I. Project title: Propagation Facilities, in the Grand Valley (24 Road Hatchery ,Horsethief Ponds, and grow-out ponds), for Captive Rearing of Endangered Fishes for the Upper Colorado River Basin.

II. Principal Investigator(s):

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III. Project Summary:

Captive rearing of endangered fish for the Upper Colorado River Basin began in the Grand Valley in 1992 with construction of The Horsethief Rearing Ponds. The Horsethief Rearing Ponds were put into operation to secure propagation facilities with adequate equipment and personnel for captive propagation of endangered species for the Recovery Program in the upper Colorado River Basin. Additional propagation facilities were needed to expand propagation efforts, therefore in 1996 The 24 Road Hatchery was constructed inside of an existing warehouse (donated by the Bureau of Reclamation) at 1149 24 Road, Grand Junction, CO. The Hatchery was expanded in the winter of 1998-1999, and now contains two separate water re-use systems. In addition to the hatchery expansion, eighteen ponds have been acquired and are used to grow razorbacks suckers for stocking into the Colorado, Gunnison, and San Juan Rivers.

A total of 65,600 1999 year-class fish were stocked in the ponds from which 12,562 harvested fish were stocked in the Colorado and Gunnison rivers. Another 34,112 fish were stocked in grow-out ponds but were left to overwinter. Combining the fish harvested from ponds and fish stocked directly from the hatchery a total of 25,822 1999 year-class razorback suckers were stocked into the Colorado River near Parachute, C0., and another 6,625 were stocked into the Gunnison River near Delta, CO. An additional 113,000 fry from the 2000 year-class were stocked into various ponds in May of 2000.

In April and May of 2000, razorback broodstock held at Horsethief Rearing Ponds were spawned and the eggs were transferred to the 24 Road Hatchery. A total of 29 family lots of fish were hatched. Hatching success varied from 1% to 95%. Approximately 250,000 fish were hatched from the 29 lots. In mid July, Colorado pikeminnow were collected from the Gunnison and Colorado Rivers and were taken to Horsethief for spawning. These fish were spawned and four family lots of eggs were produced and transferred to the 24 Road Hatchery.

None of these four lots of eggs hatched successfully.

IV. Study Schedule:2000

V. Relationship to RIPRAP: General Recovery Program Support Action Plan

IV.A. Genetic Management
IV.A.1. Augment razorback sucker
IV.A.4. Secure and manage genetic stocks in refugia
IV.C. Operate and maintain facilities

VI. Accomplishment of FY 2000 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

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More grow-out ponds were used this year, but the hatchery produced more fish in 1999 than could be stocked in the available pond space. To make room in the hatchery for the year 2000 production some of the largest 1999 fish were PIT tagged and stocked directly to the river in the early spring. In most cases ponds were stocked in higher than desired densities to move fish out of the hatchery. Some 1999 fish were left in the hatchery to attain stocking size and yet others were stocked in ponds that had been harvested early. Pond production varied between ponds for various reasons (See table 1). Some of these ponds are filled with 1999 year-class fish that will overwinter (See table 2). Whether these fish will be large enough to harvest in the spring or will have to be in the ponds for another growing season remains to be seen. Some ponds had a problem with *Lernia* sp. that caused extensive mortality. It will be necessary to treat these ponds in the future using FDA's policy for unapproved drugs in endangered and threatened fish. Some of the smaller ponds are susceptible to predators (birds, raccoon, and bullfrog). Most of the small ponds with low fish survival will not be used in 2001. These include the Devils Canyon (BLM) and Highline (State) ponds which were used at no cost to the program. Several acres of new pond leases are in the works and may be available by spring. Eight ponds totaling eleven acres were built near DeBeque, CO. and will be ready for use in 2001.

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into the Gunnison River near Delta, CO.

During May, June, and July of 2000, 113,000 razorback sucker fry from the 2000 spawning have been stocked into various ponds for grow-out. On May 23rd 20,000 fry representing two lots were stocked into West Avocet Pond, 20,000 fry representing two lots were stocked into East Avocet Pond, and 60,000 fry representing nine lots were stocked into Hidden Pond. These three ponds are located near Farmington, NM and these fish will eventually be stocked into the San Juan River. On June 7th, 10,000 fry from one lot were stocked into North Pond in Grand Junction, CO, for grow-out. On July 5th, 3000 fry representing three lots were stocked into golf course ponds in Page, AZ, for grow-out.

To fulfill the fish needs called for in Colorado's stocking plan several hundred more acres of grow out ponds will be needed. An effort is already underway to lease more ponds in the Grand Valley, and some ponds will be constructed on Bureau of Reclamation lands. It follows that as we acquire more ponds more equipment and man-power will also be needed.

As of November 30, 2000, approximately 125,000 razorback suckers (representing 29 family lots) are being reared at the 24 Road Hatchery.

Fish being held at Horsethief ponds for broodstock include the following:

Razorback suckers

8	Adult broodstock captured in the Grand Valley, the Colorado and San Juan arms of Lake Powell, and Etter's Pond.
6	Wild adults from the Green River.
30	1991 year-class, from Green River broodstock.
107	1992 year-class, F1's from original broodstock.
40	1994 year-class, F1's from original broodstock.
15	1995 year-class, from Green River broodstock.
166	1995 year-class, F1's from original broodstock.
5	1996 year-class, F1's from original broodstock.
68	1997 year-class, F1,s and F2,s from all broodstock.
200	1999 year-class, F1,s and F2,s from all broodstock.

VII. Recommendations: Continue management and operation of facilities to serve as a primary refuge for endangered fishes of the Upper Colorado River and expand as needed.

II Project Status: Project is ongoing and on track

IX. FY Budget:
A. Funds Provided:205.0
B. Funds Expended:205.0

C. Difference:-0-
D. Percent of the FY 2000work completed, and projected costs to complete
E. Recovery Program funds spent for publication charges:-0-

X. Status of Data Submission: NA

XI. Signed: Frank K. Pfeifer 12/08/00

APPENDIX:

See attached tables.

Table 1.

POND HARVEST
EARLY STOCKING, 4/4/00 - 5/26/00

POND NAME	SURFACE ACRES	# STOCKED	# HARVEST	%HARVEST	COMMENT
BLM 19 Rd.	2.5	2000	349	17.5	Left some fish to overwinter.
Devils Canyon 1	0.5	1707	10	0.5	Too many predators, will not use again.
Devils Canyon 2	0.75	1500	169	11.3	Lernia, lots of bullfrogs, will not use again.
Clymers	5.0	6500	3495	53.8	Very good growth.
City Dike Rd.	2.0	5583	271	4.8	Could not establish food chain, left to overwinter.
Elam 29 Rd.	3.5	5500	248	4.5	Lernia, left some fish to overwinter.
Heuton	1.0	1600	534	33.4	Good growth, left some to overwinter.
Morse	3.4	8500	3126	36.8	Left some fish to overwinter.
Peter's 1	1.0	5720	41	0.7	Lernia, moved 100 fish to winter in Peter's 4.
Peter's 2	1.0	8429	307	3.6	Lernia, moved 600 fish to winter in Peter's 4.
Peter's 3	1.0	6349	360	5.7	Lernia, moved 200 fish to winter in Peter's 4.
Peter's 4	1.0	3663	202	5.5	Lernia, left 500 small fish to winter in this pond.
State Parks 29 rd.	2.0	3178	2110	66.4	Very weedy, very low water, left some to winter.
State Highline 1	0.5	799	9	1.1	Too many predators, use will be discontinued.
State Highline 2	0.5	716	8	0.8	Too many predators, use will be discontinued.
State Highline 4	0.5	256	28	1.1	Too many predators, use will be discontinued.
	25.65	62000	11263	18.2	

Table 2.

PONDS STOCKED AFTER JUNE 1, OR RESTOCKED AFTER 1ST HARVEST

POND NAME	ACRES	# STOCKED	# HARVEST	%HARVEST	COMMENT
Brunet's	9.0	14824			Left to overwinter, lots of fish in test nets.
City Dike Rd.	2.0	3000			Left to overwinter.
Peter's 4	1.0	5500			Left to overwinter.
Morse	3.4	6250			Left to overwinter.
	15.4	29574			
Clymers (2nd stocking)	5.0	3600	1333	37.0	Drained pond, complete harvest.
Totals from table 1.	25.65	62000	11263	18.2	
	30.65	65600	12596	19.2	