

I. Project Title: Nonnative Fish Control: Translocation of Northern Pike from the Yampa River.

II. Principal Investigators:

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III. Project Summary:

The northern pike, *Esox lucius*, is a nonnative species introduced into the Yampa River system in the early 1980s. Northern pike have established a reproducing population in the upper Yampa River and expanded their number and range within the Yampa and Green rivers. They are voracious predators and are considered a threat as competitors and predators to endangered and other native or game fishes in the Yampa River. This project implements nonnative-fish management actions described in the Colorado Division of Wildlife Aquatic Wildlife Management Plan for the Yampa River Basin (CDOW 1998). Management activities in the Yampa Aquatic Plan recommend active trapping and translocation of northern pike, small-mouth bass, channel catfish, and white sucker. We focused only on northern pike and planned to target two areas for their capture, the primary spawning area in the floodplain near Hayden, Colorado and Critical Habitat for Colorado pikeminnow which is downstream of Craig, Colorado. In 2000, sampling only occurred in the Critical Habitat reach because of delays in approving acceptable locations for receiving northern pike. Sampling in Critical Habitat resulted in the capture of 475 northern pike during four sampling trips; 350 pike were moved to Rio Blanco Reservoir in Rio Blanco county. Translocation is planned again in 2001.

IV. Study Schedule: 1999-2003

V. Relationship to RIPRAP:

Green River Action Plan: Yampa and Little Snake rivers

III.A. Develop aquatic management plan (Colorado) to reduce nonnative fish impacts while providing sportfishing opportunities.

III.A.1. Implement Yampa Basin aquatic wildlife management plan.

III.A.1.b. Remove and translocate northern pike and other sportfish from Yampa River.

VI. Accomplishment of FY 2000 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task Description

Task 1. Locate private or public ponds for receiving translocated fish and obtain easements to these sites. (CDOW)

Task 2. Submit Stocking Management Plans for approval. (CDOW)

Task 3. General map of each reach with location of backwaters and tributaries. Identify suitable off-channel sites for sampling, and determine ownership. Equipment purchase and preparation, refine sampling design and logistics. (CSU)

Task 4. Contact private landowners and obtain permission for property access for fish removal sampling. Field crew training and equipment preparation. (CDOW & CSU)

Task 5. Capture, remove, and translocate northern pike from the spawning reach. (CSU)

Task 6. Capture, remove, and translocate juvenile and adult northern pike from critical habitat reaches. (CSU)

Task 7. Data entry and analysis. (CSU)

Task 8. Prepare Recovery Program annual progress report and final report of first 2-years. (CSU)

Rio Blanco Reservoir was determined the best acceptable location for receiving northern pike. The Stocking Management Plan for translocating northern pike to Rio Blanco Reservoir was reviewed and approved by Recovery Program cooperating States (Utah and Wyoming) and federal agencies (Tasks 1 & 2). County maps and Platt books were examined for location and ownership information of tributaries downstream of Craig, Colorado and an initial list of suitable sample sites was identified. Landowners of several key locations were contacted for permission to access sites from their property (Tasks 3 & 4). Sampling in the spawning reach was not conducted because stocking management plans were not approved prior to spawning (Task 5). Four sampling trips were conducted in Critical Habitat during Spring runoff and northern pike were captured and translocated (Task 6). All fish capture data has been entered and partially analyzed and PIT Tag information for endangered fishes will be submitted in early 2001 (Task 7 & 8).

Four sampling trips occurred in Spring, each about 10 days. Sample trips occurred on April 18-27, May 6-14, May 22-June 1, and June 20-24. Sampling occurred only below Craig, Colorado between Milk Creek (River mile 119.2) and Deerlodge Park (River mile 46.5), about 73 river miles. Shoreline habitat was sampled with an electrofishing boat, eddies were sampled with trammel nets and backwaters were sampled with either fyke net

or blocked with a trammel net and shocked. On the first trip we did not have permission from the Division of Wildlife to move pike, so all pike were marked with a dorsal fin-hole punch and returned to the river alive. On trips two through four, all pike were tagged with a Floy tag under the dorsal fin and moved to Rio Blanco Reservoir in Rio Blanco County in the White River Basin. A total of 475 northern pike were captured of which 350 were moved to Rio Blanco. Average length of all pike caught was 20 inches. The largest fish moved to Rio Blanco was 36 inches and about 13 lbs.

During all trips, about 11 pike died during capture or while being transported to Rio Blanco. Four of these fish were euthanized because they were severely injured during capture. The others died during holding or transport. Euthanized fish were examined internally for prey items and sexual condition and then returned to the river.

Usually the only fish we tried to net were northern pike or Colorado pikeminnow. Most all other fish such as smallmouth bass or channel catfish were either not netted or if netted were returned alive to the river. We also caught 93 Colorado pikeminnow on all four trips. Significant findings included several Colorado pikeminnow with severe bite marks from predation attempts by northern pike. Another finding was predation on large native fish such as roundtail chub, *Gila robusta*, and flannelmouth sucker, *Catostomus latipinnis*.

VII. Recommendations:

Sampling should continue in 2001 but additional effort should be made to obtain necessary approval to allow early sampling in spawning reaches near Hayden.

Public interaction was encouraged and pursued by investigators but additional public information and education programs about the project are needed.

VIII. Project Status:

This project is on-track and on-going but the feasibility of timely approval for sampling the spawning area near Hayden, Colorado, should be evaluated and the SOW adjusted accordingly. Transport of fish to Rio Blanco may require additional time and resources and should be accounted in the budget if this site is used in 2001.

IX. FY 2000 Budget Status:

- A. Funds Provided: \$95,700
- B. Funds Expended: All
- C. Difference: None
- D. Percent of the FY 2000 work completed, and projected costs to complete: 100%
- E. Recovery Program funds spent for publication charges: None

X. Status of Data Submission:

PIT Tag records for endangered fishes captured and tagged in 2000 will be submitted in early 2001. Other fish capture records will be submitted with the final report.

XI. Signed: John Hawkins 12/07/00
Principal Investigator Date

References:

CDOW (Colorado Division of Wildlife). 1998. Aquatic Wildlife Management Plan: Yampa River Basin, Colorado. Colorado Division of Wildlife, Aquatic Wildlife Section, Denver.

Table 1. Number of northern pike captured from the Yampa River and moved to Rio Blanco Reservoir, 2000.

	Juniper	Maybell	Lily Park	Total # captured All Reaches	Total # Dead or Euthanized	Total # Moved All Reaches ¹
Pass 1	46	56	14	116	1	0
Pass 2	88	49	34	171	3	168
Pass 3	86	29	25	140	2	139
<u>Pass 4</u>	<u>21</u>	<u>16</u>	<u>11</u>	<u>48</u>	<u>5</u>	<u>43</u>
Total	241	150	84	475	11	350

¹ Fish were moved alive to Rio Blanco Reservoir in Rio Blanco County, White River basin.