

I. Project Title:

Electrofishing removal of nonnative 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.

Two electrofishing passes were made in 1999, 2000, and 2001 through the upper reach of the Colorado River in the spring (April 4–May 2) and two passes in the 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. Many nonnative centrarchids, carp, white sucker, and black bullhead were removed. The three-year field effort for this project was completed with the fall 2001 work. A summary draft report has been completed and reviews have been received from three peers. Additional comments from Biology Committee members are anticipated.

IV. Study Schedule: 1999–2002.

V. Relationship to RIPRAP:

COLORADO RIVER ACTION PLAN: MAINSTEM

III. Reduce negative impacts of nonnative fishes and sportfish management activities.

III.A. Develop and implement control programs in reaches of the Colorado River occupied by endangered fishes.

III.A.3. Nonnative cyprinids and centrarchids in nursery habitats.

II.A.3.b. Remove nonnative centrarchids from backwaters and other low velocity habitats.

VI. Accomplishment of FY 02 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1. Remove nonnatives from backwaters (1999–2001).

This task was accomplished; many nonnatives were removed. The proportion of nonnatives 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	756	881	367	579	844	3,551
Black crappie	4	3	1	6	3	10	27
Bluegill	2	128	92	104	103	201	630
Channel catfish	13	0	20	42	13	13	101
Common carp	548	710	1,354	1,765	646	1,619	6,642
Green sunfish	1,563	1,516	2,226	1,883	1,561	1,683	10,432
Largemouth bass	85	504	172	1,645	439	913	3,758
Smallmouth bass	1	3	14	3	6	0	27
White sucker	279	329	416	386	661	736	2,807

Northern pike	0	1	0	0	1	0	2
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These data indicate that the spring removal efforts do not have a significantly depletive effect (i.e., catch rates in the fall were essentially unchanged from or even greater than those in the spring, with a few exceptions). 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.

Task 2. Analyze and summarize data (2002). This was accomplished.

Task 3. Write final report (2002). A draft report was completed and sent out for peer review in October. This was five months behind schedule.

VII. Recommendations:

Future work should focus on determining the source of centrarchids (primarily self-sustaining within the river corridor or dependent on chronic colonization from off-channel ponds). Chemical eradication at select sites may be feasible during certain times of the year. This option should be explored. Electrofishing does not appear to be effective enough to result in a significant reduction of centrarchids or result in a positive response by endangered fish.

VIII. Project Status: Report preparation is behind schedule but is currently progressing through review and revision phase in a timely manner.

IX. FY 2001 Budget

- A. Funds Provided: \$13,000
- B. Funds Expended: \$13,000
- C. Difference: 0
- D. Percent of the FY 2002 work completed, and projected costs to complete: N/A
- E. Recovery Program funds spent for 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 6, 2002.

