

INTERIM REPORT

As Required by

THE ENDANGERED SPECIES PROGRAM

TEXAS

Grant No. TX E-91-R

Endangered and Threatened Species Conservation

Biological Monitoring of the Repatriation Efforts for the Endangered Rio Grande silvery  
minnow (*Hybognathus amarus*) in Texas

Prepared by:

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18 October 2012

INTERIM REPORT

STATE: Texas GRANT NUMBER: E-91-R

GRANT TITLE: Biological Monitoring of the Repatriation Efforts for the Endangered Rio Grande silvery minnow (*Hybognathus amarus*) in Texas

REPORTING PERIOD: 1 Oct 11 to 30 Sep 12

**OBJECTIVE(S):**

To monitor the status of repatriated Rio Grande silvery minnows (*Hybognathus amarus*) in the Big Bend region of Texas over three years.

**Segment Objectives:**

Oct - Dec 2008. Obtain from USFWS Rio Grande silvery minnow raised from eggs collected in the wild (preferred) or spawned in captivity.

Jan 2009. Stock fish in selected sites in Big Bend reach of Rio Grande identified as those in Big Bend Ranch State Park (Colorado Canyon, Madera or Grassy Banks or, Contrabando Canyon) and in Big Bend National Park (Mouth of Terlingua Creek, Santa Elena River Access, Hot Springs in BBNP or, the entrance to Boquillas Canyon).

2009-2010. Post Release Monitoring of Rio Grande silvery minnow populations in Big Bend reach of Rio Grande at time of introduction.

2010-2011. Monitoring of Rio Grande silvery minnow populations. Assessment of fish community structure and habitats where Rio Grande silvery minnows are found and a preliminary assessment of the habitat characteristics of areas where the species is not found for use in adaptive management of the restocking efforts.

**Significant Deviation:** None.

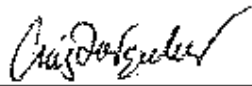
**Summary Of Progress:** Please see Attachment A.

**Location:** Brewster County, TX

**Cost:** Costs were not available at time of this report.

**Prepared by:** Craig Farquhar

**Date:** 18 October 2012

**Approved by:**   
C. Craig Farquhar

**Date:** 18 October 2012

## ATTACHMENT A

TPWD contract #186743 (E-91-1)

### **Biological Monitoring of the Repatriation Efforts for the Endangered Rio Grande silvery minnow (*Hybognathus amarus*) in Texas**

**Task: Monitoring of Rio Grande silvery minnow populations. Using the same monitoring protocols, the initial success of the original stocking will be assessed, especially whether year-1 fish have survived to year-2 and if they appear to have reproduced.**

During October 2011, Rio Grande silvery minnows from the federal hatchery in Dexter, NM were stocked for the fourth time. As with the first three stockings, approximately 500,000 individuals were stocked among the same four established stocking sites that were also stocked in previous years.

Post-release monitoring during the current reporting period occurred in October 24-25, 2011, February 21-22, 2012, and May 22-23, 2012 at or nearby the four release sites. During these monitoring samples, over 26,082 fishes were captured and identified.

Eleven Rio Grande silvery minnows were captured at two of the sites in the October 2011 monitoring, unlike previous years where none were taken; in February 2012, 39 specimens were taken at 7 of 9 sites sampled; and 3 individuals were collected from 1 site of 8 sampled in May 2012. It appears that there is survival of the introduced fishes; however, it has not been definitively shown that the conditions are such that allow for continued successful reproduction. Because of the limited numbers of individuals captured, and overlap between the sizes of adult specimens, it also remains unclear how many one-year old fish survive to year two, however, there is mounting evidence that this is occurring. As additional stockings occur, this relationship should become more clear.

**Task: Preliminary assessment of fish community structure and habitats where Rio Grande silvery minnows are found and a preliminary assessment of the habitat characteristics of areas where the species is not found for use in adaptive management of the restocking efforts.**

Rio Grande silvery minnows appear to be associated with creek mouths, often with some spring-flows, or in habitats present in the lower-most portions of creeks, especially Terlingua Creek. They tend to be found associated with structure (tree limbs, brush, etc.) in the winter months and in areas with thermal buffering during the summer. Areas with minimal currents remain highly correlated with Rio Grande silvery minnow occurrence such as backwaters and side channels.