

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

**FY 2023 ANNUAL REPORT**

**PROJECT: 19B**

**Bureau of Reclamation Agreement Number:**

R20PG00024

**Project Title:**

Hydrology Support - Lower Gunnison and CO River Temperature Monitoring (Grand Junction FWCO contribution)

**Principal Investigator:**

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**Project/Grant Period:**

Reporting Start date: 10/01/2022  
End date: 09/30/2024  
Reporting period end date: 09/30/2023  
Is this the final report? Yes \_\_\_\_\_ No X

**Abstract:**

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. The work provided 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. One task is the collection of water temperature data in various reaches of upper basin rivers. Temperature monitoring duties are divided between the Division of Water Resources Regional Office staff (Denver) and the Grand Junction Fish and Wildlife Conservation Office (GJFWCO). The GJFWCO currently collects water temperature data from four sites on the mainstem Colorado River, four sites on the Gunnison River and one site on the Uncompahgre River. These data, along with those collected by the Water Resources staff for the Green, Yampa and Gunnison rivers are assembled into a temperature database for use by Recovery Program researchers.

**Study Schedule:**

1990 - Ongoing

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### **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; Identify year-round flow needs for recovery

### **Accomplishment of FY 2023 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:**

In FY-2023, temperature data from temperature loggers (StowAway brand TidbiT v2 Temp UTBI-001) was downloaded in the field between October 24 and October 26. One-hour interval readings were converted to daily means and then sent to Division of Water Resources when the site-specific daily-mean tables were completed in November 2023.

Temperature data collection began in 1986 and continues to present day at two Colorado River stations, Palisade (rk 292.8) and Walker (rk 264.7). Over the years other sites have been added or removed however currently sites are as follows: Rulison (rk 369.9), and Gold Bar in 1992 (rk 82.7). A site on the Gunnison River at rk 59.2 was added in May 2020 replacing the site at Gunnison River rk 56.3; one downstream of the North Fork confluence (rk 117.5), one at the NPS Never Sink recreation access area (just upstream of the Blue Mesa inflow), one on the Gunnison River just upstream of the confluence with the Uncompahgre River (Gunnison River rk 90.9), and one in the Uncompahgre River 0.87 rk upstream of the confluence with the Gunnison River. These additional Gunnison and Uncompahgre River sites were added in an effort to provide better data for future temperature modeling efforts for management of Aspinall Unit releases.

Annual data are summarized as mean daily temperatures in Excel spreadsheets following the format used by USGS in their Water Resources Data yearbooks. The PDO web enables and links them to the webpage: [Upper Colorado River Basin Data Repository - U.S. Fish and Wildlife Service \(fws.gov\)](https://www.fws.gov/ucrb).

### **Additional noteworthy observations:**

Below is a summary of information collected when tidbits were downloaded in the field at the end of the 2023 field season.

#### **Rulison** (10/24/2023)

Tidbits were located in water when retrieved. Both were successfully downloaded and relaunched at the same location.

#### **Uncompahgre in Delta** (10/24/2023)

Both tidbits were located in the water. They were retrieved and relaunched in the same locations. I collected UTM's for these locations as I was unsure if it has been done in the past. UTM's are as follows: Upstream 12s 0753299E 4293027N; Downstream 12s 0753287E 4293051N

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### **Gunnison Above the Uncompahgre Confluence** (10/24/2023)

Tidbit in downstream locations was still in the water, data was downloaded, and the tidbit was relaunched in the same location. Upstream location was found on bank as a result of human activity. Tidbit was moved upstream to a new location close by and relaunched. New location UTM's are 12s 0752907E 4293811N.

### **Gunnison River at RM 36.8** (10/24/2023)

Tidbit was found in water, only the last six inches of the cable were wet. Data appeared good at a glance. The tidbit was relaunched at the same location.

### **Never Sink** (10/25/2023)

Both Tidbits were located in the water at the upstream and downstream locations. Each had fishing line attached signifying that they have been tampered with however the data looked good. Both were downloaded and relaunched in same locations.

### **Gunnison Below North Fork** (10/25/2023)

Upstream tidbit was pulled and left high and dry on the cliff, apparently sometime around the end of august, relaunched in same location. UTM's for this location are 13s 0251930E 4295330N. Downstream tidbit was in water and in good condition, data was downloaded and relaunched in same location.

### **Walker** (10/26/2023)

Upstream tidbit was located in water and appeared to be in good condition, relaunched in the same spot after downloading. Downstream tidbit was located in water, and I was able to connect to it however I was not able to download data. I relaunched in the same location and intend to check tidbit this winter to insure that the logger isn't faulty.

### **Jug handle** (10/26/2023)

Both tidbits were in water and appeared to be in good condition, relaunched in same location. Checked old logger, debris pile was partially cleaned out however one more high water year and I will be able to retrieve it.

### **Recommendations:**

We recommend continuation of the current data collection efforts at the established sites.

### **Project Status:**

Ongoing. Temperature collection will continue through FY24. Temperature data collection and posting discussion occurring during FY24 will evaluate purpose, use, and personnel who will collect data in future years.

### **FY2023 Budget Status**

Funds Provided: Incorporated in GJ-FWCO field office budget

Funds Expended: NA

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### **Status of Data Submission**

See above also: The PDO web enables and links them to the webpage: [Upper Colorado River Basin Data Repository - U.S. Fish and Wildlife Service \(fws.gov\)](#).

### **Signed:**

Principal Investigator: Benjamin Schleicher

Date: Jan 5, 2024