

I. Project Title: ELECTROFISHING REMOVAL OF NON-NATIVE FISH FROM NURSERY HABITATS IN THE UPPER COLORADO RIVER

II. Principal Investigator(s):

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III. Project Summary:

Larvae, young-of-the-year, and yearling-sized Colorado pikeminnow are highly susceptible to predation by introduced centrarchids, i.e., largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanella*) and black crappie (*Pomoxis nigromaculatus*), which also inhabit Colorado pikeminnow nursery habitats. To date, catch rates of largemouth bass and green sunfish in the Colorado River have been highest in the upper reach, from the top of Westwater Canyon, Utah to Palisade, Colorado. During fall ISMP sampling in 1996, catch rates of largemouth bass in upper reach backwaters were the highest ever observed. Our goal is to increase the survival rate of age-0 Colorado pikeminnow and other native species through the reduction of piscivorous, nonnative centrarchids in riverine backwaters.

As in 1999 and 2000, two electrofishing passes were made in 2001 through the upper reach of the Colorado River in spring (April 4 - May 2) and two passes in fall (August 28-October 26): an electroshocking boat was used in one pass and a small walk-behind barge was used during the other pass. All reaches were covered except the 15-mile reach during fall when manpower constraints did not allow us to get there with the boat until late fall when water temperatures had already dropped too much to allow effective sampling. However, most backwaters there were covered with the barge. Many non-native centrarchids, carp, white suckers and black bullhead were removed. The three-year field effort for this project was completed with the fall 2001 work. A summary draft report will be completed in May 2002 and a final report by July 2002.

IV. Study Schedule: 1999-2002.

V. Relationship to RIPRAP: Colorado River Action Plan: III. A. Reduce negative interactions between nonnatives and endangered fishes.

VI. Accomplishment of FY 01 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Tasks

1. Remove nonnatives from backwaters: this task was met; many nonnatives were removed. What proportion was removed of those that were present is difficult to determine. The following numbers of fish were removed:

	1999	1999	2000	2000	2001	2001	Total
	Spring	Fall	Spring	Fall	Spring	Fall	
Black bullhead	124	132	881	359	579	844	2919
Black crappie	4	3	1	7	3	10	28
Bluegill	2	128	92	101	103	201	627
Channel catfish	13	0	20	42	13	13	101
Common carp	548	549	1354	1771	646	1619	6487
Green sunfish	1563	1515	2226	1836	1561	1683	10384
Largemouth bass	77	503	172	1700	439	1009	3900
Smallmouth bass	1	1	3	3	6	0	14
White sucker	278	328	906	302	661	736	3211
Northern pike	0	1	3	0	0	0	

These data indicate that the spring removal efforts do not have a significantly depletive effect, i.e. catch rates in fall were essentially unchanged from or even greater than those in spring (with a few exceptions to this). Comparing totals for 1999 with those of 2000, black bullhead, channel catfish, common carp, green sunfish, white sucker and largemouth bass increased in number, whereas black crappie, bluegill, smallmouth bass and northern pike remained about the same. Comparing totals for 2000 with those of 2001, black bullhead, bluegill and white sucker increased in number, whereas black crappie, smallmouth bass and northern

pike remained about the same. Total numbers of channel catfish, common carp, green sunfish and largemouth bass removed declined somewhat from 2000 to 2001. However, it did not appear that our efforts in 2000 had a significant impact on overall numbers and numbers collected in 2001 remained very high.

- VII. Recommendations: Determine whether this effort is having enough of an effect that increased survival of endangered fish can be anticipated. If so, additional years of removal effort may be recommended. If not, some other management strategy may be in order.
- VIII. Project Status: Project is ongoing and on-track. Field work was completed on schedule (with the exception of one reach being missed in fall 2001) and report writing is anticipated to begin in early 2002.
- IX. FY 2001 Budget
 - A. Funds Provided: 59,400
 - B. Funds Expended: 59,400
 - C. Difference: 0
 - D. N/A (BR projects)
 - E. Publication Charges 0
- X. Status of Data Submission: Capture records will be submitted to the database manager at the completion of the study.
- XI. Signed: *Doug Osmundson*, December 10, 2001.