

COLORADO RIVER RECOVERY PROGRAM
FY 2017 ANNUAL PROJECT REPORT

RECOVERY PROGRAM
PROJECT
NUMBER: C29a/138

I. Project Title: GRCC Canal Salvage

II. Bureau of Reclamation Agreement Number(s)

USFWS Vernal: R15PG00083

Project/Grant Period: Start date (Mo/Day/Yr): 10/01/2014

End date: (Mo/Day/Yr): 09/30/2019

UDWR Moab: R14AP00007

Project/Grant Period: Start date (Mo/Day/Yr): 05/01/2014

End date: (Mo/Day/Yr): 09/30/2018

Reporting period end date: 09/30/2016

Is this the final report? Yes _____ No X

III. Principal Investigators:

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IV. Abstract: During November 2016 sampling of the Green River Canal, Utah Division of Wildlife Resources and United States Fish and Wildlife Service personnel captured and translocated five endangered Colorado pikeminnow (*Ptychocheilus lucius*), one bonytail (*Gila elegans*), and twelve unidentified native chubs (*Gila spp.*) to the mainstem Green River. Additionally, we recovered one razorback sucker mortality from the canal; the first since salvage sampling began in 2014. We also translocated seven bluehead suckers (*Catostomus discobolus*), seventy flannelmouth suckers (*Catostomus latipinnis*), and twenty-two speckled dace (*Rhinichthys osculus*). These native fish were released alive in the mainstem Green River downstream of the Tusher diversion dam.

V. Study Schedule: 2014-ongoing

VI. Relationship to RIPRAP:

GREEN RIVER ACTION PLAN: MAINSTEM

II.B Restore native fish passage at instream barriers.

VII. Accomplishment of FY 2017 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

With permission from landowners and assistance from canal company staff, UDWR Moab and USFWS Vernal crews sampled the canal via single-pass backpack electrofishing during 14-16 November 2016 (total effort = 9.2 hours). As in previous years, sampling was timed to coincide with de-watering.

Five endangered Colorado pikeminnow were captured in the canal. Total lengths of Colorado pikeminnow ranged from 180 to 60 mm. None were previously marked, and we PIT-tagged the three individuals > 150 mm TL prior to translocation. We also captured one adult bonytail (TL= 282 mm) which was previously marked with a PIT tag. Intra-canal mortalities included one PIT-tagged razorback sucker, the first encountered during this project, which was preserved.

Other native fish captures included five age-1 *Gila spp.* (median TL=132 mm) and seven age-0 *Gila spp.* (median TL=51mm). We scanned *Gila* 150 mm in TL or greater for PIT tags and implanted tags if none were present. We also captured seven bluehead suckers, 71 flannelmouth suckers and 22 speckled dace. One flannelmouth sucker was recovered dead. Excepting intra-canal mortalities, we translocated all native fish to the mainstem Green River downstream of the Tusher diversion dam.

To document possible return of fish to the river from the canal during sluicing, we deployed two Biomark submersible PIT antennas between sluice gates and the Green River during de-watering. These submersible antennas detected no tags.

VIII. Additional noteworthy observations:

Eight non-native species were encountered during sampling. White sucker (*Catostomus commersonii*) captures increased conspicuously to 38 individuals (4.1 fish/hour) from a single individual in each of the previous sampling events. White sucker and green sunfish (*Lepomis cyanellus*) were removed from the canal and euthanized. Additionally, we collected brook stickleback (*Culaea inconstans*) for the first time during this project, and preserved the lone specimen. All other non-native fish were tallied by species and returned to the canal alive. Fish captures are summarized in Table 1.

IX. Recommendations:

- Continue to salvage native fish from the Green River Canal until a permanent fish exclusion system is in place. Consider sampling after the fish exclusion system is in place to evaluate success.
- Continue to coordinate operation of sluice gates and other flow control structures to reduce canal water levels prior to sampling.
- Canal salvage has done little to elucidate the fates of the over 1,600 individual fishes detected by the Green River Canal PIA. Though effective in most of the

canal system, electrofishing equipment cannot sample underground siphons which convey irrigation water beneath drainage features crossing the canal path. Remote deployment of PIT interrogators into siphons during FY2018 sampling may provide insight into whether these features retain fish after canal draining.

X. Project Status: Ongoing

XI. FY 2017 Budget Status

- A. Funds Provided: \$10,154 (UDWR), \$10,088 (USFWS)
- B. Funds Expended: \$10,154 (UDWR), \$10,088 (USFWS)
- C. Difference: \$0
- D. Percent of the FY 2017 work completed: 100%
- E. Recovery Program funds spent for publication charges: \$0

XII. Status of Data Submission:

USFWS data were compiled and submitted to database manager in January 2017.

XIII. Signed: Zach Ahrens, & M. Tildon Jones
Principal Investigators

March 2017
Date

Table 1. Green River Canal fish captures, November 2016.

Species	Number of fish
bluehead sucker (<i>Catostomus discobolus</i>)	7
bonytail (<i>Gila elegans</i>)	1
brook stickleback (<i>Culaea inconstans</i>)	1
channel catfish (<i>Ictalurus punctatus</i>)	19
Colorado pikeminnow (<i>Ptychocheilus lucius</i>)	5
common carp (<i>Cyprinus carpio</i>)	391
fathead minnow (<i>Pimephales promelas</i>)	23
flannelmouth sucker (<i>Catostomus latipinnis</i>)	71
green sunfish (<i>Lepomis cyanellus</i>)	15
razorback sucker (<i>Xyrauchen texanus</i>)	1
red shiner (<i>Cyprinella lutrensis</i>)	1100
sand shiner (<i>Notropis stramineus</i>)	64
speckled dace (<i>Rhinichthys osculus</i>)	22
unidentified chub (<i>Gila spp.</i>)	12
white sucker (<i>Catostomus commersonii</i>)	38

ANNUAL PERFORMANCE PROGRESS REPORT (PPR)

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Performance: During November 2016 electrofishing (total effort=9.2 hours) of the Green River canal system, Utah Division of Wildlife Resources and United States Fish and Wildlife personnel salvaged five endangered Colorado pikeminnow (*Ptychocheilus lucius*), twelve native chubs (*Gila spp.*), seven bluehead suckers (*Catostomus discobolus*) and seventy flannelmouth suckers (*Catostomus latipinnis*). These fish were released alive into the Green River mainstem. Data was submitted to the database manager in January 2017 and an annual report was provided in March 2017.