

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM

FY 2023 ANNUAL REPORT

PROJECT(s): 180

Project Title

Operation, maintenance, and evaluation of fish escapement barriers and sportfish management actions in the Colorado River basin within Utah

Bureau of Reclamation Agreement Number:

Not Applicable

Project/Grant Period:

Start date: 10/01/2022

End date: 09/30/2023

Reporting period end date: 09/30/2023

Is this the final report? Yes No

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Abstract:

This report covers operation, maintenance, and effectiveness monitoring of fish screens on Utah reservoirs in the Colorado River basin. We also summarize activities related to the installation and/or upgrade of new fish escapement barriers, implementation of the Nonnative Fish Stocking Procedures, ongoing efforts to increase and promote the use of sterile gamefish in appropriate reservoirs, and continued efforts to prevent illicit stocking of fish.

Study Schedule:

2015-Ongoing

Relationship to RIPRAP:

General Recovery Program Support Action Plan

- III. Reduce negative impacts of nonnative fishes and sportfish management activities.
- III.B.2. Implement the Nonnative Fish Stocking Procedures
- III.B.7. Increase activity to prevent illicit stocking.

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Green River Action Plan

II.A.4.f. Install & operate permanent fish barrier at Red Fleet Reservoir.

Green River Action Plan: Duchesne River

III.A.3.b.(1) Screen Starvation Reservoir

Accomplishment of FY 2023 Tasks and Deliverables, Discussion and Shortcomings:

Red Fleet Reservoir

Screen Operation and Maintenance

Red Fleet did not spill this year so there was no need to clean the spillway screen. It was, however, extremely close to spilling, so the spillway screen was monitored during spring runoff to ensure that it would hold in the event of a spill. 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 1-4 times per week, depending on the amount of debris and vegetation. Most of the summer, it was cleaned 3 times per week (and even 4 times per week in August), but crews were able to drop it to 1 time per week by late September. Seepage through the dam next to the screen was inspected during every visit. Mountain Sucker and Yellow Perch were the only fish species noted in the screen. Mountain suckers are present in Brush Creek and so do not represent escapement from the reservoir. Yellow Perch do represent escapement; few were reported over the year (<12).

Fish Monitoring and stocking

Nighttime electrofishing was conducted on July 5, 2023 (see electrofishing results table below). Gill nets were set May 10, 2023 and pulled the next morning (see gill netting results table below). Young-of-year Bluegill and Yellow Perch were more plentiful than what is suggested in the tables below. In the future, we may attempt sampling with fyke nets to better capture this component of the fishery. We stocked 1,600 6" tiger trout, 1,420 3.48" sterile Walleye (July 20) and 14,910 3" Black Crappie (May 4) into Red Fleet in the federal FY23 as part of our normal sportfish quota. We also stocked thousands of fingerling trout to help the forage base and also increase winter catch rates (some of these trout will survive and enter the creel in 1-2 years). Due to low forage fish numbers in 2022, we did not stock any wipers. We also transferred 67 adult Flannelmouth Sucker from Starvation to Red Fleet to restore that species to the reservoir (Flannelmouth Sucker were treated out during the 2015 rotenone treatment). Transferred fish averaged 20" and are being monitored for the use of Red Fleet/Brush Creek and ability to reproduce and recruit.

Red Fleet electrofishing results:

Red Fleet e-fishing July 5, 2023		
Species	Count	CPUE (fish/hr)
BGL	6	8.0
BLC	3	4.0
FMS	1	1.3
LMB	5	6.7
WPR	2	2.7
YPR	33	44.0

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Red Fleet gill netting results:

Gillnetting May 10-11, 2023		
Species	count	CPUE (fish/net hr)
BGL	1	0.02
BLC	5	0.10
FM	12	0.23
LMB	3	0.06
MWF	3	0.06
RBT	1	0.02
TGT	2	0.04
WAE	1	0.02
WPR	41	0.80
YPR	1	0.02

Starvation Reservoir

Screen Operation and Maintenance

The temporary screen did not hold up well to the higher flows observed in spring 2023. Repair work to the screen began the week of Sept 19, 2023 (flows were high enough during the spill (June-July) that replacement of defective sections was not possible during the spill). Damage was most predominant in the four panels in the center of the channel and resulted in fish escapement, unfortunately. The spillway stilling basin was treated on October 4, 2023. Numerous adult Smallmouth Bass (SMB) were observed as were young-of-year SMB. This species was the most predominant. Other species included three Brown Trout, five young-of-year Yellow Perch, three Brook Stickleback, two Green Sunfish, and one White Sucker. This was the first year that we observed White Sucker in the stilling basin and they likely moved up from the Strawberry River during the spill. This was also the first year that no Rainbow Trout or Walleye were observed post-treatment. These species still could have been present, we just did not see them.

The UDWR is working with partners to design and install a more permanent barrier downstream of the stilling basin, outside of the Primary Jurisdiction Zone. Permitting will be completed in fall/winter 2023-24. In addition, the BOR will pour the concrete foundation once permits are in hand and after the 2024 spill is over (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

Forage fish sampling was completed over summer 2023; Yellow Perch appear to be making a comeback. We suspect this is a result of angler harvest helping remove the 11"-14" Walleye that have been overabundant in recent years. Though we have not implemented a regulation change, we have outreached effectively to our anglers and requested that they take their limits of these smaller fish. Rainbow Trout were stocked (the normal quota of 60k 10" fish in fall 2022 and numerous excess stocks of fingerling fish in spring 2023 plus a stock of 400 11" RT in late May 2023). In addition, because Black Crappie have not "taken off" in the reservoir, we are attempting to improve the population of another forage species (Bluegill). Bluegill have been reported for many years in small numbers without our assistance; in 2023, we stocked 115,000 fingerling Bluegill and transferred 500 adults in an effort to bolster this population and see if the species will recruit better than Black Crappie.

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Joes Valley Reservoir

Escapement monitoring and stocking

Visual and angling surveys were conducted below Joes Valley Reservoir during the summer of 2023 to detect escapement of tiger muskie and salmonids. No escapement was detected nor have there been angler reports of escaped non-native fish downstream of the reservoir. Given this, there are at this time no plans to install an outlet screen at Joes Valley Reservoir.

Scofield Reservoir

Escapement monitoring and stocking

Visual and angling surveys were conducted below Scofield Reservoir during the summer of 2023 to detect escapement of tiger muskie, triploid walleye, and salmonids. No escapement was detected nor have there been angler reports of escaped non-native fish downstream of the reservoir. Given this, there are at this time no plans to install an outlet screen at Scofield Reservoir.

Prevention of Illicit Stocking

The Utah Division of Wildlife Resources has coordinated efforts within the Colorado River Fish and Wildlife Council to develop a toolkit intended to prevent illegal fish movement and stocking. This toolkit was finished spring 2023. The toolkit summarizes illegal fish introductions in the basin and specifically recommends the development and implementation of targeted messaging intended to educate the public about these introductions. Discussions will continue with the goal of developing and distributing targeted messaging during 2024.

Additional noteworthy observations:

Big-eared radix (snail) numbers continued to be very high in the Red Fleet screen in late summer this year.

Recommendations:

- Continue to operate the Red Fleet and Starvation screens.
- Continue to pursue construction of the permanent Starvation screen.

Project Status:

Ongoing

FY2023 Budget Status

Funds Provided: \$0

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

Percent of the FY 2023 work completed, and projected costs to complete: 100%

Status of Data Submission

N/A

Signed:

Trina Hedrick

Principal Investigator

10/03/2023