

RECLAMATION

Managing Water in the West

TR-2011-01

Folsom Dam Radial Gate Hoist Chain Side Bars Strain Gage Testing

Dates of travel: January 24-27, 2011



**U.S. Department of the Interior
Bureau of Reclamation
Technical Service Center
Hydraulic Investigations and Laboratory Services Group
Denver, Colorado**

January 2011

BUREAU OF RECLAMATION
Technical Service Center
Denver, Colorado

TRAVEL REPORT

Code : 86-68460 Date: April 13, 2010
To : Ron Silva, Tracy Fish Collection Facility, Tracy California
From : Brent Mefford, Josh Mortensen
Subject : Travel to Tracy California to meet with staff of Tracy Fish Facility and Pumping Plant

1. Travel period: 4/6/10 – 4/8/10
2. Places or offices visited: Tracy California and Tracy Fish Collection Facility
3. Purpose of trip: Assist TFCF with concept generation/preliminary design for facility upgrades
4. Synopsis of trip: On April 7, 2010 we met with Joe Pennino, Brent Bridges, Joel Imai, and Keith Caldwell to discuss current problems with the operation of the fish collection facility and possible solutions and upgrades to improve the operation and efficiency of the facility. The most significant problems discussed are:

- Lack of control of flow conditions in secondary channel and holding tanks (low water depths due to conditions in primary channel)
- Facility's inability to handle a sudden influx of large numbers of fish. This has happened in the past and is expected to increase with the improved trashrack cleaning and replacement of louvers with traveling screens in the coming years.
- Predation in both primary and secondary channels
- The need for an improved fish counting station

Several concepts were discussed in the meeting to address each of these problems. We developed a list of ideas and concepts which we will investigate. We anticipate the initial investigation will result in several ideas for each topic. These will be presented to the Tracy staff with the best ideas further developed to appraisal level designs. From the meeting we came up with the following outline of what we plan to investigate along with the lead contact for each concept. The majority of the investigation will be done by our group (Hydraulics Lab) with others (Mechanical, Fisheries groups, etc.) brought in as needed.

- 1) FISH FRIENDLY PUMPS (to control conditions in secondary and holding tanks)
Josh Mortensen, jmortensen@usbr.gov, 303-445-2156
 - Define existing conditions
 - Layout of pumps and pumping pits, etc.
 - Size pumps, operation with existing facility

- Define new conditions with modifications, and impact on performance
- 2) ADDITIONAL HOLDING TANK (to handle mass quantities of fish)
Bryan Heiner, bheiner@usbr.gov, 303-445-2140
- Layout / size of tank and tank type (oval, above ground, underground)
 - Inlet / Outlet for water and fish (truck ramp, pump back to original facility, water back to canal / river, etc.)
 - Predation within the tank
- 3) CO₂ INJECTION (help regulate/reduce predation), Brent Mefford, Bryan Heiner, Josh Mortensen and a fisheries biologist (yet to be named)
- Figure costs and amounts of necessary CO₂
 - Water quality problems in holding tanks
 - Possibility of walls in primary
 - Possible studies in the Laboratory in Denver
- 4) COUNT STATION (facilitate and speed up fish handling/counting)
Brent Mefford, bmefford@usbr.gov, 303-445-2149
- Define / show existing station and equipment
 - Needs to be Fish Friendly, User Friendly, faster
 - More space to work, additional grating over tank
 - Volume / velocity through screens
 - Identify any problem areas
- 5) OTHER ITEMS DISCUSSED, Brent Mefford, Bryan Heiner, and Josh Mortensen
- New boat dock/ramp on bank just south of the primary louvers
 - Possible aeration to holding tanks
 - Structural modifications to storage building

After the meeting, we toured the fish collection facility with Brent Bridges to discuss how some of the concepts could be implemented and to allow Josh to become familiar with the facility and its operation. We met briefly with Ron Silva, who was not able to attend the meeting, and discussed what plans came out of the meeting and what we planned to investigate. He asked us to look into as many of the concepts as possible and to come up with some feasible plans that could easily be carried into the design phase. For a tentative timeline, we plan to travel to the Tracy Fish Facility again in mid-June 2010 to review the results of our investigation to that point and receive any feedback from the biologists and operators. We plan to have the investigation of the major concepts completed by the end of September 2010.

5. Conclusions:

6. Action correspondence initiated or required:

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cc: Brent Bridges, Keith Caldwell, Bob Einhellig, Joel Imai, Joe Pennino

SIGNATURES AND SURNAMES FOR:

Travel to: Tracy Fish Collection Facility, Tracy California

Date or Dates of Travel: 4/6/2010 – 4/8/2010

Names and Codes of Travelers: Brent Mefford 86-68460
Josh Mortensen 86-68460

<u>Traveler</u>	<u>Date</u>
<u>Brent Mefford</u>	<u>4/13/10</u>
<u>Joshua D. Mortensen</u>	<u>4/13/10</u>

Noted and Dated by:
Tracy L. White 4/13/10