

COLORADO RIVER RECOVERY PROGRAM
FY 2012 ANNUAL PROJECT REPORT

RECOVERY PROGRAM
PROJECT NUMBER: C-29a

I. Project Title: **Retrieval of fish from the Grand Valley Irrigation Company and Grand Valley Water Users canals**

II. Bureau of Reclamation Agreement Number(s): R10PG40039

Project/Grant Period: Start date: 10/1/2006
End date: 9/30/2012
Reporting period start/end date: 10/1/2011 to 9/3/2012
Is this the final report? Yes X No

III. Principal Investigator(s):

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IV. Abstract:

A fish screen was constructed on the Grand Valley Irrigation Company (GVIC) irrigation canal in winter 2001 – 2002 becoming fully operational a few years later. A fish screen was completed in the summer of 2005 for the Grand Valley Water Users (GVWU's) Canal becoming fully operational during the spring of 2010. However, during events when debris overloads the screens (3/32-inch spacing) and water cannot pass through them to provide water down canal to irrigation users and for power generation, the irrigation companies have the option of lifting the screens and diverting water through the bypass channel allowing fish to become stranded in the canal when it is dewatered during the fall. While the fish screens are intended to bypass larger juvenile and adult fish back to the river, larval fish entrained into the canals from the river can freely pass through the 3/32-inch wedge wire spacing and become entrained. After the 2011 water season, 18,762 fish were salvaged from the canals and returned to the river.

V. Study Schedule:

A. initial year: 2002
B. final year: Ongoing

VI. Relationship to RIPRAP: Colorado River Action Plan: Colorado River; II.B.1.b. Screen GVIC diversion canal to prevent endangered fish entrainment; II.B.3.b. Screen Government Highline diversion canal to prevent endangered fish entrainment

VII. Accomplishment of FY 2012 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

A. FY-2012 Tasks and Deliverables:

Task 1. Sample GVIC and GVWU canals; remove native fish and re-locate to the Colorado River.

Task completed.

B. Findings (2011 Highlights)

Fish salvage is conducted by driving major portions of the canals looking for pools of water that contain fish after the irrigation water is turned off for the year. Irrigation water diverted from the Colorado River during the spring and summer months for irrigation and power generation are halted usually in early November. The pools are sampled with truck-mounted electrofishing or seines. All native fish collected are identified and loaded into a hatchery truck, transported, and ultimately released in the Colorado River. Total numbers of native fish collected and transported are recorded. Nonnative fish encountered are usually left in the canal. Sampling ceases usually immediately prior to Thanksgiving or until ice becomes too thick in the remaining pools to effectively collect fish.

Grand Valley Irrigation Company

Parts of the canal were sampled from the diversion dam head works in the Colorado River to 22 Road in the fall (early- to mid- November of 2011). Sampling was limited to areas where the roads were dry enough to avoid damaging the road surface by our heavy vehicles. Crews traveled the canal road and sampled every pool encountered that could hold fish.

A total of 710 fish were collected. This comprised of 428 sub-adult and adult flannemouth suckers, 258 roundtail chub, 17 bluehead sucker, 3 speckled dace, 2 endangered razorback sucker, 1 flannemouth x bluehead sucker hybrid, and 1 mountain whitefish. One of the razorback sucker collected was stocked in the Colorado River at river mile (RMI) 185.1 in 2009, and was recaptured twice in the spring of 2010 between Colorado River RMI 185 and 187. The second razorback sucker was stocked in the Colorado River at RMI 227.6 in 2010. As in previous years, most of the fish were collected in the upper portion of the canal between 32 Road and the headworks (Appendix; Table 1). A running total of all native fishes collected in this canal from 2002-2011 is provided in Appendix; Table 1. However, effort varied considerably among these nine years and, therefore, direct comparison of individual fish species collected and

the total number collected among years is not advisable.

Grand Valley Water User's (Highline Canal)

The Highline Canal was sampled from the point at which the canal enters the Grand Valley east of Palisade to about 18 Road when the roads were dry enough to travel in the fall (early- to mid- November of 2011). As with the GVIC canal, sampling crews traveled the canal roads searching for pools of water that might hold fish.

A combined total of 18,052 fish comprising 16,813 roundtail chub, 808 flannelmouth sucker, 328 speckled dace, 77 bluehead sucker, 19 mottled sculpin, 3 endangered razorback sucker, 3 mountain whitefish, and 1 flannelmouth X bluehead sucker hybrid were collected. Most of the roundtail chub, bluehead sucker, and flannelmouth suckers were small juveniles. The greatest numbers of fish (17,480; 97 %) were collected in a 0.4 mile reach of the canal between 35.3 and 35.7 Roads west of Palisade. At this one site, juvenile roundtail chub comprised about 93% of all fish collected. A vast majority of the roundtail chub collected in the Highline Canal were mostly age-0 and age-1 fish. All three razorback sucker collected in GVWU were stocked during the middle of October in the Colorado River at RMI 227.6 in 2011.

A running total of all native fishes collected in this canal from 2002-2011 is provided in Appendix; Table 2. However, effort varied considerably among these nine years and, therefore, direct comparison of individual fish species collected and the total number collected among years is not advisable.

VIII. Recommendations:

- A. Continue operating the fish screens.
- B. Continue late-fall salvage operations to re-locate native fish that either are entrained into the canal system when the screens are not operational or pass between the 3/32-inch wedge wire screen spacing (e.g., larval fish).

IX. Project Status: "On track and ongoing"

X. FY 2012 Budget Status

- A. Funds Provided: 30,094
- B. Funds Expended: 30,094
- C. Difference: -0-
- D. Percent of the FY 2012 work completed, and projected costs to complete: 100%
- E. Recovery Program funds spent for publication charges: -0-

XI. Status of Data Submission (Where applicable): Will be submitted to UCRRP database by January 2012.

XII. Signed: Travis Francis 10/31/2012
Principal Investigator Date

APPENDIX: Tables

Table 1. Total numbers of native fish collected by species and by year from 2002-2011 in the Grand Valley Irrigation Company Canal.

2002-2011 GVIC Canal Fish Salvage										
	Native Fish Species ^a									
Location	FM	BH	FM X BH	RT	SD	MF	MS	RZ	CS	TOTALS
32 Rd- Head works	4	0	0	1	3	1	0	0	0	
12 th Street- 30.5 Rd	166	8		21	0	0	0	0	0	
Lakeside- 22 Rd	258	9	1	236	3	0	0	2	0	
12 th Street Siphon	NS	NS		NS	NS	NS	NS	NS	NS	
All Totals (2011)	428	17	1	258	6	1	0	2^d	0	
All Totals (2010)	571	4	0	478	80	0	0	0	0	1,061
All Totals (2009)	877	48	0	79	232	4	0	0	0	1,240
All Totals (2008)	892	59	0	150	0	0	0	1 ^b	0	1,102
All Totals (2007)	128	3	0	35	0	0	0	0	0	166
All Totals (2006)	2,252	123	0	1,322	0	0	0	1 ^c	0	3,698
All Totals (2005)	897	80	0	730	0	0	0	0	0	1,707
All Totals (2004)	1,783	22	0	588	26	0	0	0	0	2,419
All Totals (2003)	---	---		---	---	---	---	---	---	2,908
All Totals (2002)	---	---		---	---	---	---	---	---	3,371

^a Fish Species: FM-flannelmouth sucker, BH-bluehead sucker, RT-roundtail chub, SD-speckled dace, MF=mountain whitefish, MS-mottled sculpin, RZ-razorback sucker, CS-Colorado pikeminnow

^b Stocked in the Gunnison River at Delta, CO, in 2002; recaptured once in the Colorado River in the Grand Valley in 2004.

^c Stocked in the Colorado River downstream of the GVIC diversion dam in September 2006. It moved upstream over the dam and into the canal during the intervening period.
NS: not sampled.

^d One was stocked in the Colorado River at river mile (RMI) 185.1 in 2009, and was recaptured twice in the spring of 2010 between Colorado River RMI 185 and 187. The second was stocked in the Colorado River at RMI 227.6 in 2010.

Table 2. Total numbers of native fish collected by species and by year from 2002-2011 in the Grand Valley Water User's Canal.

2002-2011 GVWUser's Canal Fish Salvage										
	Native Fish Species ^a									
Location	FM	BH	FM X BH	RT	SD	MF	MS	RZ	CS	TOTALS
18-26 Rd	49	2	0	376	30	0	0	0	0	
26 Rd-I-70	2	3	0	14	1	1	0	0	0	
I-70 East- 35.3Rd	11	2	0	59	21	0	1	0	0	
35.3- 35.7 Rd	746	70	1	16,364	276	2	18	3	0	
All Totals (2011)	808	77	1	16,813	328	3	19	3^e	0	
All Totals (2010)	1,517	88	0	23,299	1,043	30	0	0	0	25,977
All Totals (2009)	6,255	797	0	26,527	5,135	7	1	0	0	38,722
All Totals (2008)	738	77	0	754	23	6	0	0	0	1,598
All Totals (2007)	433	93	0	6,543	70	0	0	1	0	7,140
All Totals (2006)										
All Totals (2005)	722	173	0	3,815	48	0	0	0	1 ^b	4,759

All Totals (2004)	893	118	0	5,166	140	0	1	0	24^c	6,343^d
All Totals (2003)	---	---		---	---	---	---	---	---	~ 3,000
All Totals (2002)	---	---		---	---	---	---	---	---	~ 1,000

^a Fish Species: FM-flannemouth sucker, BH-bluehead sucker, RT-roundtail chub, SD-speckled dace, MF=mountain whitefish, MS-mottled sculpin, RZ-razorback sucker, CS-Colorado pikeminnow.

^b Stocked near Rifle, CO, in 2004.

^c Includes one wild Colorado pikeminnow stocked upstream at the Rulison Bridge, 5/10/2001.

^d Includes 1 flannemouth sucker X bluehead sucker hybrid.

^e Stocked during the middle of October in the Colorado River at RMI 227.6 in 2011.