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Subject: 3 Day Average Maximum Stanislaus River Temperature
Date: Friday, July 17, 2009 5:21:17 PM

Bruce,

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 July 16, 2009 based on a three-day average daily maximum temperature. A table of maximum daily temperatures and daily average temperatures at Orange Blossom Bridge is shown below. (As discussed via conference call between Reclamation and NMFS staff on July 13, 2009 requesting direction on BiOp RPA procedural actions.)

Recent hot ambient air conditions have increased stream temperatures on the Stanislaus River significantly this month. In the last week, the seven-day average daily maximum temperatures ranged from 63.9 °F to 64.5 °F. The average monthly mean temperature (July 1 – July 15) is 61.4 °F.

Releases from Goodwin Dam were increased July 15, 2009 from 250 cfs to 350 cfs to moderate maximum temperatures at Orange Blossom Bridge. Temperatures are now trending lower due to the increase in flow, however, it is expected the three-day running average daily maximum temperature criteria may take several days to recover. In the absence of today's (July 17, 2009) maximum temperature observation, Reclamation cautiously does not expect the seven-day average daily maximum temperature to exceed the objective in the short term. We believe the increase in maximum temperatures is a temporary condition and when cooler weather returns, the maximum temperatures are expected to remain below the temperature objective at Orange Blossom Bridge.

Given present operations, and taking into account the distribution of *O. mykiss* rearing in the Stanislaus during summer (they are concentrated mostly from a couple miles downstream of Knights Ferry (Wilms pond vicinity) up to Goodwin Dam with the highest densities upstream of Knights Ferry) we will be meeting suitable temperatures all summer long for the vast majority of these fish. The extent that this distribution is determined by oversummer water temperature is unknown. Gradients down towards Oakdale are low and substrate is finer. This type of habitat further downstream is not conducive to producing the type of invertebrates juvenile trout generally feed on. Trout densities generally decrease

as you head downstream such that there are areas of lower density where competition between larger resident trout and smaller young of the year steelhead should not be an issue (if they are an issue anywhere in the river). Periods of hot clear weather will naturally increase water temperatures throughout the river and growth may be temporarily reduced for fish in the lower river during these warmer periods. These fish have evolved with this general type of pattern. This year's river temperatures should sustain the present steelhead population based on previous year densities and water temperatures.

Given that the new BiOp was just release in June 2009, Reclamation does not yet have a New Melones Reservoir/Stanislaus River temperature model capable of evaluating the reservoir release and river temperatures for project operations as identified in the RPA. We will work towards development of a tool for this purpose, but one is currently not available. Reclamation is also working to establish the Stanislaus River Operations Group to assist in evaluating temperature and flow objectives on the Stanislaus River but this group has yet to be convened.

Tabulated Temperature Data: Orange Blossom Bridge, Stanislaus River

Date	Daily Maximum Temperature (°F)	Daily Mean Temperature (°F)
7/1/2009	64.3	60.7
7/2/2009	64.3	61.5
7/3/2009	64.4	61.4
7/4/2009	64.3	61.5
7/5/2009	64.2	61.3
7/6/2009	63.5	60.7
7/7/2009	63.5	60.5
7/8/2009	64.3	61.2
7/9/2009	64.6	61.7
7/10/2009	64.4	61.7
7/11/2009	62.9	61.5
7/12/2009	63.9	61.2
7/13/2009	64.5	61.6
7/14/2009	65.4	62.4
7/15/2009	65.7	62.9

(Data source: CDEC, 7/15/2009 mean data sanitized)

Thank You,
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