



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

2009/00291:DB

JUL 21 2010

Michael Jackson
U.S. Bureau of Reclamation
1243 N Street
Fresno, CA 93721-1813

Dear Mr. Jackson:

NOAA's National Marine Fisheries Service (NMFS) hereby replies to the U.S. Bureau of Reclamation's (Reclamation) July 14, 2010, letter (SCC-423, ENV-7.00, Cachuma), which inquires whether monitoring the water rights releases (WR 89-18) scheduled to begin on August 2, 2010, is required, and requested formal approval of Reclamation's July 27, 2007, study plan for the subject monitoring.

NMFS understands that Reclamation will carry out the WR 89-18 releases from Cachuma Reservoir as described in Reclamation's letter of July 14, 2010. The subject water releases are of concern for endangered steelhead (*Oncorhynchus mykiss*), as described in the Cachuma Project biological opinion (BO). Accordingly, the BO and incidental take statement (ITS) specifies terms and conditions that require Reclamation to monitor movement of endangered steelhead downstream of Bradbury Dam to better confirm that they are not encouraged to move downstream by WR 89-18 releases. NMFS did not accept Reclamation's July 2007 study plan or January 2009 monitoring report for the 2007 WR 89-18 releases, as described in NMFS' letters of March 19, 2009 and November 9, 2009 (attached). In light of NMFS' previous reviews and comments on the subject study plan, and given that the study plan has not been revised in a substantive manner to resolve NMFS concerns, further NMFS review of the plan is unwarranted at this time.


Although NMFS continues to recommend that Reclamation incorporate trapping into the subject monitoring as one means of reliably assessing downstream movement of endangered steelhead associated with the WR 89-18 releases, recent information provided by Cachuma Conservation Release Board indicates that the level of take associated with this method of monitoring (trapping) authorized in the BO/ITS has been greatly exceeded for 2010. Therefore, no further trapping would be permissible at this time. Recognizing trapping is not an option for monitoring



the 2010 WR 89-18 releases at this time, owing to the exceeded take levels, NMFS recommends that Reclamation incorporate interim monitoring into the proposed study plan that are agreeable to NMFS. Additionally, NMFS recommends that Reclamation collect continuous (e.g., 5-minute recording interval) vertical array dissolved oxygen (DO) concentrations in pools immediately prior to and during arrival of the initial flow pulse associated with the WR 89-18 releases. Priority for DO sampling should be given to pools where *O. mykiss* are observed during pre-WR 89-18 release snorkel surveys. This information will assist in addressing concerns identified in the attached October 8, 2009, memo.

Please contact Darren Brumback at (562) 980-4060 if you have any questions concerning this letter.

Sincerely,


Rodney R. McInnis
Regional Administrator

cc: Ned Gruenhagen, U.S. Bureau of Reclamation
Kate Rees, Cachuma Operation and Maintenance Board
Mary Larson, California Department of Fish and Game
Roger Root, U.S. Fish and Wildlife Service
Charles Lindsay, State Water Resources Control Board
Bruce Wales, Santa Ynez Water Conservation District (SYWCD)
Chris Dahlstrom, SYWCD, Improvement District #1
Copy to: 151422SWR2001PR231



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NOV -9 2009

Michael Jackson
U.S. Bureau of Reclamation
1243 N Street
Fresno, CA 93721-1813

Dear Mr. Jackson:

Thank you for your June 10, 2009, letter regarding the Bureau of Reclamation's (Reclamation) efforts to comply with reasonable and prudent measure (RPM) 6 of the September 8, 2000, biological opinion for the Cachuma Project (Project). Your letter makes clear that Reclamation disagrees with NMFS' determination (the bases of which are described in a letter of March 19, 2009) regarding the efforts to measure the influence of the 89-18 water-rights releases on endangered steelhead (*Oncorhynchus mykiss*) in the Santa Ynez River downstream of Bradbury Dam, and compliance with requirements of RPM 6.

While NMFS continues to stand by its determination, be assured that the current disagreement does not diminish NMFS' opinion of the notable strides Reclamation and NMFS have jointly undertaken to improve habitat conditions for endangered steelhead downstream of Bradbury Dam since issuance of the biological opinion nearly 10 years ago. Likewise, an improved understanding of steelhead life history and habitat requirements has been gained and a better understanding of how Project operations overlap with endangered steelhead in time and space has been developed. Overall, NMFS greatly appreciates Reclamation's efforts to protect and conserve endangered steelhead.

Based on the knowledge gained since issuance of the biological opinion, which is fully corroborated in the record for the Project, it is apparent that NMFS and Reclamation would better serve our respective authorities and mutual interests by moving beyond the current disagreement involving RPM 6 and focusing on reinitiating formal consultation for the Project. The need to reinitiate formal consultation is clear and underscored by evidence generally indicating the Project is affecting endangered steelhead in a manner and extent not previously considered in the existing biological opinion. In this regard, and especially now that the recent collaborative effort among stakeholder groups to explore the potential development of a settlement agreement for the Project has concluded, NMFS agrees with Reclamation's letter of December 29, 2005, that formal consultation for the Project should be reinitiated.



Elements of an appropriate next step would include NMFS and Reclamation identifying and discussing the technical information that is needed to reinitiate and further the formal consultation. Accordingly, NMFS recommends a meeting with Reclamation for this specific purpose. NMFS would be pleased to host the meeting in its Southwest Regional Office in Long Beach. Please contact Darren Brumback at (562) 980-4060 if you have any questions concerning this letter and to schedule the subject meeting with NMFS.

Sincerely,



Rodney R. McInnis
Regional Administrator

cc: Michael Kinsey, U.S. Bureau of Reclamation
Kate Rees, Cachuma Conservation Release Board
Timothy Robinson, Cachuma Conservation Release Board
Ed Pert, California Department of Fish and Game
Mary Larson, California Department of Fish and Game
Roger Root, U.S. Fish and Wildlife Service
Diane Riddle, State Water Resources Control Board
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MAR 19 2009

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Michael Kinsey
U.S. Bureau of Reclamation
1243 N Street
Fresno, CA 93721-1813

Dear Mr. Kinsey:

This letter is in response to the U.S. Bureau of Reclamation's (Reclamation) January 27, 2009, report titled "Cachuma Project Biological Opinion, Reasonable and Prudent Measure 6, Steelhead/Rainbow Trout Movement During 2007 Water Rights Releases" (report), which NOAA's National Marine Fisheries Service (NMFS) received on January 30, 2009. Herein NMFS addresses three primary points in Reclamation's report and cover letter that pertain to: 1) the suggestion that NMFS verbally approved the 2007 study plan before implementation began, 2) the suggestion that NMFS accepted Reclamation's first (December 15, 2005) WR 89-18 monitoring report as satisfying the intent of reasonable and prudent measure (RPM) 6, and 3) the conclusion contained in Reclamation's report of January 27, 2009.

Perceived Agreement with the 2007 Study Plan

Information obtained from a review of the administrative record pertaining to this project and discussions with NMFS staff does not support Reclamation's suggestion that NMFS approved (verbally or in writing) the 2007 Study Plan. As stated in your letter, and consistent with the administrative record, Reclamation's request for approval of the revised study plan was sent to NMFS on July 27, 2007 (received July 30, 2007), four days after initiating the WR 89-18 water releases on July 23, 2009, and eleven days after initiating the pre-release monitoring surveys on July 16, 2009.

The December 15, 2005, Monitoring Report

NMFS did not find that the December 15, 2005, monitoring report was in compliance with the Biological Opinion and requirements set forth in RPM 6. It is well documented that Reclamation was aware of NMFS' reluctance to accept the subject monitoring report because of technical issues (described below) regarding the sampling approach. NMFS raised these specific issues during the January 11, 2007, teleconference with Reclamation and some of the member units. Reclamation's letter of February 27, 2007, to NMFS acknowledges the January 11, 2007, teleconference and confirms that NMFS is reserving a determination on whether the 2004 study of the Water Rights 89-18 release was in compliance with RPM 6.



During the January 11, 2007, teleconference, NMFS identified two primary concerns with the monitoring report. First, and foremost, the technicians who undertook the field surveys examined the pools downstream of Alisal Bridge substantially after the water releases from Bradbury Dam ceased to reach this area. NMFS stated the survey delay increased the likelihood that steelhead would not be observed due to predation or development of water-quality conditions that do not favor survival. In this regard, NMFS concluded the survey findings that are the basis of the December 15, 2005, monitoring report are not reliable.

Second, NMFS commented that direct underwater observation was not the ideal means of detecting displacement or movement of steelhead from upstream to downstream river reaches, particularly in the context of the WR 89-18 water releases. For this reason, NMFS recommended that a fish trap be installed between the upstream and downstream reaches. NMFS predicated the decision to reserve judgment on whether to accept the first-year monitoring on the expectation that the trap would be installed as part of future surveys and the resulting findings would supplement previous findings.

Reclamation's Conclusion Regarding Movement of Steelhead during WR 89-18 Releases

Based on the available information, including the findings contained in Reclamation's January 27, 2009, monitoring report, Reclamation's conclusion that the WR 89-18 water releases do not cause displacement or movement of steelhead into pools downstream of Alisal Bridge appears to be unsubstantiated. Reasons why NMFS believes such a conclusion is unwarranted at this time involve the following:

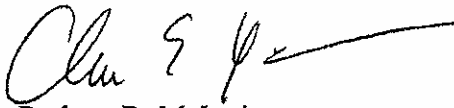
- a) Direct underwater observation has limited utility for detecting stream fish when abundance is low, which is the expected condition in habitats downstream of Alisal Bridge following cessation of the WR 89-18 water releases;
- b) Figure 6, which depicts changes in steelhead abundance for individual habitat units in Reach 2 based on pre-release and post-release snorkeling surveys, suggests a potential difference in fish-detection probabilities between sampling periods (i.e., before and after the release), or a true decrease in fish abundance in the sampling units (e.g., fish emigrated to other habitats), or a combination of these. However, the specific cause for the apparent reduction in fish abundance is not entirely clear;
- c) Tables 2 and 3 documenting the observed decrease in total steelhead abundance upstream of Alisal Bridge, Reach 1 (76 to 37) and Reach 2 (54 to 21) following WR 89-18 water releases, further suggests the possibility that steelhead movement occurred and (or) snorkeling surveys alone are not sufficient to determine if steelhead are redistributing downstream of Alisal Bridge in response to WR 89-18 water releases;

- d) Disproportionate allocation of sampling effort among the reaches. For instance, upstream of Alisal Bridge (Reach 2) 28 habitat units were surveyed over 5.7 miles, whereas downstream of Alisal Bridge (Reach 3) only 10 habitat units were surveyed over 14.5 miles; and
- e) Substantial continuous portions of Reach 3 were not surveyed at all: (1) initial 3.0 miles downstream of the Alisal Bridge, and (2) 7.0 miles between Avenue of the Flags and the Caldwell property survey areas.

Overall, NMFS continues to believe that Reclamation's sampling approach is not reliable for truly assessing whether the WR 89-18 water releases cause displacement or movement of steelhead. NMFS does not consider the January 27, 2009, and December 15, 2007, monitoring reports as satisfying the requirements of RPM 6. Accordingly, NMFS recommends that Reclamation design and implement a study that incorporates a reliable method for determining whether the water releases cause downstream displacement or movement of steelhead. In this regard, NMFS continues to recommend that Reclamation employ fish-trapping techniques during the WR 89-18 water releases.

NMFS would be pleased to discuss with Reclamation a reliable sampling plan for use in the context of the WR 89-18 water releases. Please contact Darren Brumback at (562) 980-4060 if you have any questions concerning this letter.

Sincerely,

for 
Rodney R. McInnis
Regional Administrator

cc: Kate Rees, Cachuma Conservation Release Board
Timothy Robinson, Cachuma Conservation Release Board
Mary Larson, California Department of Fish and Game

Memo to file 151422 SWR 2001 PR 231
FROM: Darren Brumback
DATE: October 8, 2009

National Marine Fisheries Service's recognized potential effects of WR 89-18 water rights releases that may affect endangered steelhead and/or critical habitat in a manner or to an extent not previously considered in the September 8, 2000, biological opinion and incidental take statement for the Bureau of Reclamation's Cachuma Project.

1) Rate of change in flow resulting from initial WR 89-18 releases:

Reclamation's June 13, 2000, Revised Project Description (page 3-18) states the following: *...combined releases (WR 89-18) ... may begin at the rate of 135-150 cfs and are maintained at a steady rate for about 12-15 days before it is gradually decreased to lower flow rates. During the initial 12-15 days, the flow moves at a rate of less than three miles per day* (emphasis added). *... A schedule for ramping flows upward is unnecessary as the travel time of water in the river will attenuate the rate of increase as described above.* However, Figure 1 indicates that Reclamation's estimated rate of change in flows resulting from WR 89-18 is inaccurate. The Santa Ynez River discharge data indicates that a response from the July 23, 2007, WR 89-18 release was realized at the Alisal Bridge within 14 hours, a rate of approximately 17 miles per day. The flow at Alisal Bridge (USGS gaging station 11128500) proceeded to increase from 5.6 cfs to 44 cfs within one hour and reached 100 cfs within six hours. Therefore, the effects of the action may affect endangered steelhead and/or critical habitat in a manner or to an extent not previously considered in the existing biological opinion and incidental take statement.

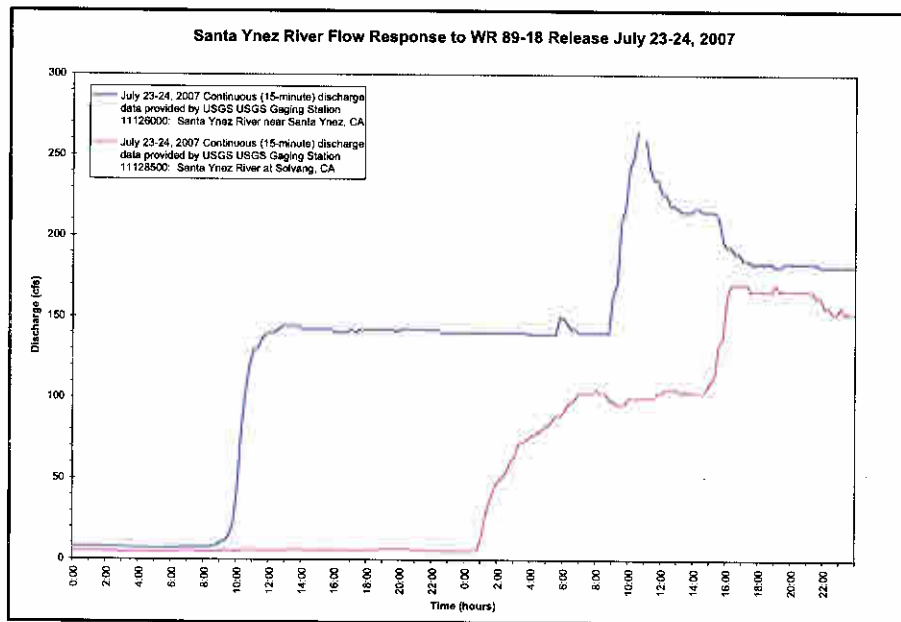


Figure 1. Comparison of the Santa Ynez River continuous (15-minute) discharge data at USGS gaging stations 11126000 (~0.5 miles downstream of Bradbury Dam) and 11128500 (Alisal Bridge), a distance of approximately 10 river miles, relative to initiating WR 89-18 water releases on July 23, 2007.

Memo to file 151422 SWR 2001 PR 231

FROM: Darren Brumback

DATE: October 8, 2009

2) WR 89-18 releases affect to water quality:

Dissolved Oxygen: Reclamation's *Summary and Analysis of Annual Fishery Monitoring in the Lower Santa Ynez River 1993-2004* (Synthesis Report) (December 2008, draft) identifies high algal production in the lower Santa Ynez River and recognizes the effects on dissolved oxygen (DO) concentration and subsequent adverse affects on steelhead habitat. This report further notes that WR 89-18 releases have been observed to *remove much of the algae from pool habitats and create sufficient mixing to sustain higher DO concentrations*. However, it does not discuss or quantify DO response to the initial pulse of the WR 89-18 releases. The initial flow related disturbance (mixing in the water column) of algae and other accumulated detritus may facilitate an immediate and significant decline in DO, such as temporary anoxic conditions, resulting in harm or death of steelhead exposed to these conditions. Therefore, the effects of the action may affect endangered steelhead and critical habitat in a manner or to an extent not previously considered in the existing biological opinion and incidental take statement.

Temperature: NMFS agrees with Reclamation's statement in the Synthesis Report that *the relationship between river flows, pool stratification, and thermal refugia warrants further investigation* in the context of WR 89-18 water rights releases. In particular, the timing of water rights releases corresponds to a period of high air temperatures, maximum solar exposure and disrupted surface flow continuity (isolated pool habitat). Water rights releases results in increased water surface area and subsequent exposure to the primary stream heating elements of air temperature and solar radiation. This could result in direct input of high temperature surface water to otherwise isolated pool habitats sustained by cooler subsurface flow. Therefore, the effects of the action may affect endangered steelhead and critical habitat in a manner or to an extent not previously considered in the existing biological opinion and incidental take statement.

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3) Water releases occurring prior to WR 89-18 release:

Page 3 of the Reclamation's January 27, 2009, report presents information regarding flow releases from Bradbury Dam prior to the July 23, 2007, WR 89-18 flow releases. The prior flow release is described as a "refreshing flow" needed to maintain minimum flow conditions (1.5 cfs) at Alisal Bridge (Solvang gage) specified in Reclamation's 2000 biological assessment/project description and subsequently in NMFS' 2000 biological opinion. Figure 2 indicates that minimum flows were not maintained and may have ceased completely between June 7 and June 26, 2007. The October 1, 2007, Incident Report (attached) summarizes these conditions and documents the resulting mortality of three "steelhead/rainbow trout".

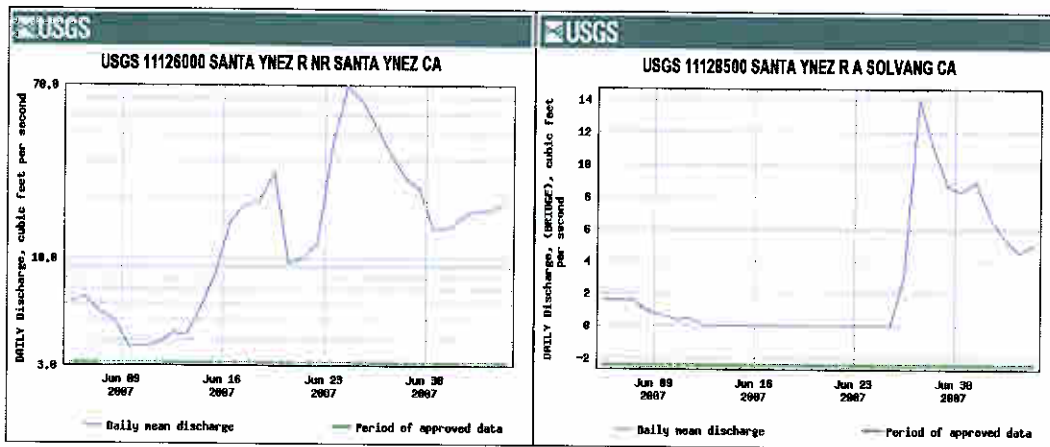


Figure 2. Comparison of the Santa Ynez River daily average discharge at gaging stations 11126000 and 11128500 (Alisal Bridge), reflecting flow conditions respective of prescribed minimum flows at Alisal Bridge, and water release event occurring prior to WR 89-18 releases on July 23, 2007.