

I. Project Title: Development of a Northern Pike Control Program
in the Middle Green River

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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 chub (*G. elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), and razorback sucker (*Xyrauchen texanus*) in the upper Colorado River basin. Northern pike 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:

General Recovery Program Support Action Plan

- III. Reduce negative impacts of nonnative fishes and sportfish management activities (nonnative and sportfish management).
- III.A. Reduce negative interactions between nonnative and endangered fishes.
- III.A.2. Identify and implement viable active control measures.
- III.A.2.c. Implement and evaluate the effectiveness of viable active control measures

VI. Accomplishment of FY 2001 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: 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. A total of 248 northern pike were removed from the middle Green River from March - 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 cleithrum of northern pike indicate age classes from age 1+ through ten years old. Most pike collected were of the 2 - 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 1170 channel catfish of which 1082 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 analysis.

All FY-2001 field data has been entered and summarized. Additionally, all cleithrum collected from northern pike have been analyzed and aged.

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 length at 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 2001 Budget Status

- A. Funds Provided: \$ 40,000
- B. Funds Expended: \$ 40,000
- C. Difference: \$ 0
- D. Percent of the FY 2001 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 December 15, 2001.

XI. Signed: Ron Brunson November 27, 2001
Principal Investigator Date