

**2009 PROPOSED SCOPE OF WORK for:**

**Project #: 8**

Operation and Maintenance of Gages

Lead Agency: U.S. Fish and Wildlife Service

Submitted by: Division of Water Resources  
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Category:

- Ongoing project
- Ongoing-revised project
- Requested new project
- Unsolicited proposal

Expected Funding Source:

- Annual funds
- Capital funds
- O&M funds
- Other (Section 7)

I. Title of Proposal: Operation and Maintenance of Gages Important to the Recovery Implementation Program.

II. Relationship to RIPRAP:

<u>Task #</u>	<u>Task Description</u>
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**Colorado River Action Plan**

I.A.3.c.(3)(a) Deliver Ruedi flows to the 15-Mile Reach.

**Green River Action Plan**

I.A.3 Deliver identified flows

**Yampa River Action Plan**

I.B.2a.(2)(b) Elkhead Reservoir delivery flows for endangered fish

I.A.4a.(3)(e) Install and/or operate gages

**Duchesne River Action Plan**

I.C. Legally protect and deliver identified flows.

I.D. Coordinate reservoir operation

I.F. Determine the need and feasibility of additional gaging.

III. Study Background/Rationale and Hypotheses:

Over the years, the Recovery Program has identified a need to expand flow gaging in the basin to support development of flow recommendations, quantify sediment movement, and administer water secured for endangered fish. This Scope of work consolidates the Recovery Program gaging program and identifies the contributions of cooperating agencies. Cooperators are the Colorado State Engineers Office and the Central Utah Water Conservancy District. Utah gages are funded with Program O&M funds that are passed through to cooperating agencies. Colorado gages are funded directly by the Recovery Program by funds administered by the Bureau of Reclamation.

IV. Study Goals, Objectives, End Products:

Provide a basis for refining the flow recommendations for the important stream reaches of the Colorado, Yampa, Price and Duchesne Rivers.

Provide a benchmark for future monitoring by video or aerial photography.

Gages will be used to aid scheduling releases from Ruedi, Wolford Williams Fork Elkhead and Green Mountain Reservoirs and other water sources which may be acquired by the Recovery Program.

Provide basic information for sediment modeling for the Little Snake and Yampa Rivers.

Upgrade gaging to provide reliable system for monitoring flows along the lower Duchesne River.

V. Description of Past Performance:

The Palisade gage has been operating continuously since 1990. The gages on the Duchesne and Uinta Rivers have been operating for 4 years. Gages on the Yampa River have been operating continuously since 1996. 2007 will be the second year of operation for the Williams Fork Creek gage.

VI. Study Area:

Colorado, Green, Yampa, and Duchesne Rivers.

VII. Study Methods/Approach:

The Recovery Program will work with cooperators to contract with for the operation of gages important to the Recovery Program.

VIII. Task Description and Schedule:

- A. Operate and maintain the Palisade (15-Mile Reach) gage installed in FY-90 by the Recovery Program.
- B. Operate and maintain the two gages installed on the Yampa River installed in FY-97 by the Recovery Program. Recent funding shortfalls have resulted in the Recovery Program funding 1/4 of the cost of the Craig gage on the Yampa River. The gage on the Yampa River above Elkhead Creek and the Gage on Williams Fork are needed to administer releases from the enlarged Elkhead Reservoir.
- C. Operate and maintain the gages installed on the Duchesne and Uinta Rivers installed in FY-97 by the Central Utah Water Conservancy District. The Recovery Program will cost-share in the operation of this gage.
- D. Operate and maintain the temperature equipment installed on the Duchesne and Uinta Rivers installed in FY-97 by the Central Utah Water Conservancy District. The Recovery Program will cost-share in the operation of this gage.
- E. Operate and maintain the temperature equipment installed on the Jensen Utah gage installed in FY-98 for the Recovery Program. The Recovery Program will cost-share in the operation of this gage.

F. Operate and maintain the gage installed on the Price River during the summer of 2000. The gage was requested by the Biology Committee. River stage/flow and temperature will be collected. The Recovery Program will cost-share in the operation of this gage.

IX Proposal for new gage at the near Ouray NWR Green River

A. Study Goals, Objectives, End Products:

Provide a basis for refining the flow recommendations for critical habitat on the Green River near Ouray. The objective of this work is to accurately gage discharge on the Green River through Ouray National Wildlife Refuge. A Doppler gaging station will be installed and operated near the Highway 88 bridge by the U.S. Geological Survey. Using this type of gage, the backwater effects from the tributaries just downstream should be mitigated and an accurate accounting of instantaneous and mean daily stream flows made possible. Installation of this new gage is \$34,000 but to operate in the future it will be \$14,500 or just like other gages.

B. Description of Past Performance:

The Green River Gage at Ouray operated from 1947 to 1966 but because of the backwater effects of the Dushesne and the White rivers confluence downstream the gage was discontinued. The Green River at Jensen gage has been in continuous operation since 1946 but is a significant distance upstream and several tributaries enter the Green River between the two.

X Study Schedule: Typically gages are operated on a October to September fiscal year. Because of the change over to direct funding by Reclamation, the 2009 Operation of the Colorado gages begins January 1, of 2008, and continues through September 30, 2009.

Real time provisional data is available on the web at :

<http://waterdata.usgs.gov/co/nwis/current/?type=flow> <http://www.usgs/nwis.gov> The data is published in March of each year and is available in USGS annual water resource data reports. Historic data is also available on the web but usually lags two years because of quality assurance procedures and the volume of data which must be processed by USGS. The temperature for Lodore, Jensen and Deerlodge is available at:

[http://waterdata.usgs.gov/nwis/uv?multiple\\_site\\_no=404417108524900%0D%0A09260050%0D%0A09261000&search\\_site\\_no\\_match\\_type=exact&index\\_pmcode\\_00010=5&index\\_pmcode\\_82292](http://waterdata.usgs.gov/nwis/uv?multiple_site_no=404417108524900%0D%0A09260050%0D%0A09261000&search_site_no_match_type=exact&index_pmcode_00010=5&index_pmcode_82292)

**XI 2009 Budget**

	<b>COST</b>	<b>UCRIP</b>	<b>USGS</b>	<b>CWCB/SEO</b>
<b>Funds go to Colorado State Engineers Office Steamboat Springs</b>				
Williams Fork Creek near Craig	\$ 9,240	\$7,000	\$0	\$2,240
<b>Funds go to USGS Grand Junction</b>				
Yampa and Lodore Temperature	\$ 8,400	\$8,400	\$0	
Yampa River Near Craig ¼ of O/M	\$ 3,790	\$3,790	\$0	
Colorado River Near Palisade	\$15,150	\$15,150	\$0	

Yampa River Above Elkhead Creek	\$15,150	\$15,150	\$0	
				\$6,290 *
Yampa River Below Little Snake	\$15,150	\$6,290	\$0	\$2,570
<b>SubTotal</b>	<b>\$66,880</b>	<b>\$55,780</b>	<b>0</b>	<b>\$11,100</b>
Funds go to Central Utah Project Green River near Jensen (DCP & Temp)	<b>COST</b>	<b>CUWCD</b>	<b>USGS</b>	
	\$4,900	\$2,700	\$2,200	
Duchesne River near Randlett	\$14,500	\$7,975	\$6,525	
Duchesne River above Randlett	\$14,500	\$7,975	\$6,525	
Uinta River at Randlett	\$14,500	\$7,975	\$6,525	
Duchesne River near Randlett (Temp)	\$2,450	\$1,350	\$1,100	
Price River Flow and (Temp)	\$21,950	\$12,075	\$9,875	
Duchesne R. at Myton	14,500	\$7,975	\$6,525	
Green River at Ouray NWR	34,000	\$34,000		
<b>SubTotal</b>	<b>\$121,300</b>	<b>\$82,025</b>	<b>\$39,275</b>	<b>\$0</b>
<b>GRAND TOTAL:</b>	<b>\$188,180</b>	<b>\$137,805</b>	<b>\$39,275</b>	<b>\$11,100</b>

\* NPS will fund \$2,570 of this gage and USBR SLC will fund \$6290

## Contact Information

The Williams Fork Contract should go to:

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Colorado USGS Gages

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Utah Gages

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XII Reviewers: Recovery Program Staff Robert Muth, Angela Kantola Recovery Programs Water Acquisition Committee