

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 2008 include: 1) collecting temperature data at 10 sites on the Green River and four sites on the Gunnison River, and assembling a temperature database for use by Recovery Program researchers; 2) coordinating development of a sediment monitoring program; 3) providing technical hydrology support for a wide range of Recovery Program activities on a year-to-year basis; and 4) 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 2005 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

A. Temperature Data Collection

Temperature data collection went well during FY-2005. Thermographs will be installed at four locations on the Gunnison River, five locations on the Colorado River, and seven

locations on the Green River. The thermographs will be 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 these gages can be found at: <http://www.r6.fws.gov/riverdata/>

B. Hydrology Support for Biological Opinion Development and Monitoring

- Monitor 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 public to protect Flaming Gorge releases in 4 meetings in Utah.
- Legislation was promoted for repayment of Ruedi water.
- Reviewed Colorado's depletion report and with the WAC's meeting notes clarified the PBO's intent.
- The PIT Tag GIS is current to 2008. The imagery changed from USDA to ESRI's USA Prime Imagery. Work continues to be done to improve the stability. IMOS and hillshade were also converted to improve the speed of use. (http://server.arcgisonline.com/ArcGIS/rest/services/I3_Imagery_Prime_World_2D/MapServer).

C. Hydrology Support for Development of Flow Recommendations

- Proposals consulted on were the Million in the Green and Shell Oil the Yampa River.
- 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 5,400 af from Granby Reservoir during the summer. Also, 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. This alternative is preferred for the following reasons:
 - Coordinated positive bi-annual Grand Valley Water Users meetings
 - Presented mod-wet hydrologic conditions for peak flows at Implementation, Management and Research meetings. Base flows dropped due to lack of summer precipitation
 - The sediment study by Cory Williams of the USGS has been delayed six months.
 - Provided NOAA minimum flow targets in pilot project at 10 sites in the UCRRP
 - Coordinated flows with USGS in 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.

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

X. Status of Data Submission: Not applicable.

XI. Signed: Jana Mohrman
Principal Investigator

November 20, 2009
Date: