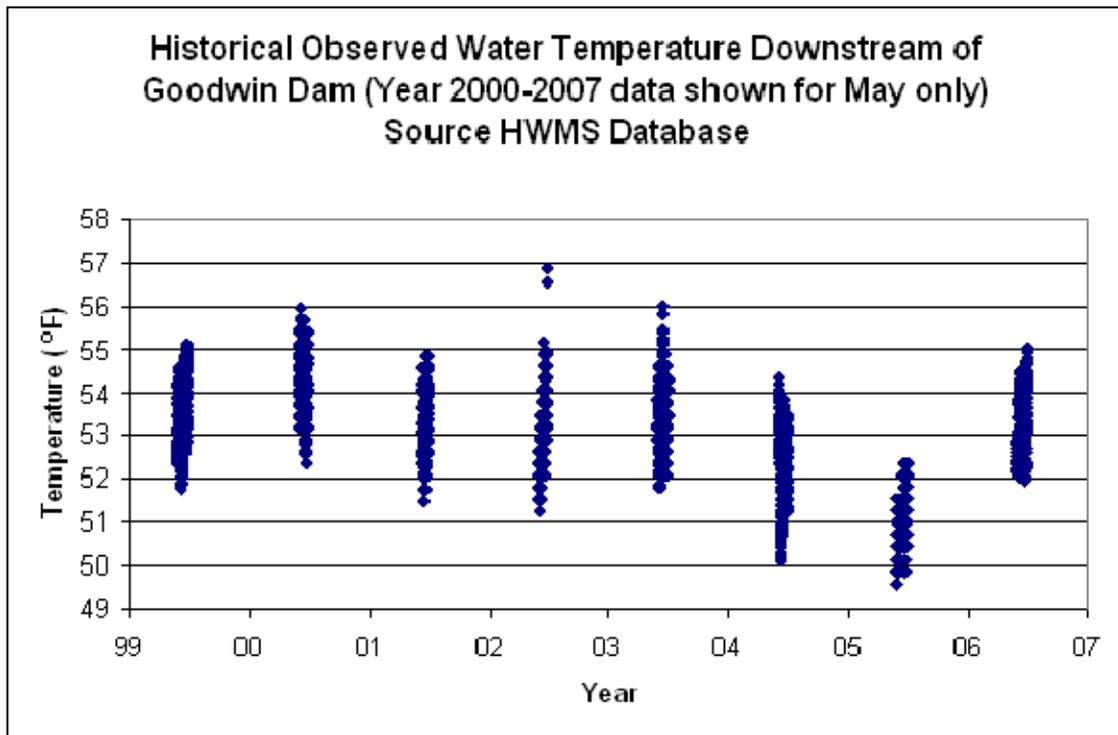


Figure 1 – Historical water temperature ranges downstream of Goodwin Dam for the month of May.

Reclamation cannot determine, with certainty, the magnitude or duration of actual temperature exceedence because of the limitations of meteorological forecasts (accuracy of meteorological forecasts degrade after approximately 5 days or less). However, estimates of future temperature performance can be inferred from model simulations. A representative temperature simulation was evaluated at Knights Ferry and Orange Blossom Bridge using the HMWS temperature tool (Figure 2). The results indicate difficulty consistently meeting both the Knights Ferry and Orange Blossom temperature targets through the end of May. This information should be used cautiously, it is not the past or a forecast of future meteorological conditions; the inputs, assumptions, and model have limitations which affect the accuracy of the output. Reservoir temperature profiles and storage conditions from the end of April were used to generate these results.

Preliminary-Orange Blossom River - 2010  
 May 50% Recreation Outlook  
 Medium Mean 6-Hour Temperature

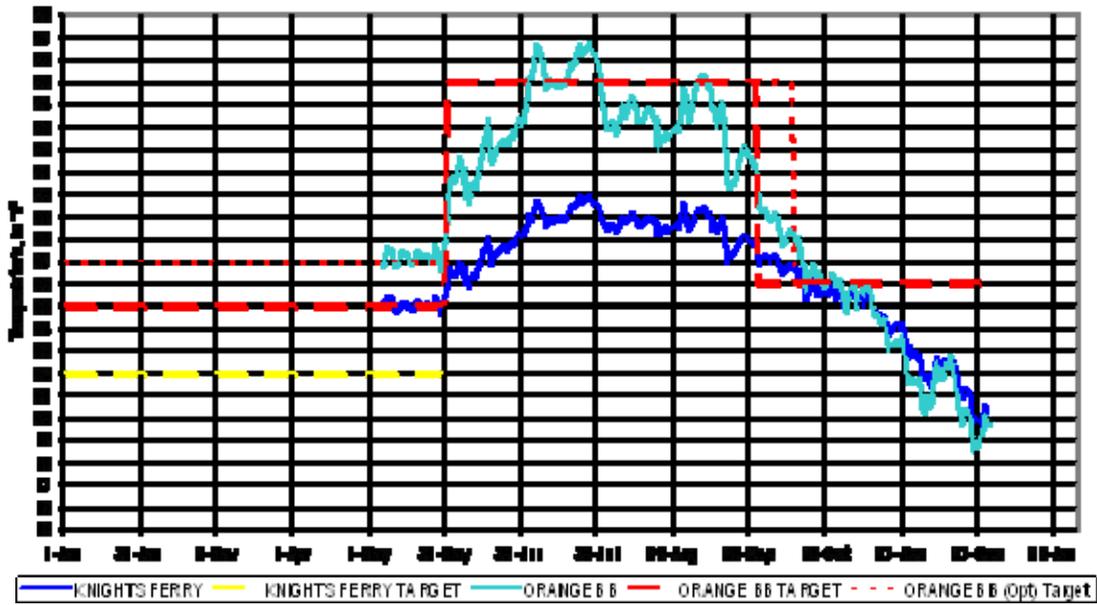


Figure 2. Preliminary HWSM temperature model results for a representative May through December at Knights Ferry and Orange Blossom Bridge.

Table 1. Recent Stanislaus River data (the Knights Ferry estimate uses the monthly statistical relationship distributed on 4/28/10 for data that begins on 5/1/10).

Date	Orange Blossom Daily Maximum Temp. (°F)	Est. Knights Ferry Daily Maximum Temp. (°F)	Goodwin Release (cfs)	Total Canal Diversions (cfs)	Tulloch Release (cfs)	New Melones Storage (AF)	Comments
23-Mar-10	57.7	54.8	199	726	920	1,267,073	
24-Mar-10	57.9	54.9	205	795	997	1,266,321	
25-Mar-10	57.1	54.4	207	849	1,055	1,266,739	
26-Mar-10	57.2	54.5	204	900	1,105	1,266,405	
27-Mar-10	57.2	54.5	206	914	1,129	1,267,157	
28-Mar-10	57.8	54.8	206	804	1,014	1,267,575	
29-Mar-10	57.9	54.9	203	771	979	1,266,321	
30-Mar-10	57.6	54.7	203	873	1,074	1,266,739	
31-Mar-10	56.2	53.9	256	1114	1,360	1,267,408	
1-Apr-10	55.3	53.3	1274	1227	2,563	1,265,234	Goodwin releases increased (NMFS BO RPA IV.2.1)
2-Apr-10	52.4	51.6	1354	1224	2,669	1,262,308	
3-Apr-10	52.9	51.9	1355	1227	2,701	1,260,387	
4-Apr-10	51.6	51.2	1359	1216	2,696	1,258,389	
5-Apr-10	53.4	52.2	1365	1092	2,572	1,256,474	
6-Apr-10	53.7	52.4	1353	954	2,398	1,253,560	
7-Apr-10	53.9	52.5	1356	859	2,302	1,250,405	
8-Apr-10	54.1	52.6	1358	866	2,311	1,248,250	
9-Apr-10	53.9	52.5	1170	972	2,096	1,247,338	
10-Apr-10	52.6	51.7	1005	1111	2,013	1,246,260	Goodwin releases decreased (NMFS BO RPA III.1.3)
11-Apr-10	51.9	51.3	1006	871	1,797	1,246,260	
12-Apr-10	52.7	51.8	1014	687	1,640	1,247,089	
13-Apr-10	54.2	52.7	1006	439	1,365	1,247,835	
14-Apr-10	54.5	52.9	999	381	1,301	1,250,074	
15-Apr-10	54.5	52.9	1007	380	1,320	1,250,903	
16-Apr-10	55.0	53.2	1022	270	1,246	1,252,644	
17-Apr-10	55.0	53.2	1006	535	1,484	1,253,643	
18-Apr-10	55.5	53.5	1008	537	1,488	1,253,310	
19-Apr-10	54.8	53.0	1007	549	1,504	1,252,811	
20-Apr-10	53.5	52.3	1010	604	1,561	1,254,726	
21-Apr-10	52.0	51.4	1004	607	1,567	1,257,057	
22-Apr-10	53.0	52.0	1000	569	1,528	1,258,639	
23-Apr-10	55.2	53.3	1006	513	1,466	1,262,057	
24-Apr-10	55.9	53.7	1007	468	1,430	1,264,983	
25-Apr-10	56.1	53.8	1008	379	1,329	1,266,405	
26-Apr-10	56.1	53.8	1004	243	1,193	1,265,987	
27-Apr-10	54.4	52.8	1003	259	1,207	1,268,996	
28-Apr-10	53.4	52.2	1003	443	1,381	1,272,773	
29-Apr-10	54.7	53.0	1005	585	1,534	1,274,788	
30-Apr-10	55.1	53.2	1003	678	1,624	1,276,719	
1-May-10	55.7	53.9	1005	804	1,767	1,277,727	

2-May-10	<b>56.2</b>	<b>54.2</b>	1001	937	1,910	1,277,980
3-May-10	<b>56.7</b>	<b>54.5</b>	1005	981	1,966	1,278,907

Thank you,  
Randi Field

Randi Field  
U.S. Bureau of Reclamation  
Central Valley Operations  
3310 El Camino Avenue, Suite 300  
Sacramento, CA 95821  
(916) 979-2066  
(E-mail change: [rfield@usbr.gov](mailto:rfield@usbr.gov))