

**COLORADO RIVER RECOVERY PROGRAM
FY 2006 ANNUAL PROJECT REPORT**

**RECOVERY PROGRAM
PROJECT NUMBER: 29a**

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. 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, numerous ponds have been acquired and are used to grow razorback sucker for stocking into the Colorado, Gunnison, and San Juan Rivers.

Broodstock are held at Horsethief Ponds and spawned in spring. Eggs are taken to the 24-Road Hatchery and hatched larvae are reared for about one year. After 1 year in the hatchery, fish are stocked into grow-out ponds where they are held for about 6 months. After additional growth in the ponds, fish are harvested and stocked into the Colorado, Green and Gunnison rivers in accordance with approved stocking plans.

IV. Study Schedule: 2006 to end of Recovery Program

- V. Relationship to RIPRAP:
General Recovery Program Support Action Plan
IV.A. Genetics Management
IV.A.4. Secure and manage the following species in refugia
IV.A.4.a. Razorback sucker
IV.A.4.a (2) Upper Colorado River
IV.B. Conduct annual fish propagation activities
IV.B.2. Implement integrated stocking plan
IV.C. Operate and maintain facilities
IV.C.2. Grand Valley endangered fish facilities
Green River Action Plan: Mainstem
IV.A.1.c. Implement (stocking) plan.
Colorado River Action Plan: Mainstem
IV.A.3.b Implement razorback sucker integrated stocking plan.
Colorado River Action Plan: Gunnison River
IV.A.3.b. Implement razorback sucker integrated stocking plan.
- VI. Accomplishment of FY 2006 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

24 Road Intensive Culture Hatchery

Prior to spawning in April, 2006, about 18,000 age-1 razorback suckers were stocked into various grow-out ponds in the Grand Valley from the 24-Road facility. These fish represented young from 19 different paired matings. Fish were stocked as a mixture of fish from each lot. Fish from the different lots were stocked in equal numbers in each pond. These fish were not PIT tagged so that individuals from the different lots will not be identifiable at harvest time.

As in 2005, some fish were held in the hatchery and reared to stocking size and then stocked directly into the Colorado and Green rivers to supplement fish reared in the grow-out ponds.

In 2006, a total of 2,816 razorback suckers were stocked into the Green River and 3,264 razorback suckers were stocked into the Colorado River directly from the intensive-culture hatchery (Table 1). We intend to repeat this process in 2007 to assist in meeting our propagation goals.

In April 2006, razorback broodstock held at Horsethief Rearing Ponds were spawned and the eggs were transferred to the 24 Road Hatchery. A total of 20 paired matings were made. Initial hatching success resulted in larvae from 19 lots (one small lot did not hatch). The hatchery is currently holding about 26,000 4—5 inch fish for stocking in 2007. About 18,000 of these fish will be stocked into grow-out ponds next spring and the remainder will be held in the hatchery until stocking size and stocked directly into the Green and Colorado rivers.

Horsethief Ponds

About 350 adult broodstock are currently being held in Horsethief Ponds. These fish will be used for future spawning. Adults are stocked into the Colorado River after they have served their purpose and have contributed to future generations. A total of 57 adult-size fish were taken from Horsethief ponds and stocked into the river last spring (Table 1). These fish were from lots that were no longer necessary for fish production.

Grow-out Ponds

In fall, 9,916 age-1 razorback suckers were harvested from grow-out ponds and stocked into the Colorado (4,434), Gunnison (2,666) and Green (2,816) rivers. Survival in the grow-out ponds ranged from very low to very high. Condition of harvested fish also varied among the ponds. Some of the fish were undoubtedly holdovers from previous years. All leased ponds required sampling with fyke nets which is less than 100% effective. We know that at least some of the leased ponds have holdovers which we will attempt to catch next spring. Some of these ponds are very deep and sampling with fyke nets is not effective under some conditions. Evaluation of management of the grow-out ponds is a continuous process. We implemented several management changes that increased production in some of our ponds. We are continuing to evaluate management options that will improve the survival and growth of razorback suckers in the grow-out ponds.

Stocking Summary

We stocked a total of 16,852 razorback suckers into the Colorado (7,756), Green (5,291) and Gunnison (3,805) rivers in 2006 (Table 1). This number exceeded our combined stocking target. However, we were not able to distribute the fish exactly as prescribed in the Propagation Plan.

The Propagation Plan calls for 3,310 fish stocked into the Colorado River upstream from the Grand Valley, 3,310 fish stocked into the Colorado River in the Grand Valley and 3,310 fish stocked into the Gunnison River upstream from Redlands Diversion Dam. No razorback suckers were stocked into the upper Colorado River because the fish screens were not in operation. However, the total number of fish stocked into the Colorado River in the Grand Valley exceeded our target for the two portions of the Colorado River. Because the Redlands fish screen was operational in 2006, we were able to stock razorbacks directly into the Gunnison River near Delta. In addition, some fish were stocked into an off channel pond that is connected to the Gunnison River at high water. As a result, our stocking goals for the Gunnison River were exceeded.

The Propagation Plan calls for stocking 4,965 razorback suckers into the middle Green River and we were able to stock 5,291 razorbacks into the Green River in 2006.

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

- II Project Status: Project is ongoing and on track

- IX. FY 2006 Budget:
 - A. Funds Provided: \$386,786
 - B. Funds Expended: \$386,786
 - C. Difference:-0-
 - D. Percent of the FY 2006work completed, and projected costs to complete: 100%
 - E. Recovery Program funds spent for publication charges:-0-

- X. Status of Data Submission: PIT tag numbers and data associated with stocked fish have been submitted to the data base.

- XI. Signed: Chuck McAda 11/13/06

Table 1. Number, size, source, and stocking location of razorback suckers stocked in 2006

FIELD STATION	SPECIES	SOURCE	STOCKING LOCATION	STOCKING SEASON	TOTAL NUMBER	AVERAGE LENGTH (MM)	SIZE RANGE (MM) MIN - MAX (SE)
Grd Jct FWS	Razorback Sucker	Horsethief Ponds	Colorado River in Grand Valley	Spring	57	434	319 - 576 (5.84)
Grd Jct FWS	Razorback Sucker	24 RD Hatchery	Colorado River in Grand Valley	Late Spring - Summer	3,264	308	187 - 490 (0.49)
Grd Jct FWS	Razorback Sucker	Grow-out Ponds	Colorado River in Grand Valley	Late Summer - Fall	4,434	283	147 - 517 (1.10)
Grd Jct FWS	Razorback Sucker	24 RD Hatchery	Green River near Green River UT	Summer	2,475	310	170 - 411 (0.75)
Grd Jct FWS	Razorback Sucker	Grow-out Ponds	Green River near Green River UT	Late Summer - Fall	2,816	305	172 - 434 (0.88)
Grd Jct FWS	Razorback Sucker	24 RD Hatchery	Gunnison River near Delta, CO	Summer	1,138	314	223 - 400 (0.86)
Grd Jct FWS	Razorback Sucker	Grow-out Ponds	Butch Craig Pond (Gunnison River)	Late Summer - Fall	768	190	122 - 375 (1.92)
Grd Jct FWS	Razorback Sucker	Grow-out Ponds	Gunnison River near Delta, CO	Fall	1,898	254	124 - 442 (1.42)
Grand Total					16,852		