

**COLORADO RIVER RECOVERY PROGRAM
FY-2002-2003 PROPOSED SCOPE OF WORK**

Project No.: 98b

Lead Agency: Fish and Wildlife Service
Colorado River Fishery Project

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Category

- Ongoing project
- Ongoing-revised project
- Requested project
- Unsolicited proposal

Expected Funding Source

- Annual funds
- Capital Funds
- Other

I. Title of Proposal: **Translocation of northern pike from the upper Yampa River (Craig, CO and upstream).**

II. Relationship to RIPRAP:

General Recovery Program Support Action Plan

III.A.2.c. Evaluate the effectiveness and develop an integrated viable active nonnative fish control program

Green River Action Plan: Yampa and Little Snake rivers

III.A.1.b(1) Remove and translocate northern pike and other sportfishes from Yampa River.

III.A.1.b(2) Reduce northern pike reproduction in the Yampa River.

III. Study Background/Rationale and Hypotheses

Northern pike *Esox lucius* is an exotic, predatory species that has become established in the Yampa River. It escaped from Elkhead Reservoir (a reservoir on Elkhead Creek, which is tributary to the Yampa River near Craig, CO) where it was originally stocked to provide sportfishing. Since its escapement, it has established a large, reproducing population in the upper Yampa River (Nesler 1995). This large population provides a source for continual movement of northern pike into the lower Yampa River and further downstream into the Green River where they coexist with three endangered fishes — Colorado pikeminnow *Ptychocheilus lucius*, razorback sucker *Xyrauchen texanus*, and humpback chub *Gila cypha*. Northern pike provide a significant predatory risk to these species, especially juveniles and small adults of Colorado pikeminnow and razorback sucker, and all age classes of humpback chub. They also present a significant predatory risk to other native species in the basin (e.g., flannelmouth sucker *Catostomus latipinnis* and roundtail chub *G. robusta*) that have been considered for listing under the Endangered Species Act in the past (Martinez 1995; Nesler 1995). Northern pike was identified as a significant risk to the endangered fishes by a majority of upper basin researchers in surveys conducted during the late 1980s (Hawkins and Nesler 1991).

The Recovery Program has established an active program to control nonnative fishes in the main rivers of the upper basin to assist in recovery of the endangered fishes found there. Reduction of the northern pike population in the Yampa River while continuing to provide fishing opportunity for local anglers is a priority for the program. Temporarily reducing the pike population through mechanical means appears to be a viable option for the rivers of the upper basin (Lentsch et al. 1996), although complete eradication is unlikely. A small, non-reproducing population of northern pike in the Gunnison River was reduced with relatively little effort applied at a time when pike were vulnerable (McAda 1997). Initial sampling efforts in the Yampa River suggest that substantial numbers of northern pike can be captured during spring when they enter shallow floodplain habitats for spawning (Nesler 1995; J. Hawkins, personal communication; USFWS unpublished data). Preliminary sampling in 2001 captured 230 northern pike during 7 weeks of sampling in two short reaches of the Yampa River. However, most northern pike were captured during the first 2 weeks (Figure 1).

The aquatic management plan for the Yampa River includes trapping northern pike in the river and transporting them to ponds in the Yampa Valley that qualify under the Nonnative Stocking Procedures (CDOW 1998). Preliminary efforts in 2001 showed that large numbers of anglers were attracted to the ponds at Yampa SWA when northern pike were stocked there (personal observation). Translocation of pike may reduce the numbers of northern pike in the Yampa River to benefit endangered fishes and still provide recreational opportunities for anglers.

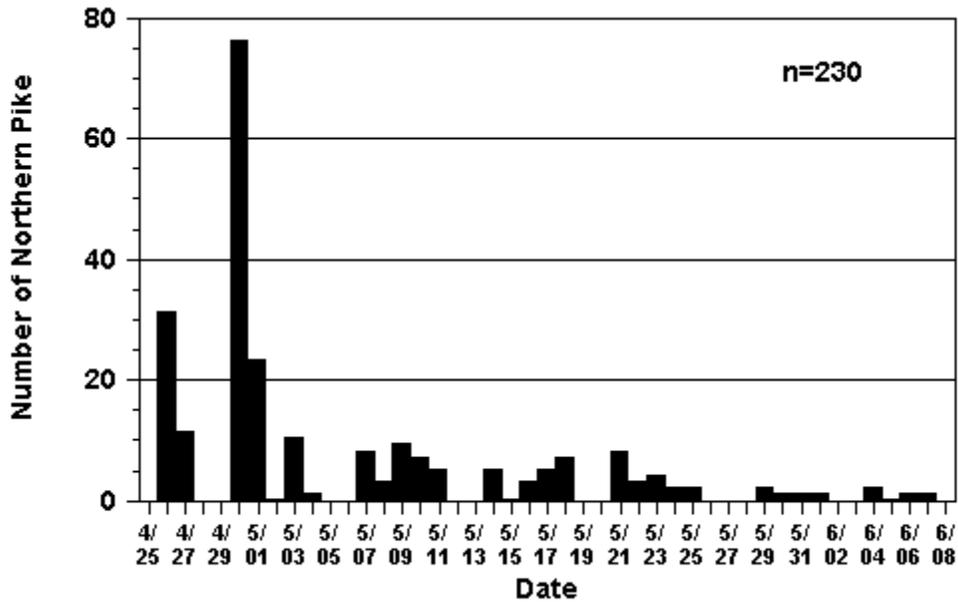


Figure 1. Total number of northern pike collected with trap nets during 7 weeks of sampling (April 26 - June 7, 2001; weekends were not sampled) in two reaches of the Yampa River (Carpenter Ranch and Yampa SWA).

IV. Study Goals, Objectives, End Product:

Goal

Improve survival of endangered fish in the Yampa and Green rivers.

Objectives

1. Reduce numbers of adult northern pike in primary spawning areas.
2. Reduce production of young northern pike by reducing numbers of spawning adults.
3. Reduce numbers of northern pike moving downstream into critical habitat of endangered fishes by reducing population size in upper Yampa River.
4. Provide angling opportunity by moving northern pike from the Yampa River to isolated ponds that conform to the Nonnative Stocking Procedures and are accessible to Yampa Valley fisherman.

V. Study area: Upper Yampa River (upstream from Craig, CO)

VI. Study Methods/Approach:

Trap nets will be set in floodplain habitats along the Yampa River at Carpenter Ranch, Yampa SWA and up to six more sites if they are available. Sampling will be done for about six to eight weeks while river flows are adequate to provide quiet-water habitat attractive to pike. Preliminary efforts indicated that the pike population is

reduced quickly and catch rates decline substantially after about two weeks of sampling in one location. Therefore, sampling would occur for about two weeks at each site and nets would then be moved to another location. Two to four trap nets would be set at each site and emptied regularly during the two-week sampling period. Sampling may also be done with trammel nets or electrofishing on an opportunistic basis.

Most of the Yampa River in the study area passes through private property and Carpenter Ranch and Yampa SWA are currently the only locations where sampling is permitted. Floodplain habitat along the Yampa River is widespread and success of the trapping effort will be greatly increased by obtaining access to additional habitat. Sampling duration will be reduced if additional sampling sites can not be identified or permission to access the sites can not be obtained.

In addition to trap netting, the main channel of the Yampa River between Hayden and Craig, CO will be electrofished using hard-bottom or raft electrofishing boats. The river channel will be electrofished three times during April to June.

All northern pike captured during this effort will be held alive, measured in total length, tagged with a numbered external tag and transported to a stocking location that is agreed to by all parties to the Nonnative Stocking Procedures. Incidental mortalities will be refrigerated (when possible) and turned over to the Colorado Division of Wildlife. Introduced white suckers *C. commersoni* will also be removed from the river, but will be sacrificed and disposed of in an acceptable manner. Smallmouth bass *Micropterus dolomieu* captured during the electrofishing effort will be released, transported or disposed of according to agreement among all parties of the Recovery Program. No smallmouth bass are expected to be captured with trap nets. All other species (introduced game fish or native nongame fish) will be released alive at their capture site.

All data on northern pike and other species collected during the sampling effort will be turned over to the Colorado Division of Wildlife and added to the Recovery Program data base. A brief summary report will be produced after sampling is completed and distributed through the Recovery Program's annual reporting process.

VII. Task Description and Schedule

1. April through June: Trap net floodplain habitats along the Yampa River. Transport all captured northern pike to ponds or reservoirs acceptable under the Nonnative Stocking Procedures.
2. April through June: Electrofish main channel of the Yampa River between Hayden and Craig, CO (three passes).
3. July: Consolidate data and provide to Colorado Division of Wildlife and to Recovery Program data base.

4. December 2002 and 2003: Prepare annual reports.

VIII. FY-2002 Work

Deliverables/Due Dates: See above

Task 1.

Labor

Project Biologist (10 weeks)	15,000
Biological Technicians (20 weeks)	<u>10,500</u>
Labor Subtotal	25,500
Travel	3,000
Equipment and Supplies (gas, nets, repairs, etc.)	<u>7,000</u>
Subtotal	\$35,500

Task 2.

Labor

Project Biologist (7 weeks)	10,000
Biological Technicians (14 weeks)	<u>7,200</u>
Labor Subtotal	17,200
Travel	2,100
Equipment and Supplies (gas, repairs, etc.)	<u>4,700</u>
Subtotal	\$24,000

Tasks 3 and 4.

Labor

Project Biologist (2 weeks)	<u>2,500</u>
Subtotal	\$ 2,500

Total \$62,000

FY-2003 Work

Deliverables/Due Dates: See above.

Task 1	37,100
Task 2	25,500
Tasks 3 and 4	<u>2,600</u>
Total	\$65,200

IX. Budget Summary

FY-2002	\$62,000
FY-2003	\$65,200

X. Reviewers

Tom Nesler, Colorado Division of Wildlife

XI. References

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

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Lentsch, L. D., R. T. Muth, P. D. Thompson, B. G. Hoskins, and T. A. Crowl. 1996. Options for selective control of nonnative fishes in the upper Colorado River basin. Final Report to the Recovery Program for the Endangered Fishes of the Upper Colorado River. Publication 96-14, Utah Division of Wildlife Resources, Salt Lake City, Utah.

Martinez, P. J. 1995. Coldwater Reservoir Ecology. Colorado Division of Wildlife, Federal Aid in Fish and Wildlife Restoration Project F-242R-2, Job Final Report, Fort Collins.

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