

**I. Project Title: General Hydrology Support**

**II. Principal Investigator:**

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**III. Project Summary:**

The Service's Division of Water Resources provides basic hydrology support to Recovery Program researchers and undertakes tasks to support the Recovery Program in basic data collection and monitoring projects. Accomplishments during FY 2009 include: collecting temperature data on the Green River and four sites on the Gunnison River, and assembling a temperature database for use by Recovery Program researchers providing technical hydrology support for a wide range of Recovery Program activities on a year-to-year basis; and coordinating other Recovery Program efforts relating to hydrology and temperature analysis.

**IV. Study Schedule: Initial Year - 1990, Final Year - Ongoing.**

**V. Relationship to RIPRAP:**

General Recovery Program Support Action Plan

I.A.4.b. Conduct needed Geomorphology research and monitoring.

Green River Action Plan: Mainstem

I.A.3. Deliver identified flows

Colorado River Action Plan: Mainstem

I.E. Evaluate and revise as needed flow regimes to benefit endangered fish populations.

Colorado River Action Plan: Gunnison River

I.D. Evaluate and revise as needed flow regimes to benefit endangered fish populations.

**VI. Accomplishments of FY 2009 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:**

**A. Temperature Data Collection**

Temperature data collection went well during FY-2009. Thermographs reside at four locations on the Gunnison River, five locations on the Colorado River, and seven locations on the Green River. Thermographs are checked periodically and calibrated with on-site temperature readings. Temperature data collection on the Colorado River by CRFP was

consolidated in this Scope of Work beginning in FY- 99 and a separate budget table is included for this work, the information for all these gages can be found at: <http://www.r6.fws.gov/riverdata/>.

## **B. Hydrology Support for Biological Opinion Development and Monitoring**

- Monitored water releases from Flaming Gorge, Ruedi, and the Aspinall Unit for endangered fish during the spring runoff and baseflow period.
- Provided hydrologic appendix for the Aspinall BO.
- For the second consecutive year obtained a temporary water right from Utah with an existing Ouray NWR claim to fill grow-out ponds at Baeser Bend.
- The Water Acquisition Committee worked with the Utah at four public meetings to protect Flaming Gorge releases, task force was formed to model and consider option other than year-round subordination.
- Legislation has been drafted for repayment of Ruedi water to introduce in spring 2010.
- The PIT Tag GIS is current to 2008, imagery changed from USDA to ESRI's USA Prime Imagery. Work continues to be done to improve the stability. IMOS and Hillshade were converted to improve the speed of use. Below is the link and passwords:

<http://64.186.69.129/fishdata/viewer2.asp>  
Username: fishdata  
Password: razorback

## **C. Hydrology Support for Development of Flow Recommendations**

- Consulted on the Million in the Green and Shell Oil the Yampa River proposals.
- CROS coordinated a spring peak release of at 47,783 af for the 15-mile reach, the highest volume since CROS began (average 25,000 af)
- 10825: In 2007 East and West Slope stakeholders initiated a collaborative process to analyze a wide range of alternatives to supply 10825 Water to the 15-mile Reach on a permanent basis. Approximately 25 different alternatives were assessed. In January 2009 water providers identified a preferred alternative to release 5,425 af from Ruedi Reservoir and 5,425 af from Granby Reservoir during base flows. Excess storage capacity in Green Mountain Reservoir would be utilized to re-time the scheduled releases from Granby Reservoir to optimize benefits in the 15 Mile Reach.
- Coordinated positive bi-annual Grand Valley Water Users meetings.
- Presented hydrologic updates at Implementation, Management and researchers meetings.
- Coordinated revised review schedule for sediment study by Cory Williams of the USGS.
- Provided NOAA minimum flow targets in pilot project at 10 sites in the UCRRP.
- Coordinated flows with USGS for transit loss study in Elkhead Creek.
- Requested and received draft flood stage analysis for Cameo by the Weather Service.

## **VII. Recommendations:**

The work undertaken by Service's Region 6 Division of Water Resources is, for the most part, in support of other research projects or activities such as flow delivery, flow quantification, and habitat restoration, all of which have a direct impact on the recovery of the Colorado River endangered fish. The direct quantification of the success of many of the activities is difficult because most of the activities are long-term in nature.

- Continue to monitor and coordinate water releases from the mainstem Colorado Reservoirs, Flaming Gorge, Elkhead and the Aspinall Unit for endangered fish.
- Obtain the third consecutive temporary water right for grow-out ponds at Baeser Bend.
- Work with the new WAC sub group to protect Flaming Gorge releases in critical habitat.
- Facilitate Travis Francis, USFWS Biologist in Grand Junction, taking over coordination of PIT Tag GIS database to coincide with his Access database.
- Participate in finalizing 10825 EA for 5,425af from Ruedi Res. and 5,425af from Granby Res.
- Institute new flood stage analysis for Cameo by the Weather Service.
- Tabulate the requirements of the Flaming Gorge BO/ROD/Study Plan (similar to the spreadsheets for 15MR PBO and Yampa PBO). Review terms and conditions of the Flaming Gorge BO (e.g., gaging adequacy, temperatures, etc.) and UCREFRP's involvement in 2011.
- Participate in re-initiation of Phase 3-Coordinated Facilities Operation Study.
- Finalize Price and White River's flow recommendations,

VIII. Project Status: Ongoing and on-track.

IX. FY 2009 Budget Status:

- A. Funds provided: \$122,078
- B. Funds expended: \$112,951
- C. Difference: \$ 9,127 (carried into FY 10)

X. Status of Data Submission: Not applicable.

XI. Signed: Jana Mohrman  
Principal Investigator

January 20, 2010  
Date: