

I. Project Title: Determination of survival during removal, transport, and holding of *Gila* spp. taken into captivity from rivers of the Dinosaur National Monument

II. Principal Investigator(s):

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III. Project Summary: The Yampa River humpback chub population has been in decline since 1990. Because of this the Recovery Program recommended that some humpback chub be brought into a hatchery to protect this species. In October 2007 biologists from the U.S. Fish and Wildlife Service, U.S. National Park Service, and Colorado Division of Wildlife, collected 400 young of year *Gila* species from backwaters in the Yampa River near Mantle Ranch. Two-hundred of them were taken to Ouray National Fish Hatchery in Utah, and 200 to the J.W. Mumma Aquatic Species Restoration Facility in Colorado.

The purpose of the project was to see if these fish could be successfully captured, transported, and reared in hatcheries. In addition, we wanted to create a genetic refugia for this species and potentially use them as future broodstock.

Survival of these fish over the past year has been very high (29 fish dead, survival rate 86%). The fish range in length from 150 to 200 mm. Because these fish are small, it's very difficult to identify them to species. To date, we have only been able to tentatively identified 29 of them as humpback chub. Because of this problem, the fish will be kept at the hatcheries until the spring of 2009 to give them more time to grow larger. It is hoped at that time we will be able to identify them as humpback or roundtail chub.

IV. Study Goals, Objectives, End Product:

Goal: To successful capture, transport, and rear wild humpback and roundtail chub in hatcheries to preserve population genetics.

Objectives:

To determine the best way to capture and transport Gila species from the Yampa River to Ouray National Fish Hatchery and Mumma State Fish Hatchery.

To compare catch rates of Gila species at different locations in critical habitat on the Yampa and Green rivers.

To develop fish culture techniques to rear Gila species in two hatcheries to preserve genetic integrity and survival of humpback chub.

To compare survival rates of Gila species at Ouray National Fish Hatchery and Mumma State Fish Hatchery.

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V. Study Schedule: The project was scheduled to run from October 2007 through October 2008. However, because the fish needed more time to grow to identify to species the project has been extend through May 2009.

VI. Relationship to RIPRAP:

GENERAL RECOVERY PROGRAM SUPPORT ACTION PLAN

IV. Manage genetic integrity and augment or restore populations.

IV.A. Genetics

IV. A. 4. Secure and manage the following species in refugia.. IV.A.4.c.

Humpback chub

IV.A.4.c. (4) Yampa Canyon

VII. Accomplishment of FY 2008 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings: The project found that YOY Gila species can be successful captured in large numbers using seines in backwater. It also found out that these fish can be successful transported to hatchery facilities over long distances using hatchery transportation trucks. Because the project caught so many fish (400) in one location, no other locations were sampled. Both hatcheries have been very successful rearing these fish in hatcheries. The only shortcoming of the project is that the fish require growing more than one year to allow for easier identification to species. Thus, this project has been extended from October 2008 to May 2009.

- VII. Recommendations: We have three recommendations. First, future projects need to go longer than one year to allow the fish to grow larger to help identify the fish to species. Second, genetic work needs to be conducted on the fish to determine genetic diversity. And third, if we are going to keep these fish as a genetic refugia and possible broodstock, then more fish need to be collected from other locations in the Yampa River and added to these fish in the hatcheries.
- VIII. Project Status: This project has been extended from October 2007 to May 2009 to make it possible for the fish to grow larger to facilitate identification to species.
- IX. FY 2008 Budget Status
- A. Funds Provided: \$10,133
 - B. Funds Expended: \$10,133
 - C. Difference: \$0
 - D. Percent of the FY 2008 work completed, and projected costs to complete: 100% of the project was completed and funds expended.
 - E. Recovery Program funds spent for publication charges: A publication is currently being prepared. The station will pay for publication costs.
- X. Status of Data Submission (Where applicable): All data has been submitted to the database manager.
- XI. Signed: Mark Fuller and Mike Montagne
Principal Investigator Date December 2008