

# UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2020 ANNUAL REPORT

PROJECT: 8

## **Project Title**

Basin-Wide Stream Gage Operation & Maintenance

## **Bureau of Reclamation Agreement Numbers:**

R16PG00077 Colorado USGS Contract	End date: 09/30/25
R16PG00079 Utah USGS Contract	End date: 09/30/26
R12AP40009 State of Colorado	End date: 09/30/23

## **Project/Grant Period:**

Start date: 1990

End date: As indicated above for each contract

Reporting period end date: 09/30/2020

Is this the final report? Yes \_\_\_\_\_ No X

## **Principal Investigator:**

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## **Abstract:**

The Upper Colorado River Recovery Program employs the nation's streamflow measurement expert, the U.S. Geological Survey, to provide data to assist in measuring and protecting streamflow for endangered fishes and other Program partner purposes. It also engages the Colorado State Engineer's Office to measure one streamflow site in the Yampa River basin on a seasonal basis.

The USGS operates and maintains the gages as specified in their Cooperative Agreement with the Bureau of Reclamation. A complete inventory of these sites and the entities supporting operation and maintenance of those sites is provided in the attached table. USGS produces daily flow and temperature records, which are checked and posted to the internet. Near real-time data are available as provisional data on the internet and can be found at: [http://waterwatch.usgs.gov/?id=ww\\_current](http://waterwatch.usgs.gov/?id=ww_current)

River runoff in Water Year 2020 was below normal in most of the upper Colorado Basin. See the 2020 Annual Report for Hydrology Support (Project #19) for detailed information on 2020 hydrology. Real-time USGS streamflow data were critical in helping managers operate reservoirs to benefit fish habitat while meeting other management and delivery needs.

## **Study Schedule:**

1990 - Ongoing

## **Relationship to RIPRAP:**

Colorado River Action Plan I.A.5: Legally protect in stream flows pursuant to Colorado River PBO;  
Green River Action Plan I.A.3.d Operate Flaming Gorge Dam to provide flows;

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Duchesne River Action Plan; I.A; Identify year-round flow needs for recovery  
Yampa River Action Plan; I.A.1; Identify fish habitat and flow needs.

### **Accomplishment of FY 2020 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:**

Operations generally ran smoothly in WY2020. There were relatively few gage malfunctions in WY2020, although algal growth and beaver dams temporarily interfered with reliable gage operations at certain sites. The USGS was prompt, responsive and transparent in identifying and rectifying malfunctions as they occurred. USGS staff also participated regularly throughout the 2020 irrigation season in the weekly Colorado River HUP flow coordination calls (coordinated by the Bureau of Reclamation), and in the weekly Yampa River flow coordination calls (coordinated by the Program Director's Office).

### **Additional noteworthy observations:**

Several upper basin watersheds were afflicted by extensive wildfire in 2020. This included the Pine Gulch Fire in forested terrain north of Grand Junction, Colorado, and the Grizzly Creek fire on both sides of the Colorado River upstream of Glenwood Springs. In response, the USGS acted aggressively to monitor additional river quality parameters in real-time, including measurements of dissolved oxygen, pH, and turbidity at three stations (Colorado River near Cameo #09095500, Colorado River above South Canyon Creek near Glenwood Springs #09085150, and Colorado River above Glenwood Springs #09071750). They also installed a real-time web camera at the Cameo and Above Glenwood Springs gage locations. These were installed using USGS funds at no cost to the Recovery Program. We anticipate that this additional real-time monitoring will allow for more timely and effective response to future basin runoff events, including runoff from burned areas, which could threaten Colorado River water quality and fish habitat.

### **Recommendations:**

Continue with these stream gaging locations. Seek additional cost-sharing partners for selected gages.

### **Project Status:**

On-track and ongoing. All these gages are operational and the data are available on the Internet in real-time from the USGS Water Resources Division in Colorado and Utah.

### **FY 2020 Budget Status**

UCREFRP FY 2020 Cost	\$165,073 (sum of CO and UT for USGS and Colorado SEO)
Wyoming Contribution	<u>\$ 29,488</u>
Total	\$194,561

RIP costs BOR paid to USGS in FY 2020 to USGS Colorado (Grand Junction office): \$41,977 (state line gage included). RIP funding to the Utah USGS: \$117,200.

The attached Table 1 shows the actual FY2020 costs by gage. Actual costs were somewhat lower than budgeted within the FY2019-20 Scope of Work (\$194,561 versus the total budgeted \$201,881.) One continuous temperature gage shown in the FY2019-2020 Scope of Work table (Duchesne River above Uintah River near Randlett) does not exist and has been removed from Table 1.

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## **Status of Data Submission**

Not applicable, data reside on the internet.

## **Signed:**

Don Anderson  
Principal Investigator  
12/10/2020

## **Cooperators:**

### **Colorado USGS gages**

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Western Colorado Data Section Chief  
US Geological Survey - WRD  
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### **Utah USGS Gages**

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### **State of Colorado**

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Colorado Division of Water Resources  
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### **USBR Contract Coordinator**

Robert Radtke  
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Bureau of Reclamation  
handling the contract for the Recovery Program  
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**Table 1.**

List of river gage sites, measured parameters, cost-share responsibilities, and actual FY 2020 costs are summarized below.

FY 2020 Actual Expenditures				Cost-share Responsibilities						FY2020 Cost Share		
ID	Site	Parameter	FY2020 Cost (Total)	Recovery Program	State of WY	CWCB	CRWCD + City of Craig	USBR	USGS	Recovery Program Share	State of WY share	CWCB share
<b>Yampa River Basin</b>												
CO WMFKMHCO	Williams Fork near Hamilton, CO	Flow	5,896	100%		0%				\$ 5,896	\$ -	\$ -
USGS #09244490	Yampa River above Elkhead Creek, CO	Flow	17,780	50%	50%					\$ 8,890	\$ 8,890	\$ -
USGS #09247600	Yampa River below Craig, CO	Flow	17,780		25%		75%			\$ -	\$ 4,445	\$ -
USGS #09260050	Yampa River at Deerlodge Park, CO	Flow	17,780	50%	50%					\$ 8,890	\$ 8,890	\$ -
USGS #09260050	Yampa River at Deerlodge Park, CO	Temperature	4,560	20%	80%					\$ 929	\$ 3,631	\$ -
<b>Mainstem Colorado River</b>												
USGS #09106150	Colorado River near Palisade, CO	Flow	17,780	100%						\$ 17,780	\$ -	\$ -
USGS #09163500	Colorado River at Colo-Utah State Line	Temperature	4,560	100%						\$ 4,560	\$ -	\$ -
<b>Green River</b>												
404417108524900	Green River above Gates of Ladore, CO	Temperature	4,560	20%	80%					\$ 928	\$ 3,632	\$ -
USGS #09261000	Green River near Jensen, UT	Flow	16,800	0%					100%	\$ -	\$ -	\$ -
USGS #09261000	Green River near Jensen, UT	Temperature	5,550	100%						\$ 5,550	\$ -	\$ -
USGS #09272400	Green River at Ouray, UT	Flow	16,800	100%						\$ 16,800	\$ -	\$ -
<b>Duchesne River</b>												
USGS #09295100	Duchesne River abv Uinta R nr Randlett, UT	Flow	16,800	100%						\$ 16,800	\$ -	\$ -
USGS #09301500	Uinta River nr Randlett, UT	Flow	16,800	100%						\$ 16,800	\$ -	\$ -
USGS #09302000	Duchesne River near Randlett, UT	Flow	16,800	100%						\$ 16,800	\$ -	\$ -
USGS #09302000	Duchesne River near Randlett, UT	Temp	5,550	50%				50%		\$ 2,775	\$ -	\$ -
USGS #09302000	Duchesne River near Randlett, UT	Conductance		0%				100%		\$ -	\$ -	\$ -
USGS #09295000	Duchesne River at Myton, UT	Flow	16,800	100%						\$ 16,800	\$ -	\$ -
<b>Other</b>												
USGS #09314500	Price River near Woodside, UT	Flow	22,100	100%						\$ 22,100	\$ -	\$ -
USGS #09314500	Price River near Woodside, UT	Temp	5,550	50%				50%		\$ 2,775	\$ -	\$ -
USGS #09314500	Price River near Woodside, UT	Conductance		0%						\$ -	\$ -	\$ -
<b>TOTALS</b>										<b>\$ 165,073</b>	<b>\$ 29,488</b>	<b>\$ -</b>

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**ANNUAL PERFORMANCE PROGRESS REPORT (PPR)**

BUREAU OF RECLAMATION AGREEMENT NUMBERS:

**Utah** USGS Contract: R16PG00079

End date: 9/30/26

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Project Title: Basin Wide Stream Gage Operation & Maintenance

Principal Investigator:

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Project/Grant Period: Period of performance: FY2020 these gages are funded year round and this activity is ongoing.

Performance: All partners are very helpful and this project ran smoothly in 2020.

**USGS:** both in Utah and Colorado the USGS runs all aforementioned stream gages year-round during all types of weather and flow conditions. The USGS is the nation's expert in collecting and reporting stream flow data.

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**ANNUAL PERFORMANCE PROGRESS REPORT (PPR)**

BUREAU OF RECLAMATION AGREEMENT NUMBERS:

State of Colorado Contract: SEO R14AP40009

End date: 9/30/23

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