

# RECLAMATION

*Managing Water in the West*

TR-2012-01

## **Marble Bluff Fish Passage Rehab & Walker River Headcut Stabilization projects**

**Dates of Travel: January 24-26, 2012**



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

BUREAU OF RECLAMATION  
Technical Service Center  
Denver, Colorado

TRAVEL REPORT

Code: 86-68460 Date: February 9, 2012  
To: Manager, Hydraulic Investigations and Laboratory Services Group  
From: Bryan Heiner, Brent Mefford  
Subject: Travel to Reno NV to discuss the Marble Bluff Fish Passage Rehab & Walker River Headcut Stabilization projects.

Travel period: 24 Jan 2012 – 26 Jan 2012

2. Places or offices visited: Fish and Wildlife Service Reno NV & Walker River @ Lateral 2A

3. Purpose of trip: To gain clarity and direction from the Fish and Wildlife Service (USFWS) regarding the Marble Bluff Fish Passage and Walker River Headcut Stabilization projects.

4. Synopsis of trip: Brent and Bryan traveled to Reno mid afternoon on Jan 24, 2012 by plane. After renting a car they met Tim Loux and Lisa Heki at the USFWS office in Reno to discuss the Marble Bluff Fish Passage project. Currently the USFWS has a service agreement with the USBR that will expire on Sept 30, 2012. The service agreement provided USBR with funds to complete the following tasks:

1. Concept level design for replacement of the lower four fish ladders on the Pyramid Lake fishway at Marble Bluff Dam.
2. Provide technical assistance to the USFWS for the replacement of the Marble Bluff Fishway Ladders.

In April 2011 USBR provided the USFWS with a report summarizing the designs to replace the Pyramid Lake Fishway Ladders. The designs improved the fish passage at Marble Bluff by increasing its capacity from 50 to 100 ft<sup>3</sup>/sec of flow and replace the current concrete ladders with updated rock riffle fishways. To accomplish this it was required that the entire fishway be modified, not just the fishway ladders. The April 2011 design was completed with the anticipation of the U.S. Army Corps of Engineers (COE) cost sharing the construction as part of their Truckee River Restoration and Improvement project. In November 2011 the COE indicated that their budgets were cut and that no cost sharing would be available for construction. As a result, the USFWS wants to look at staging the replacement by working on one ladder at a time and reverting back to a fishway design flow of 50 ft<sup>3</sup>/s.

During the meeting on Jan 24, 2012 the following outcomes were determined by USFWS and

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USBR regarding the project and remaining funds from the current service agreement.

1. USFWS will extend the service agreement through Dec. 31, 2013.
2. USFWS will determine the National Environmental Policy Act (NEPA) requirements and if they were met in 1976.
3. USFWS will obtain written permission for the current meander at the fishways entrance to remain outside the current USBR right of way. No modifications will be done to this channel because it is hoped that the lake will rise and inundate the portion of the fishway that is outside the right of way.
4. USBR will re-design the replacement of the Pyramid Lake Fishway Ladders assuming existing flow capacity with use of the existing conveyance channels.
5. The new designs will be completed with the following assumptions:
  - a. 50 ft<sup>3</sup>/sec flow
  - b. Each ladder will be replaced independently to keep incremental project costs down
  - c. Two options for each ladder will be designed (rock fishway and chevron weirs)
  - d. No modifications to the existing fishway conveyance channels
6. USBR will start work on the new fishway design as soon as possible but not later than Nov 2012.

The morning of January 25, 2012 Bryan and Brent met Lisa Heki and Stephanie Byers from the USFWS and followed them to the Walker River Headcut Stabilization project near Schurz, NV. Several individuals representing the Walker River Piute Tribe (WRPT) and the Bureau of Indian Affairs (BIA) were waiting at the site. The site visit was arranged to determine if existing conditions from 3 years ago had changed after last year's large sustained flow in the Walker River.

BIA indicated to all parties involved that the Walker River would be dry during the site visit. Rain and snow that fell a few days before the visit prevented this, and river flows remained around 150 ft<sup>3</sup>/sec during the visit. A comparison between previous years and the current conditions were conducted using old photographs of the site at approximately the same flow rate. From the visual comparisons it appears that the majority of the site is similar to previous conditions with the exception of the scour that is occurring at the old siphon pipe.

A photograph from July 14, 2010 (Figure 1) is compared to one taken during the visit (Figure 2). On July 14, 2010 with 80 ft<sup>3</sup>/sec of flow in Walker River the majority of the flow passes over the siphon pipe. There is a small portion of the flow that has scoured under the siphon pipe on the left bank of the river (looking downstream). The depth of the original scour hole was unknown at the time of the photograph. On January 25, 2012 with almost double the flow in the river (150 ft<sup>3</sup>/sec) it is apparent that the scour hole has increased in size and moved more central to the channel. All the flow is passing under the siphon pipe. A large debris pile has accumulated over the year and half and is forcing the main river flow to concentrate along the left half of the river (looking downstream). This concentration of flow increases the river velocity and appears to be increasing the scour and possibly moving the headcut upstream. The amount of additional scour and location of the upstream headcut was unable to be determined from due to the flow in the river.



Figure 1 - 80 ft<sup>3</sup>/sec flow over siphon on 7-14-2010 (small portion near left bank has scoured under the siphon)



Figure 2 - 150 ft<sup>3</sup>/sec flow under siphon on 01-25-2012 (all flow is now under the siphon, scour on left bank is larger and more central)

After viewing the headcut at the site, a meeting with the WRPT and several other agencies was held at the WRPT administration building. The meeting was to discuss the status of the headcut stabilization project, possible construction timelines and funding sources. Due to large estimated cost of the project the USFWS service is looking to cost share the project with other agencies. A representative from the National Fish and Wildlife Foundation (NFWF) attended the meeting as a possible cost share partner.

The following items were determined during both the site visit and meeting:

1. BIA and WRPT irrigation season is typically mid April to mid October.
  2. Construction window is October-November (corresponding to reservoir re-filling). December weather typically provides for large unpredictable flows down the river.
  3. Once the contract is awarded BIA will coordinate Weber Dam releases with the construction schedule to minimize Walker River flows.
  4. BIA requested that the re-seeding requirements be changed to
    - a. Prefer hydroseeding and hydromulching (option #3 in the current spec)
    - b. Remove the following seeds because they won't grow
      - i. Big Sagebrush
      - ii. Rubber Rabbitbrush
      - iii. Inland Saltgrass
      - iv. Alkali Sukaton
  5. BIA will coordinate with USBR to dry the river so the existing scour can be determined. The current target date is Friday Feb 17, 2012.
  6. USBR will re-assess quantities and costs after a determination of the additional scour is made.
  7. BIA will remove the large pile of debris that has accumulated upstream of the siphon pipe the week of Feb 13, 2012.
  8. WRPT will seek cooperation of adjacent landowners during the construction window.
  9. WRPT & USFWS will determine who the applicant of the grant will be.
  10. WRPT & USFWS will put together a pre-proposal to submit to the NFWF for cost sharing grant money by the end of Feb.
  11. NFWF is looking for a cost share of around 50%.
  12. NFWF grant money is good until the end of 2014.
  13. NFWF grant process will take a minimum of 3 to 4 months after the process starts.
  14. USBR will need a minimum of 4 to 6 months time after funding is secured to finalize the spec, put it out to bid and issue the contract.
  15. Considering the minimum time frame to receive the grant and issue the contract starting construction in Oct of 2012 is unrealistic. USBR suggests a target construction start date of Oct 2013.
  16. USBR will discuss with the Willows construction office if the Oct-Nov of 2013 time frame is possible for construction oversight.
5. Conclusions: The trip was successful and USBR received clear direction from USFWS on how to proceed with the Pyramid Lake Fishway and the Walker River projects.

Travelers: Bryan Heiner, Brent Mefford

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**SIGNATURES AND SURNAMES FOR:**

**Travel to:** Reno, NV & Schurz, NV

**Dates of Travel:** January 24-26, 2012

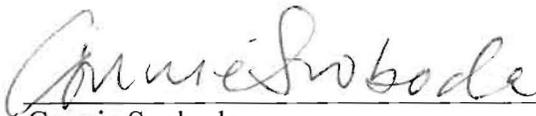
**Names and Codes of Travelers:** Bryan Heiner and Brent Mefford, 86-68460

**Travelers:**

  
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Bryan Heiner 2-8-2012  
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**Noted and Dated by:**

  
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Robert F. Einhellig, Manager 2/8/12  
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