

# UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2022 ANNUAL REPORT

PROJECT: C-180

## **Project Title**

Operation, maintenance, and evaluation of fish escapement barriers in Utah (Red Fleet and Starvation reservoirs)

**Bureau of Reclamation Agreement Number:** N/A

## **Project/Grant Period:**

Start date: NA

End date: NA

Reporting period end date: 09/30/2022

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

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## **Abstract:**

Neither Red Fleet Reservoir nor Starvation Reservoir spilled in 2022. Therefore, neither spillway screen were cleaned or checked for fish escapement. The Red Fleet Reservoir outlet screen was cleaned routinely during peak and base flows; only small-bodied fish were present. Trout were stocked in both reservoirs. Wiper and sterile Walleye were stocked into Red Fleet Reservoir.

## **Study Schedule:**

2015-Ongoing

## **Relationship to RIPRAP:**

This report provides details on the operation and maintenance of the screens at Red Fleet and Starvation Reservoirs. It also provides details on fish monitoring and stocking activities in these reservoirs. Screens assist us with keeping nonnative piscivorous fish from escaping reservoirs and getting into critical habitat.

General Recovery Program Support Action Plan

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- III. Reduce negative impacts of nonnative fishes and sportfish management activities (nonnative and sportfish management).
- III.A. Reduce negative interactions between nonnative and endangered fishes.
- III.A.2. Identify and implement viable active control measures.
- III.A.2.c. Evaluate the effectiveness (e.g., nonnative and native fish response) and develop and implement an integrated, viable active control program.
- III.B. Reduce negative impacts to endangered fishes from sportfish management activities.

### Green River Action Plan: Mainstem

- III.A. Reduce negative impacts to endangered fishes from sportfish management activities.
- III.A.4. Develop and implement control programs in river reaches occupied by the endangered fishes to identify required levels of control. Each control activity will be evaluated for effectiveness, and then continued as needed. See III.A.2.c.1&2. Under General Recovery Program Support Action Plan
- III.A.4.e. Develop lake management plan for Red Fleet Reservoir to address Walleye escapement.
- III.A.4.f. Install and operate permanent fish barrier at Red Fleet Reservoir

### Green River Action Plan: Duchesne

- III.A. Reduce negative interactions between nonnative and endangered fishes.
- III.A.3.b. Evaluate escapement of nonnative fishes from Starvation Reservoir and the feasibility of screening.
- III.A.3.b.(1) If feasible and necessary, screen Starvation Reservoir.
- III.A.3.b.(2) Develop a management strategy to address escapement of Walleye (and Smallmouth Bass) from Starvation Reservoir. UDWR 2014.
- III.A.3.b.(3) Implement recommendations from the escapement strategy.

## **Accomplishment of FY 2022 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:**

### Red Fleet Reservoir

#### *Screen Operation and Maintenance*

Red Fleet did not spill this year so the spillway screen was not cleaned. The outlet screen was cleaned once per month overwinter (once flows went to baseflow), but inspected twice a month. When flow releases were increased in the spring for irrigation, cleaning occurred at least 2 times per week, 3 times if needed. This schedule was maintained until flows were once again returned to base flows. Seepage through the dam next to the screen was inspected during every visit. Mountain Sucker (*Catostomus platyrhynchus*) and Mottled Sculpin (*Cottus bairdii*) were the only fish species noted in the screen.

#### *Fish Monitoring and stocking*

Approximately 100 Pond King Honey Hole structures were installed around Red Fleet Reservoir in November 2021 for forage fish habitat. Nighttime electrofishing was conducted on June 23, 2022. No Walleye (*Sander vitreus*) were captured during this effort. Species captured include Bluegill (*Lepomis macrochirus*; 58.3 fish/hr), Largemouth Bass (*Micropterus salmoides*; 13.7 fish/hr), Black Crappie (*Pomoxis nigromaculatus*; 1.7 fish/hr), Wiper (*Morone chrysops x saxatilis*; 41.2 fish/hr), and Yellow Perch (*Perca flavescens*; 6.9 fish/hr). We stocked 2499 fingerling Tiger Trout (*Salmo trutta x Salvelinus*

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*fontinalis*), 13,664 2.25" sterile Walleye, 26,628 fingerling Rainbow Trout (*Oncorhynchus mykiss*), and 702 sub-catchable (7") wiper into Red Fleet in the federal FY22.

### Starvation Reservoir

#### *Screen Operation and Maintenance*

The temporary screen is installed and working well. Starvation did not spill in 2022 and we therefore did not treat the stilling basin; however, the stilling basin was treated post-2021 spill on November 9. As is typical, only a few Yellow Perch, Walleye, and Rainbow Trout were observed post-treatment.

The UDWR is working with partners to design and install a more permanent barrier downstream of the stilling basin. Permitting will be completed in fall/winter 2023-24 (including payment to the ULT mitigation bank as there is ULT habitat at the screen site). In addition, the BOR will pour the concrete foundation once permits are in hand (anticipated to be summer 2024) and DWR will hire a contractor to fabricate and deliver the screen to the site by June 30, 2024. We anticipate screen installation in fall 2024.

#### *Fish monitoring and stocking*

A bioenergetics study was completed on Starvation Reservoir during the state's FY22. A copy of that report is available upon request. Forage fish sampling was completed over summer 2022. Rainbow Trout were stocked (numerous excess stocks of fingerling fish throughout the year plus the normal quota of 60k 10" fish in the fall).

#### **Additional noteworthy observations:**

Big-eared radix (*Radix auricularia*) numbers increased exponentially in the Red Fleet screen this year.

#### **Recommendations:**

Continue to operate the Red Fleet and Starvation screens.

Continue to pursue construction of the permanent Starvation screen.

#### **Project Status:**

Ongoing

#### **FY2022 Budget Status**

Funds Provided: \$0

Funds Expended: No Recovery program dollars were expended this year.

Percent of the FY 2022 work completed: 100%

Recovery Program funds spent for publication charges: -\$0

#### **Status of Data Submission**

N/A

#### **Signed:**

Sarah Seegert

Trina Hedrick

Principal Investigator

Date 12/1/2022