

I. Project Title: Basin-Wide Stream Gage Operation & Maintenance

II. Bureau of Reclamation Agreement Number(s):

Project/Grant Period: Start date 1990

CO USGS Contract: R16PG00077

End date: 9/30/25

State of Colorado: SEO R12AP40009

End date: 9/30/18

(New grant anticipated for FY19-23)

UT USGS Contract: R16PG00079

End date: 9/30/26

Reporting period end date: 09/30/2017

Is this the final report? Yes _____ No x

III. Principal Investigator:

Don Anderson

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IV. 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.

The USGS operates and maintains the gages as specified in their Cooperative Agreement with the Bureau of Reclamation. USGS produces daily flow and temperature records, which are checked and posted to the internet. Near real-time data are available as provisional on the internet and can be found at: http://waterwatch.usgs.gov/?id=ww_current

River runoff in Water Year 2018 was well below normal in most of the upper Colorado Basin, with the exception of the upper Green River basin (above Flaming Gorge Dam) which had near-normal runoff. See 2018 Annual Report for Hydrology Support (#19) for more details on 2018 hydrology. Real-time USGS streamflow data were critical in helping managers operate reservoirs to benefit fish habitat while meeting other management and delivery needs.

V. Study Schedule: Initial Year - 1990, Final Year - Ongoing

VI. 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;
Duchesne River Action Plan; I.A;
ID Year-round flow needs for recovery Yampa River Action Plan;
I.A.1; ID fish habitat and flow needs.

VII. Accomplishments: All is well, running smoothly. There were few gage malfunctions in WY2018, although algal production and accumulation at gage locations seemed to be particularly problematic in this very low-flow year. The USGS was prompt and transparent in identifying and rectifying the malfunctions as they occurred.

VIII. Additional noteworthy observations: N/A

IX. Recommendations: Continue with these stream gaging locations.

X. Project Status: On-track and ongoing. The gages are operational and the information is available on the Internet in real time from the USGS Water Resources Division in Colorado and Utah.

XI. FY 2018 Budget Status

UCREFRP FY 2018 Cost	\$157,931 (sum of CO and UT)
Wyoming Contribution	<u>\$ 28,878</u>
Total	\$186,809

RIP costs BOR paid to USGS in FY 2018 to USGS Colorado (Grand Junction office): \$40,731 (state line gage included). RIP funding to the Utah USGS: \$117,200.

XII. Status of Data Submissions: Not applicable, resides on the internet

XII. Signed: Don Anderson January 3, 2019
Principal Investigator Date

FY 2018 (CO and UT)				Breakdown of costs							
		Funding source		Labor	Admin	Facility	Equipment	Data Delivery	Vehicles	Travel	
		CWCB	UCREFR	COST							
Gage #	Funds go to Colorado State Engineers Office Steamboat Springs				41%	25%	10%	10%	7%	5%	2%
	Williams Fork Creek near Craig	\$3,041	\$9,122	\$12,162	\$3,740	\$2,281	\$912	\$912	\$639	\$456	\$183
	Funds go to USGS Grand Junction*										
9260050	Yampa @ Deerlodge (Temps)		\$4,891	\$4,891	\$2,005	\$1,223	\$489	\$489	\$343	\$245	\$98
9234500	Green River above Gates of Lodore		\$4,891	\$4,891	\$2,005	\$1,223	\$489	\$489	\$343	\$245	\$98
9247600	Yampa River near Craig ¼ of O/M (Flow)		\$4,314	\$4,314	\$1,769	\$1,078	\$431	\$431	\$302	\$215	\$87
9106150	Colorado River near Palisade (Flow)		\$17,254	\$17,254	\$7,074	\$4,314	\$1,726	\$1,726	\$1,208	\$863	\$345
9244490	Yampa River above Elkhead Creek (Flow)		\$17,254	\$17,254	\$7,074	\$4,314	\$1,726	\$1,726	\$1,208	\$863	\$345
9260050	Yampa River at Deerlodge (Flow)		\$17,254	\$17,254	\$7,074	\$4,314	\$1,726	\$1,726	\$1,208	\$863	\$345
9163500	Colorado River Stateline gage	-	\$3,734	\$3,734	\$1,531	\$934	\$373	\$373	\$261	\$187	\$74
	Colorado Total	\$3,041	\$78,714	\$81,755							
	UTAH		UCREFR	COST							
9314500	Price R.nr Woodside (Flow,Temp& Cond)		\$24,967	\$24,967	\$10,236	\$6,241	\$2,497	\$2,497	\$1,747	\$1,248	\$500
9302000	Duchesne R. Randlett (Flow, Temp & Cond)		\$19,611	\$19,611	\$8,040	\$4,902	\$1,961	\$1,961	\$1,373	\$980	\$393
9295100	Duchesne River above Uinta (Flow &Temp)		\$16,830	\$16,830	\$6,900	\$4,208	\$1,683	\$1,683	\$1,178	\$842	\$337
9272400	Green River at Ouray (Flow)		\$16,830	\$16,830	\$6,900	\$4,208	\$1,683	\$1,683	\$1,178	\$842	\$337
9261000	Green River nr Jensen (Temp only)		\$5,561	\$5,561	\$2,280	\$1,390	\$556	\$556	\$390	\$278	\$111
9301500	Uinta River nr Randlett (Flow)		\$16,830	\$16,830	\$6,900	\$4,208	\$1,683	\$1,683	\$1,178	\$842	\$337
9295000	Duchesne River at Myton (Flow)		\$16,830	\$16,830	\$6,900	\$4,208	\$1,683	\$1,683	\$1,178	\$842	\$337
	Utah Total		\$117,458								
	Subtotal UCREFRP FY 2018 (CO and UT)		\$196,173								
											minus Wyoming's contribution to Colorado USGS

Colorado USGS gages

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Utah USGS Gages

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USBR Coordinates Contract

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ANNUAL PERFORMANCE PROGRESS REPORT (PPR)

BUREAU OF RECLAMATION AGREEMENT NUMBERS:

Utah USGS Contract: R16PG00079

End date: 9/30/26

UPPER COLORADO RIVER RECOVERY PROGRAM PROJECT NUMBER: 8

Project Title: Basin Wide Stream Gage Operation & Maintenance

Principal Investigator:

Don Anderson

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Project/Grant Period: Period of performance: 2018 these gages are funded year round and this activity is ongoing.

Performance: All partners are very helpful and this project ran smoothly in 2018.

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.

ANNUAL PERFORMANCE PROGRESS REPORT (PPR)

BUREAU OF RECLAMATION AGREEMENT NUMBERS:

State of Colorado Contract: SEO R14AP40009

End date: 9/30/18

(Note: *new grant anticipated for FY19-23*)

UPPER COLORADO RIVER RECOVERY PROGRAM PROJECT NUMBER: 8

Project Title: Basin Wide Stream Gage Operation & Maintenance

Principal Investigator:

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Project/Grant Period: Period of performance: 2018 these gages are funded year round
and this activity is ongoing.

Performance: All partners are helpful and this project ran smoothly in 2018.

Colorado: CWCB pays for a third of the Williams Fork gage.