

I. **Population Estimate of Humpback Chub in Black Rocks.**

II. Principal Investigator(s):

Chuck McAda, Project leader
Travis Francis, Fish Biologist
U.S. Fish and Wildlife Service
764 Horizon Drive, Building B
Grand Junction, Colorado 81506
(970) 245-9319; Fax 245-6933
E-mail: chuck_mcada@fws.gov
travis_francis@fws.gov

III. Project Summary:

Robust population estimates are now critical to monitor recovery of the humpback chub population (USFWS 2001). Recovery goals require estimates of population size at regular intervals to measure population response to management activities under the Recovery Program. A population estimate was made for the 1998–2000 time period (McAda 2002) and 2003–2004 time period (McAda 2007). This report summarizes the second year of work directed at a third estimate of population size for humpback chub in Black Rocks.

IV. Study Schedule: FY 2007 to FY 2009

V. Relationship to RIPRAP: Colorado River Action Plan: Mainstem; V.C. Estimate humpback chub populations; V.C.1. Black Rocks

VI. Accomplishment of FY 2008 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Sampling for this study is conducted in September and October; therefore sampling overlaps two fiscal years. Sampling in calendar year 2008 overlapped into FY 2009. Data analysis will occur in FY 2009.

Four sampling trips were conducted in September and October. The last sampling trip was made during the final week of October.

Electrofishing was used for two of the four passes due to equipment malfunction. The entire Black Rocks reach was sampled with electrofishing during one early morning and one evening of each trip. This meant that trammel nets could not be set for those time periods. Electrofishing did capture quite a few roundtail chub and one humpback chub. In 2007, different sizes of trammel nets were used to attempt to minimize stress to the fish and capture a different size of fish. Trammel nets with 0.5-in inner mesh were used with mixed results. Smaller fish were collected, but catch rate was considerably less than with 1-in inner mesh. As a result, 2008 trammel nets with 1-in inner mesh were used exclusively, and managed to capture similar numbers of small fish. Fewer nets were set overall to minimize the time between net checks. Attempts were made to keep net sets to 1 to 1.25 hr long, which limited the number of nets that could be run at one time.

A total of 74 individual humpback chub were captured during fall 2008 (Figure 1); four of those fish were subsequently recaptured in a different sampling rotation of this study. Recapture rate improved generally over previous years. 52 humpback chub had PIT tags inserted in 2008. In addition to within year recaptures, a total of 17 humpback chub were captured in previous years of sampling. Five of those fish were originally PIT tagged in Westwater Canyon: one was tagged in 2004, two were tagged in 2005 (one was recaptured there in 2007), and two were tagged in 2007. The remaining 12 fish were originally tagged at Black Rocks by Fish and Wildlife Service crews: two were tagged in 1999, five were tagged in 2003 (two were recaptured in 2003 and 2004, while two more were recaptured there in 2007), and five were tagged in 2007. Five humpback chub were positive recaptures that were not found in the database, these fish may have been tagged in Westwater Canyon this year.

A total of 1008 individual roundtail chub were collected from Black Rocks in fall 2008 (Figure 2). 796 roundtail chub were also equipped with PIT tags in 2008, 38 were tagged in previous years or Westwater in fall 2008, and 174 roundtail chub were not PIT tagged due to an unexplainable large pulse of fish captured and a tag shortage. 14 of those fish were recaptured in a subsequent sampling rotation. In addition, 29 roundtail chub were tagged in earlier years. 12 roundtail chub were recaptured that were originally tagged in Westwater Canyon; 2 in 2004, 2 in 2005, and 8 were tagged in 2007. The 17 remaining roundtail chub were originally tagged at Blackrocks by Fish and Wildlife crews in 2007. Nine roundtail chub were positive recaptures that were not found in the database; most of these fish may have been tagged in Westwater Canyon this year.

PIT tag data and catch rate data have just been keypunched. More detailed data analysis will begin when data are checked and time allows.

VII. Recommendations: Continue data analysis.

II Project Status: Project is ongoing and on track

- IX. FY Budget:
 - A. Funds Provided: 42,867
 - B. Funds Expended: 42,867
 - C. Difference:-0-
 - D. Percent of the FY 2008 work completed, 100%
 - E. Recovery Program funds spent for publication charges:-0-

- X. Status of Data Submission: PIT tag numbers and data associated with rare fish are currently being keypunched and will be submitted this winter.

- XI. Signed: Travis Francis 12/07/08

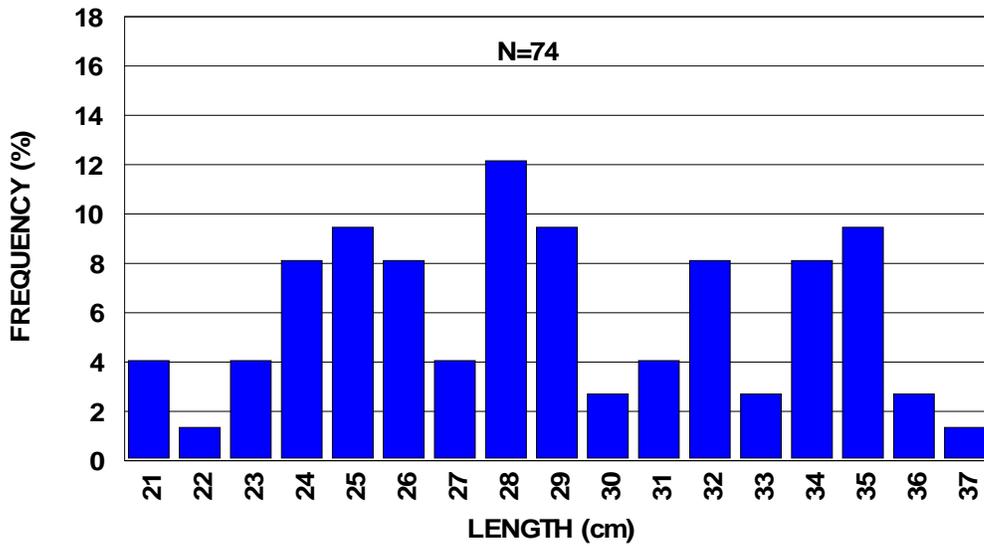


Figure 1. Length Frequency of Humpback chub captured in Black Rocks, Colorado River, autumn, 2008.

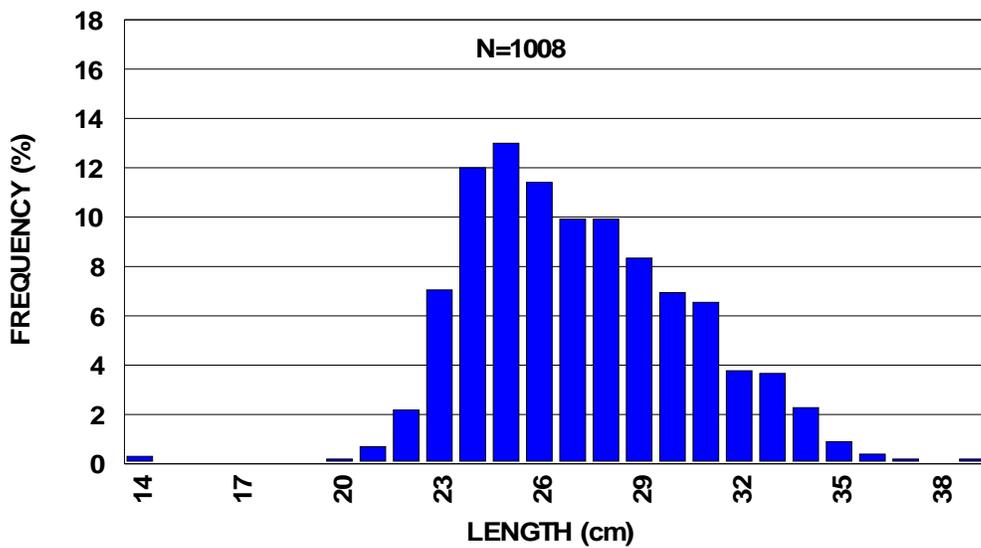


Figure 2. Length frequency of roundtail chub captured in Black Rocks, Colorado River, autumn, 2008.