

From: Field, Randi C
To: [Rhonda Reed](#); [Barbara Byrne](#); Garwin.Yip@noaa.gov;
cc: [Fujitani, Paul E](#); [Milligan, Ronald E](#); [Merriweather, Audrey](#);
[Vasquez, Elizabeth A](#);
Subject: 3 Day Average Maximum Stanislaus River Temperature (March 2010)
Date: Friday, March 05, 2010 3:26:00 PM
Attachments: [KNF_and_OBB_relationship.pdf](#)

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 Knights Ferry) was estimated as triggered on 02/18/10, 3/1/10, and 3/2/10 on a three-day average daily maximum temperature. A table of estimated maximum daily temperatures at Knights Ferry is shown below. (As discussed via conference call between Reclamation and NMFS staff on July 13, 2009 requesting direction on BiOp RPA procedural actions.)

Real-time distribution of temperature data at Knights Ferry is not available. Knights Ferry temperatures are estimated based on an Orange Blossom Bridge and Knights Ferry relationship of year 1999 to year 2007 data collected for temperature modeling (see attached relationship).

In the last five days, the estimated seven-day average daily maximum temperatures ranged from 51.6 °F to 51.9°F.

Releases from Goodwin Dam were increased on 2/7/10 to 1000 cfs to meet SWRCB D1641 Bay-Delta Vernalis flow requirements. Releases have since been reduced in response to hydrologic events, beginning 2/28/10 to 3/7/10, from 1000 cfs to 200 cfs. 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 Knights Ferry.

Reclamation is actively coordinating data collection efforts to receive reservoir temperature profile information. Although temperature profiles are not yet accessible to Reclamation, it is still early spring and the reservoirs are assumed to be generally destratified. Releases from the reservoirs are expected to be the coldest obtainable. It has also been observed that instream temperatures can rise following storm events due to accretions and mixing of the reservoirs or as a response to warmer weather. Currently, Reclamation has limited flexibility to control downstream temperature. We experienced marginal temperature benefit with increased flow rates from Goodwin Dam (flows of 1000 cfs from Goodwin

Dam did not offer an estimated 3-day average daily maximum temperature protection below 52 °F). Based on Reclamation's modeling of the February 1, 2010 90% exceedence forecast, low storage conditions at New Melones appear to be a concern for the fall months. Reclamation is taking conservative actions to reduce winter and early spring reservoir releases, when possible, to build storage and develop a cold water pool to meet summer and fall BiOp RPA temperature criteria.

**Tabulated Data: Knights
Ferry, Stanislaus River**

	Estimated Daily Maximum Temperature (°F)	Goodwin Releases (cfs)
2/1/2010	51	326
2/2/2010	50.9	610
2/3/2010	51.3	611
2/4/2010	50.9	601
2/5/2010	51.4	622
2/6/2010	50.9	438
2/7/2010	51.1	726
2/8/2010	51	1004
2/9/2010	51	1007
2/10/2010	51.1	1010
2/11/2010	51	1000
2/12/2010	51.5	1012
2/13/2010	51.6	1008
2/14/2010	51.7	1007
2/15/2010	51.7	1008
2/16/2010	51.9	1001
2/17/2010	52.1	1007
2/18/2010	51.9	1006
2/19/2010	51.5	1004
2/20/2010	51.3	1003
2/21/2010	51	1008
2/22/2010	51.6	1006
2/23/2010	50.9	1009
2/24/2010	51.2	1005
2/25/2010	52	1001
2/26/2010	51.3	1005
2/27/2010	52	1003
2/28/2010	52.1	938

3/1/2010	52.6	838
3/2/2010	51.8	742
3/3/2010	51.4	587
3/4/2010	52.1	505

(Data Source: CDEC 3/05/2010 data and Knights Ferry relationship attached)

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)

**Knights Ferry and Orange Blossom Bridge Temperature Relationship
Based on HWMS Temperature Calib1 - 6hr Mean (1200 to 1800 hrs only)**

