

November 12, 2009

Dr. Jeffrey Single California Dept. of Fish and Game 1234 E. Shaw Ave. Fresno, CA 93710

RE: August 19, 2009 DFG Correspondence: Tuolumne River Water Diversion at La Grange Powerhouse (copy attached)

Dear Dr. Single:

The Turlock Irrigation District received your letter on August 27, 2009 concerning a salmon issue near La Grange Powerhouse described by CDFG biologists that occurred in early November 2008. We appreciate you bringing this matter to our attention as we were unaware in 2008 of the issues that your letter described and assure you that both Districts take the fishery issues and river operations seriously. Please be advised that we have adjusted our practices as a precautionary measure and are contemplating further steps (as referenced later in this letter) in an attempt to guard against a future reoccurrence.

The operation occurring last November was a temporary transfer of the river flow source due to the need for dewatering of the La Grange Forebay to allow inspection and repair of the TID tunnel, main canal gates, and other associated facilities. That is normally done on an annual basis unless otherwise required by emergencies.

We were indirectly made aware of the concerns identified in your August 2009 letter with a filing made to FERC in June 2009 by the Conservation Groups that contained the CDFG Draft 2008 Escapement Survey Report. It is not clear to us why CDFG had not also provided that report to the Districts, particularly in light of our prior request for the report in March.

More troubling, however, is why DFG chose not to bring its concern to our attention when it was first discovered. According to your letter, CDFG biologists made repeated visits to the site during the first week of November but failed to bring the matter to the attention of any of our on-site personnel (a District residence is located near the powerhouse) or contact our staff biologist. Consequently, there was no opportunity to determine if any immediate or near-term adjustments on our part were feasible. It strikes us that if our operations were jeopardizing any adult salmon or the welfare of their redds that CDFG would want to notify us immediately to see if the situation could be rectified. Despite the many statements of concern regarding the health of the fishery issued by CDFG over the years, it almost appears in this instance that instead of working cooperatively with the Districts to immediately address a potential problem CDFG was more interested in pursuing collection of information for the purpose of later criticizing the Districts' operations.



Dr. Jeffrey Single November 12, 2009 Page 2

There is also considerable confusion about past CDFG references to the subject site, variously described in your letter as the "east channel", "powerhouse channel", or "Riffle A1", based on review of CDFG spawning survey information over the last ten years. That channel, also known by us as the tailrace, had long been designated Riffle A1A in the Districts' River GIS mapping. That location was not reported by CDFG as being surveyed for salmon usage in 1999 and 2000 spawning reports. In 2001, CDFG changed their naming conventions for the riffles throughout the river and the CDFG Tuolumne River Riffle Atlas provided to the Districts depicts Riffle A1 as being at a different location about 0.3-miles further downstream (site of Riffles A3/A4 in Districts River GIS), with no designation for the tailrace. Subsequent CDFG spawning reports had various names and changes identified, using A1A, A1, 1A, 1a, A1n, A1s, and in any event having no redd counts listed in some cases. Consequently, it had been our biological staff and consultants understanding that the "tailrace" location was either not being surveyed by CDFG due to lack of salmon spawning or that any spawning in that area was none or minimal.

Based on the information reported in 2009 by CDFG, our engineering staff is making an initial review of potential options to avoid this fishery issue in the future. For now, we do not plan to repeat the November 2008 operation this year and are considering other potential time periods. However we will continue to need to conduct facility inspections or other maintenance activities that will necessitate the temporary transfer of river flow source from the La Grange Forebay. Our recent field survey data indicates we may wish to explore a physical solution with you that might involve a Section 1600 Agreement with your Department. We will contact your office to further discuss operational and physical options to avoid any potential adverse fishery impacts when additional information is available.

If you have any questions, please contact me at 209-883-8255.

Sincerely,

Jeff Barton

Assistant General Manager

Civil Engineering and Water Operations

Dr. Jeffrey Single November 12, 2009 Page 3

C: Larry Weis - TID Roger Masuda – Griffith & Masuda Allen Short – MID Greg Dias – MID Walter Ward – MID Tim O'Laughlin – O'Laughlin & Paris Dean Marston – CDFG Tim Heyne – CDFG Philip Scordelis – FERC, San Francisco Donn Furman – CCSF Zachary Jackson – USFWS/AFRP Deborah Giglio – USFWS Erin Strange – NMFS Dave and Allison Boucher – FOT Cindy Charles – GWWF Senator Jeff Denham Senator Dave Cogdill Assembly Member Cathleen Galgiani Assembly Member Bill Berryhill

Assembly Member Tom Berryhill



DEPARTMENT OF F Central Region 1234 East Shaw Avenue Fresno, California 93710 http://www.dfg.ca.gov

August 19, 2009

Larry Weis General Manager Turlock Irrigation District Post Office Box 949 Turlock, California 95381-0949

Subject: Tuolumne River Water Diversion at La Grange Powerhouse

Dear Mr. Weis:

During the 2008 annual Chinook salmon escapement survey, Department of Fish and Game biologists observed an alteration of river flow resulting from the rerouting of water at the La Grange powerhouse.

Typically in dry years, water released from the La Grange reservoir travels via a Turlock Irrigation District (TID) canal until it reaches the La Grange powerhouse. A portion of that water is then run through the powerhouse and continues downstream in the Tuolumne River along the "powerhouse" channel. Water flowing into the powerhouse channel is supplied entirely from the TID canal during dry water years. (Figures 1 and 2). The powerhouse channel converges with the "west" channel approximately a quarter of a mile downstream of the La Grange Dam. The west channel originates directly below the La Grange Dam, and had minimal flow supplied predominately from water seepage through the dam prior to the alteration of river flow (Figures 1 and 2).

During the November 4, 2008 escapement survey, Department biologists observed that the TID powerhouse was shut down. As a result, flows in the powerhouse channel were significantly reduced. Water entering the Tuolumne River below the La Grange Dam was being rerouted through the Modesto Irrigation District (MID) canal and released down the hillside into the west channel. The rerouting of water isolated the powerhouse channel from the flow, potentially de-watering redds that had been observed during the previous weeks' surveys (Figure 3).

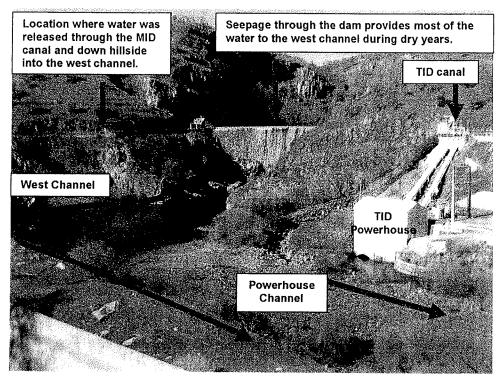


Figure 1. Upstream view of MID and TID canals showing the direction of water flow into the west channel and powerhouse channel during dry water years. March 12, 2009.

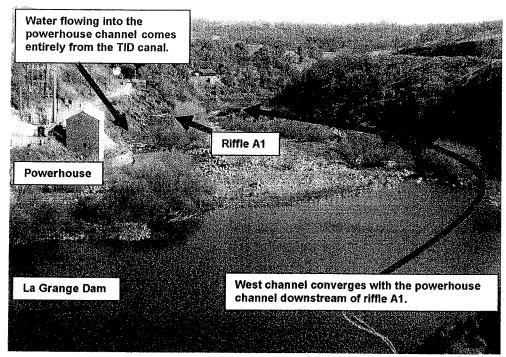


Figure 2. Downstream view taken during spawning flows showing the junction of the Powerhouse channel and west channel near riffle A1. March 12, 2009.

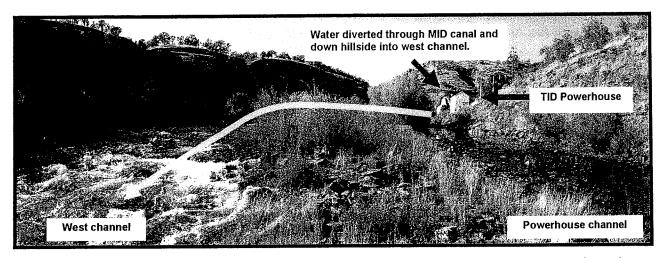


Figure 3. November 6, 2008. Water diverted through MID canal and down hillside into the west channel. The shutdown of the powerhouse resulted in the alteration of river flow to the powerhouse channel. The yellow arrow indicates the direction of water flowing from the MID canal and down the hillside into the west channel.

Surveys conducted on riffle A1, which is located in the powerhouse channel immediately downstream of the La Grange powerhouse (Figure 4), documented redds and spawning activity beginning on October 22 for the 2008 escapement survey season. Prior to the rerouting of water, ten live fish and three visible redds were observed in riffle A1 (October 22) while the number of redds increased to seven the following week when the section was surveyed on October 28. Following the rerouting of water during the November 4 survey, the number of redds decreased to five, and three live fish were observed in the powerhouse channel with minimal flow. A female carcass that appeared to have spawned was recovered, tagged, and released back into the river (Figures 5 and 6).

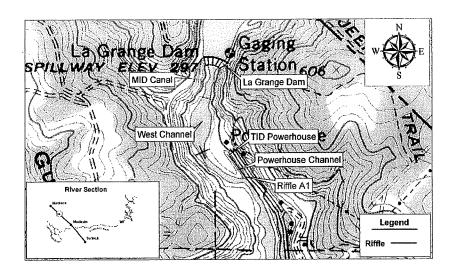


Figure 4. Location of riffle A1 within the Powerhouse channel.



Figure 5. Redd location and a female carcass in the powerhouse channel with minimal flow following the re-routing of water during the November 4, 2008 survey.

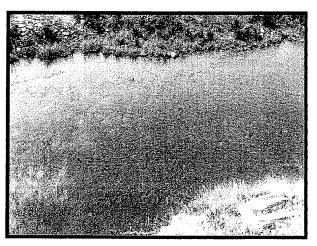


Figure 6. Comparison of redd location in the powerhouse channel while the powerhouse is operational and water enters the channel via the TID canal. (169 cfs based on USGS La Grange flow gage data). December 12, 2008.

On November 6, 2008 Department biologists returned to the site to assess potential impacts on Chinook salmon and the previously identified redds. After TID rerouted the water, the flow was predominately in the west channel. The powerhouse channel had little flow and was mostly stagnant consisting of intermittent pools separated by dry sections (Figures 7 and 8). One redd was easily distinguishable; however, it was difficult to clearly identify any additional redds due to overgrown algae and exposed gravel. It is unclear whether some of the previously identified redds had been left dry and exposed to air when the flow was rerouted. Measurements were taken to compare variations in temperature between the powerhouse channel and the west channel. Powerhouse channel temperatures were taken in the general location where redds had been observed, approximately 75 feet upstream of where it converges with the west channel. The powerhouse channel temperature was recorded at 15°C, as compared to the west channel temperature of 11.5°C. (The thermal limit for successful egg incubation is 13.3°C.) A flowmeter was used to measure the flow rate of water passing through the powerhouse channel. Measurements were taken in one foot increments across the width of the powerhouse channel in the location where redds had been documented. The flow rate averaged 0.35 cubic feet per second (cfs) in the powerhouse channel. Obtaining precise measurements from flows of such low velocity is difficult; therefore, it was estimated that the flow rate in the powerhouse channel was less than 1 cfs. The USGS La Grange flow gage is located downstream of where the powerhouse and west channels converge. The November 6, 2008 flow rate recorded at the La Grange flow gage was 163 cfs. No live fish were observed utilizing the powerhouse channel on November 6.



Figure 7. Powerhouse channel after the re-routing of water. Partially dry with intermittent pools. November 4, 2008.

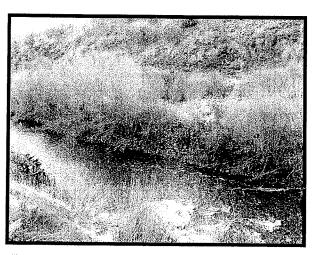


Figure 8. Comparison of powerhouse channel during normal flow. (169 cfs based on USGS La Grange flow gage data). January 15, 2009.

When Department biologists returned to the site on November 7, it appeared that work on the powerhouse had been completed. Water that had been rerouted through the MID canal was once again traveling downstream along the pathway through the TID canal into the powerhouse channel. Salmon were observed spawning again in riffle A1 after the flows were returned to the powerhouse channel. The November 12 carcass survey documented the presence of six live fish and seven redds in riffle A1. The number of live fish increased to nine the following week when the section was surveyed on November 17. Figures 9 and 10 show a comparison of typical and altered flows in the west and powerhouse channels.

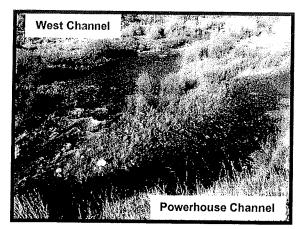


Figure 9. Comparison between the west and powerhouse channels during the re-routing of river flow. November 6, 2008.

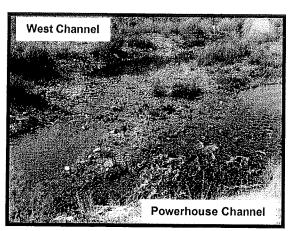


Figure 10. Comparison of flow between the west and powerhouse channels during normal flow. December 12, 2008.

Larry Weis August 19, 2009 Page 6

Annual carcass surveys document that Chinook routinely utilize riffle A1 in the powerhouse channel for spawning year after year. Fish and Game has observed the irrigation districts performing maintenance near the powerhouse during past years' spawning seasons, resulting in the alteration of channel flow and occasionally stranding Chinook. Department personnel have conducted fish rescues in the past when Chinook have become stranded in the bypass channel during powerhouse maintenance activities.

Changes to spawning habitat within riffle A1 potentially impact the survivability of eggs. With the current trend of severely declining population numbers, any impact to redds could have a significant effect on the overall number of juveniles outmigrating in the spring and thereby reducing future adult escapements. Partial or total dewatering of the wetted channel could constitute a violation of the State of California Fish and Game Code (e.g., Sections 1600 and 5937). To avoid future occurrences of this dewatering issue, and to avoid adverse impacts to sensitive fish species, the Department would appreciate prior notification well in advance of the need to conduct maintenance activities. The Department can provide recommendations to the Districts concerning the scheduling of maintenance activities so that work is conducted at times of the year that prevent, or preclude, substantive biological impacts from occurring.

The Department appreciates TID efforts to review our concerns. If you have any questions or need additional information regarding this issue please contact Ms. Jennifer O'Brien, Fisheries Biologist or Mr. Tim Heyne, Senior Biologist Supervisor, at Post Office Box 10, La Grange, California 95329 or at (209) 853-2533.

Sincerely,

Jeffrey R. Single, Ph.D. Regional Manager

cc: See Page Seven

Larry Weis August 19, 2009 Page 7

cc: Mr. Robert Nees

Turlock Irrigation District Post Office Box 949 Turlock, California 95381-0949

Mr.Allen Short Modesto Irrigation District Post Office Box 4060 Modesto, California 95352

Mr. George Taylor Washington, DC FERC Representative Federal Energy Regulatory Commission 888 1st Street, NE Washington, DC 20426

Ms. Debbie Giglio United States Fish and Wildlife Service 2800 Cottage Way, W-2605 Sacramento, California 95825

Ms. Erin Strange NOAA Fisheries 650 Capitol Mall, Suite 8-300 Sacramento, California 95814

Mr. Phil Scordelis Federal Energy Regulatory Commission Division of Hydropower Administration and Compliance 901 Market Street, Suite 350 San Francisco, California 94103

Mr. Zachary Jackson United States Fish and Wildlife Service Anadromous Fish and Restoration Program 4001 North Wilson Way Stockton, California 95205

Dave and Allison Boucher Friends of the Tuolumne 1900 Northeast 3rd Street, Suite 106 PMB 314 Bend, Oregon 97701 Larry Weis August 19, 2009 Page 8

> Ms. Cindy Charles Golden West Women Flyfishers 1403 Willard Street San Francisco, California 94117

Mr. Carl Wilcox Department of Fish and Game Water Branch

Mr. Dean Marston
Ms. Julie Means
Ms. Pat Brantley
Mr. Tim Heyne
Ms. Jennifer O'Brien
Department of Fish and Game
Central Region