

**COLORADO RIVER RECOVERY PROGRAM  
FY 2002 ANNUAL PROJECT REPORT**

**RECOVERY PROGRAM  
PROJECT NUMBER: 109**

I. Project Title:

Development of a northern pike control program in the middle Green River

II. Principal Investigator(s):

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III. Project Summary:

Nonnative fishes have become established in rivers of the upper Colorado River basin, and certain species have been implicated as contributing to reductions in the distribution and abundance of native fishes primarily through predation and competition. Controlling problematic nonnative fishes is necessary for recovery of endangered humpback chub *Gila cypha*, bonytail *G. elegans*, Colorado pikeminnow *Ptychocheilus lucius*, and razorback sucker *Xyrauchen texanus* in the upper Colorado River basin. Northern pike *Esox lucius* became established in the Yampa River in the early 1980's. Originally introduced as game fish in Elkhead Reservoir in 1977, the species escaped and invaded the Yampa River. Since then, northern pike have established a reproducing population in the upper Yampa River and have expanded their number and range within the Yampa and Green rivers.

The purpose of this proposed project is to begin active adult northern pike control in the middle Green River and develop an effective control program. The goal of northern pike control in the middle Green River is to sufficiently reduce the abundance of adults such that predatory and competitive impacts on growth, recruitment, and survival of endangered and other native fishes are minimized. The study objectives are to:

1. Capture and remove (lethal) adult northern pike from reaches of the middle Green River.
2. Reduce the abundance of adult northern pike in the middle Green River.
3. Determine the efficiency of removal efforts.

4. Identify the means and levels of northern pike control necessary to minimize the threat of predation/competition on endangered and other native fishes.

IV. Study Schedule: Initial year: 2001  
Final year: Ongoing

V. Relationship to RIPRAP:  
GREEN RIVER ACTION PLAN: MAINSTEM  
III. Reduce impacts of nonnative fishes and sportfish management activities (nonnative and sportfish management).  
III.A.4. Develop and implement control programs for nonnative fishes in river reaches occupied by endangered fishes to identify required levels of control.  
III.A.4.a. Northern pike in the middle Green River.

VI. Accomplishment of FY 2002 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1. Capture and remove northern pike and other nonnative fishes.

Known concentration areas for northern pike in the middle Green River during spring include the mouth of Brush Creek (RMI 304.5), Cliff Creek (RMI 302.9), Stewart Lake Drain (RMI 300.0), Ashley Creek (RMI 299.0) and Sportsman Drain (RMI 296.6). The primary habitats sampled were large relatively deep backwaters and tributary mouths. Sampling methods included the use of fyke nets, trammel nets and electrofishing. Trammel nets were regularly used in conjunction with electrofishing as a productive sample method.

#### *2002 Results*

River flows were extremely low in the middle Green River during 2002. This made it difficult to find areas to sample and remove northern pike. Several traditional backwater and other flooded areas that have produced many northern pike in previous years with higher flows were too shallow or nonexistent. A total of 42 northern pike were removed from the middle Green River from March through June 2002. Lengths of pike ranged from 295 mm to 896 mm with an average of 632 mm. The cleithra of all northern pike collected were removed from the fish for age analysis. Analyses of the cleithra have not been completed.

Other nonnative species collected included channel catfish, smallmouth bass, and walleye. Native species sampled included flannelmouth sucker, Colorado pikeminnow, razorback sucker, bluehead sucker, and roundtail chub.

#### *2001 Results*

A total of 248 northern pike were removed from the middle Green River from March through June 2001. Lengths of pike ranged from 175 mm to 950 mm with an average of 612mm. The cleithra of all northern pike collected were removed from the fish for age analysis. Analysis of the cleithra of northern pike indicate age classes from age-1+ through ten years old. Most pike collected were of the 2 to 4-year age class and ranged from 400 to 800 mm in length. Only 10 pike were aged older than six years.

Other nonnative species collected included 1,170 channel catfish of which 1,082 were collected near the mouth of the Duchesne River , 91 smallmouth bass with highest concentrations in the Duchesne River and Pariette Draw, and 33 walleye, mostly caught in the section of river from Split Mountain to the razorback spawning bar. Native species sampled included 235 flannelmouth sucker, 70 Colorado pikeminnow, 33 razorback sucker, 18 bluehead sucker, and 5 roundtail chub.

Task 2. Data entry and analyses.

FY 2002 field data will be entered and summarized by January 2003.

VII. Recommendations:

Continue with northern pike control in the middle Green River. Focus more on areas known to be concentration areas for northern pike including the Jensen and Duchesne River areas. Continue age analysis using cleithra to track changes in the composition of the middle Green River northern pike population. Continue collection of data on other sympatric species encountered while conducting removal efforts.

VIII. Project Status: On track and ongoing

IX. FY 2002 Budget Status

- A. Funds Provided: \$51,900
- B. Funds Expended: \$51,900
- C. Difference: \$ 0
- D. Percent of the FY 2002 work completed, and projected costs to complete: 100%
- E. Recovery Program funds spent for publication charges: \$0

X. Status of Data Submission:

Data will be submitted to the database manager by January 15, 2003.

XI. Signed: Ron Brunson November 27, 2002  
Principal Investigator Date