

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:

The purpose of this project is to decrease the adult northern pike population in the middle Green River and develop an effective control program. The goal 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:

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.

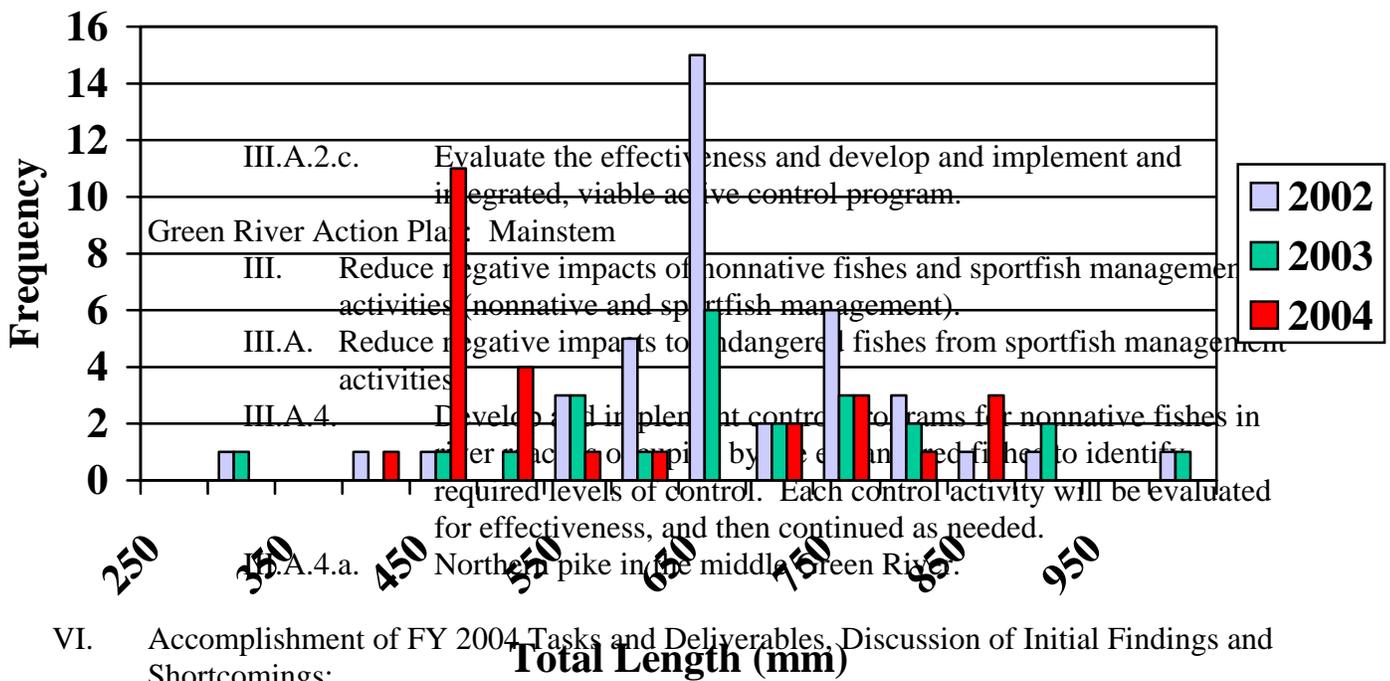
Progress to date includes the removal of over 300 northern pike from the middle Green River and a continued decline each year in the number of northern pike encountered.

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.



VI. Accomplishment of FY 2004 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1. Analyze northern pike cleithra collected during FY-2003 for age.

This task was completed. All cleithra were analyzed for northern pike caught during the 2003 field season.

Task 2. Analyze preserved stomachs collected from northern pike during FY-2003.

This task was completed. All stomachs were analyzed for contents upon removal.

Task 3. Capture and remove northern pike and other nonnative fishes.

This task was completed. Known concentration areas for northern pike in the middle Green River during spring include: mouth of Brush Creek (RM 304.5), Cliff Creek (RM 302.9), Stewart Lake Drain (RM 300), Ashley Creek (RM 299) and Sportsman Drain (RM 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.

*2004 Results*

Removal effort in FY2004 included 75 fyke net-nights and twenty hours of electrofishing. This effort began on March 22 and ended May 13, 2004. A total of 27 northern pike were removed. Lengths of northern pike ranged from 372 mm to 834 mm with an average length of 548 mm. Length frequencies of northern pike caught in 2004 show a shift toward smaller fish (Figure 1).

Figure 1. Length frequency of northern pike caught in the middle Green River: 2002 – 2004.

Northern pike catch rates continue to be low in the middle Green River since removal efforts began in 2001 (Table 1; Figure 2). Fyke net catch rates were 0.56 pike/net-night in 2001, then down to 0.06 pike/net-night in 2002, 0.03 pike/net-night in 2003 and 0.11 pike/net-night in 2004. Electrofishing resulted in the removal of 27 northern pike in 2004. Nine of these were collected during intensive efforts to collect smallmouth bass in this reach of the river. The electrofishing efforts directed toward northern pike removal resulted in a catch rate of 0.5 northern pike/hour.

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.

Table 1. Catch rates and total number of northern pike removed from the middle Green River: 2001 – 2004.

Year	Catch Per Unit Effort		# Caught
	#/ electrofishing hour	#/Fyke net-night	
2001		0.56	248
2002		0.06	42
2003		0.03	22
2004	0.5	0.1	27

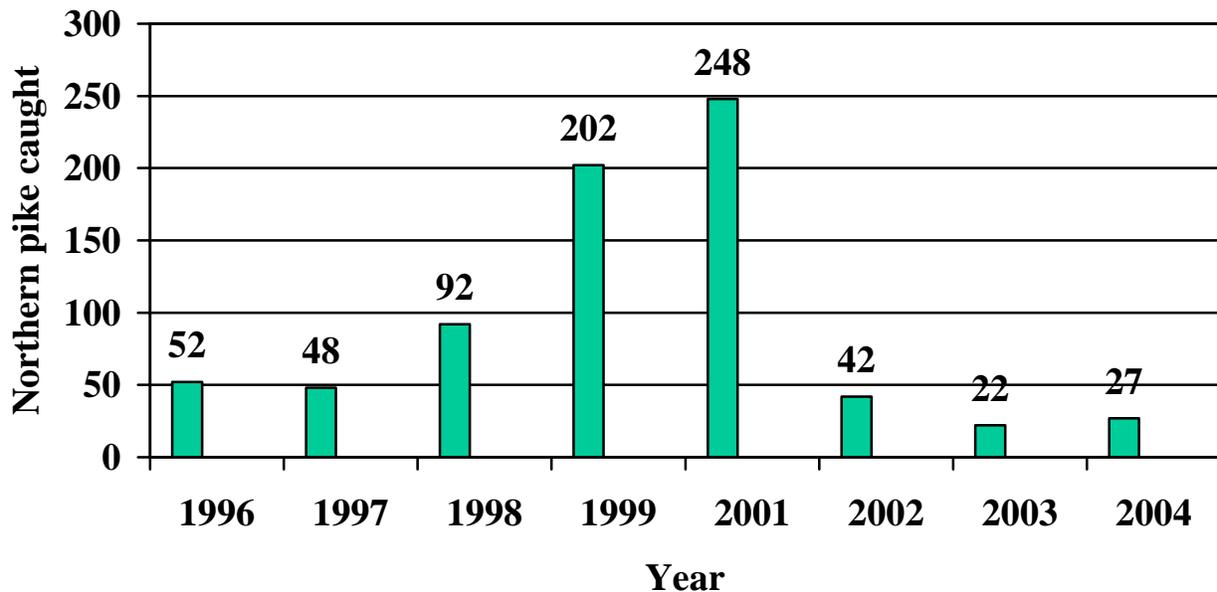


Figure 2. Number of northern pike captured in the middle Green River from 1996 – 2004.

Task 4. Data entry and analysis.

The data for this removal effort has been entered into a database. Analysis will be complete by December 2004.

Task 5. Prepare Recovery Program FY-2004 annual progress report.

Annual report was completed in November 2004.

VII. Recommendations:

Continue with northern pike control in the middle Green River. Continue age analysis using cleithra to track potential 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 2004 Budget Status

- A. Funds Provided: \$53,100
- B. Funds Expended: \$53,100

- C. Difference: \$0
- D. Percent of the FY 2004 work completed, and projected costs to complete: 100%
- E. Recovery Program funds spent for publication charges: \$0

X. Status of Data Submission:

All tagging data for 2001 – 2003 have been submitted to the database manager. Tagging data for 2004 will be submitted by January 2005.

XI. Signed: Ron Brunson March 17, 2005  
Principal Investigator Date