

COLORADO RIVER RECOVERY PROGRAM
FY 2015 ANNUAL PROJECT REPORT

RECOVERY PROGRAM
PROJECT NUMBER: 98b

I. Project Title: Upper Yampa River northern pike management and monitoring

II. Bureau of Reclamation Agreement Number(s): R13PG40020

Project/Grant Period: Start date: 10/01/2012
End date: 09/30/2015
Reporting period end date: 9/30/2015
Is this the final report? Yes X No _____

III. Principal Investigators:
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IV. Abstract:
The objective of this study is to remove as many northern pike, smallmouth bass, and white sucker as possible from the Yampa River between Hayden to Craig, CO. We use electrofishing boats and sample this reach seven times a year during spring and early summer. We euthanized 5 smallmouth bass, 2,123 white suckers, and 154 northern pike during 2015 efforts. Fewer smallmouth bass and northern pike were removed in 2015 than previous years, while the number of white suckers removed was similar to previous years. We suspect that lower northern pike catch rates were a result of gill netting removals performed by CPW shortly before our efforts began.

V Study Schedule: 2004-ongoing.

VI. Relationship to RIPRAP:
GREEN RIVER ACTION PLAN: YAMPA AND LITTLE SNAKE RIVERS
III.B.2 Control nonnative fishes via mechanical removal
III.B.2.a. Estimate nonnative status, trends, and distribution
III.B.2.d. Remove northern pike from Yampa River
III.B.2.e. Remove smallmouth bass

VII. Accomplishment of FY 2015 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

We conducted six electrofishing passes through each of three sections within our 38-mile study section of the upper Yampa River from Hayden to Craig between 28 April - 11 June 2015. All passes were used as removal passes, and all northern pike, smallmouth bass, and white suckers

captured were euthanized. Although we typically complete seven passes, many factors contributed to reduce the project by one pass. For example, delayed spring runoff in 2015 postponed our first pass a week later into April than is typical. Secondly, runoff in 2015 was forecasted to be below average, but late spring precipitation created average flow conditions in the reach. Lastly, we attempt to optimize efficiency in this project with Project 167 in the White River, so time was spent in the White River during the removal period.

Northern Pike

We removed 154 northern pike from the study reach in 2015. We consider fish <300mm juveniles, fish >300mm adults, and fish >450mm as piscivores. Of the 154 fish removed in 2015, 22 were juveniles, and 132 were adults, of which 86 were piscivores. This was less than we removed in 2014, when we removed 368 fish (18 juveniles, 350 adults of which 248 were piscivores).

Length-frequency of pike captured in 2015 showed small and large size classes present (Figure 1). The majority (86%) of the fish captured were adults, ranging from 400-650 mm. However, the proportion of juvenile fish increased from five percent in 2014 to 15 percent in 2015, indicating successful spawning and recruitment in recent years. The overall catch per unit effort (CPUE) in 2015 was the lowest since this project began in 2005 (Figure 5). We suspect that this could be the combined result of over ten years of coordinated multi-agency (USFWS, CSU, and CPW) electrofishing and spring gill netting efforts conducted by CPW during the past two years.

Northern Pike Foreign Tags

One 826 millimeter northern pike was captured in the '151' backwater that had been marked with an orange CPW tag. This fish was tagged in the Lafarge South Gravel Pit, which is south of Steamboat Springs, in April 2012 when it was 776 mm.

Smallmouth Bass

Five smallmouth bass (176 - 381 mm; 1 juvenile < 200 mm, 4 adults \geq 200 mm, 2 piscivores \geq 325 mm) were captured in this study compared to 17 (128 - 422 mm) in 2014.

White Sucker

We removed 2,123 white suckers (55 -580 mm) in 2015, compared to 2,016 white- suckers (108 - 600 mm) in 2014. Of these, 356 measured < 200 mm and 1,767 measured \geq 200 mm compared to 283 and 1,733 in 2014 respectively. We saw no depletion from our efforts (Figure 6 and 7). Possibly worth noting, ripe male white suckers were observed throughout the 2015 sampling season, which could be a life history trait that explains their proliferation within this reach in recent years.

VIII. Additional noteworthy observations:

- The Elkhead and Yampa River confluence was noted in 2012 and 2013 as a smallmouth bass spawning location. However, as in 2014, no ripe bass were captured at this site in 2015. This likely resulted from water temperatures being too low for bass to spawn given the higher flows in the Yampa River during the spring and early summer of this year.
- We have not caught any native suckers since 2013 when we captured 2 bluehead suckers, 2 flannelmouth suckers, and 1 bluehead x flannelmouth hybrid.

IX. Recommendations:

- We recommend conducting 5 passes as early as possible in the spring to remove as many northern pike as possible, and conducting 2 passes after peak runoff to target the smallmouth bass spawn.
- We suggest that consideration be given to expanding gill netting efforts later into the spring and into more backwaters. In some cases this will require us to obtain permission from landowners to access backwaters that exist within private property. Crews in electrofishing boats could identify near and off-channel backwaters that are not accessible to jon boats due to constrictions or other breach depths at certain flows. We believe that this would increase our efficiency at low and high water levels.

X. Project Status: This project is on track and ongoing

XI. FY 2015 Budget Status:

- A. Funds Provided: \$111,611
- B. Funds Expended: \$111,611
- C. Difference: -0-
- D. Percent of the FY 2015 work completed: 100%
- E. Recovery Program funds spent for publication charges: -0-

XII. Status of Data Submission:

XIII. Signed: Christian Smith 14 November 2015
Principal Investigator Date

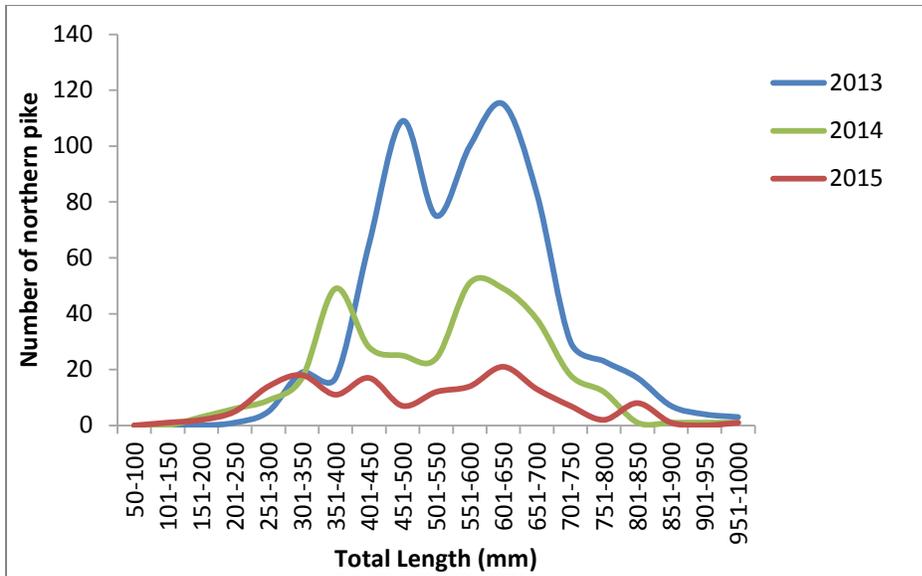


Figure 1. Length frequency of Yampa River northern pike captured 2013 – 2015.

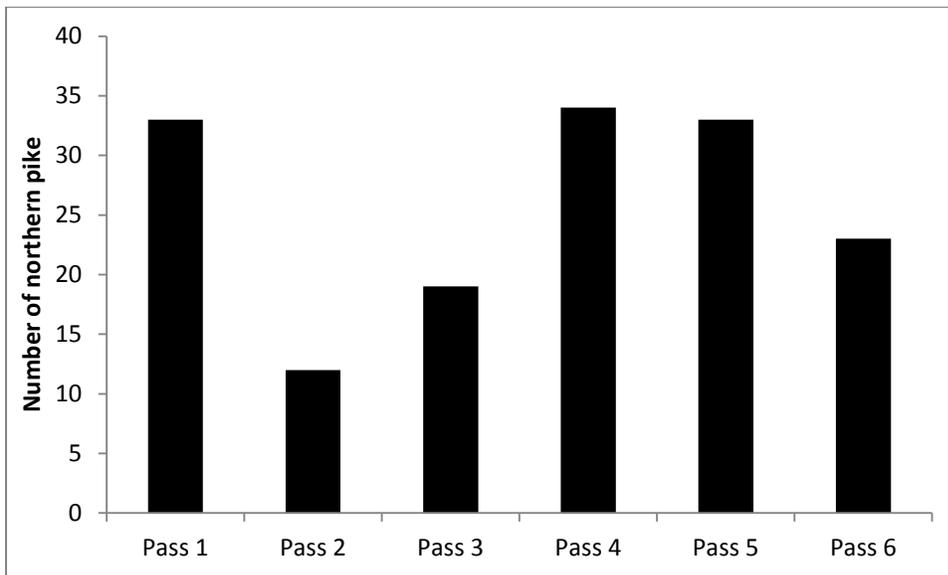


Figure 2. Northern pike captured by pass in the Yampa River, 2015 in project 98b.

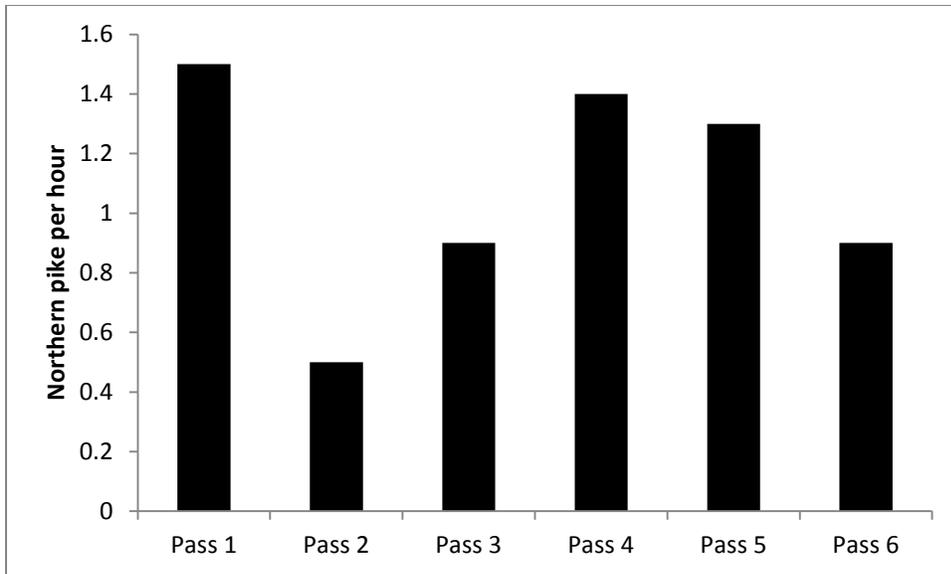


Figure 3. Catch rates for northern pike by pass, Yampa River 2015 in project 98b.

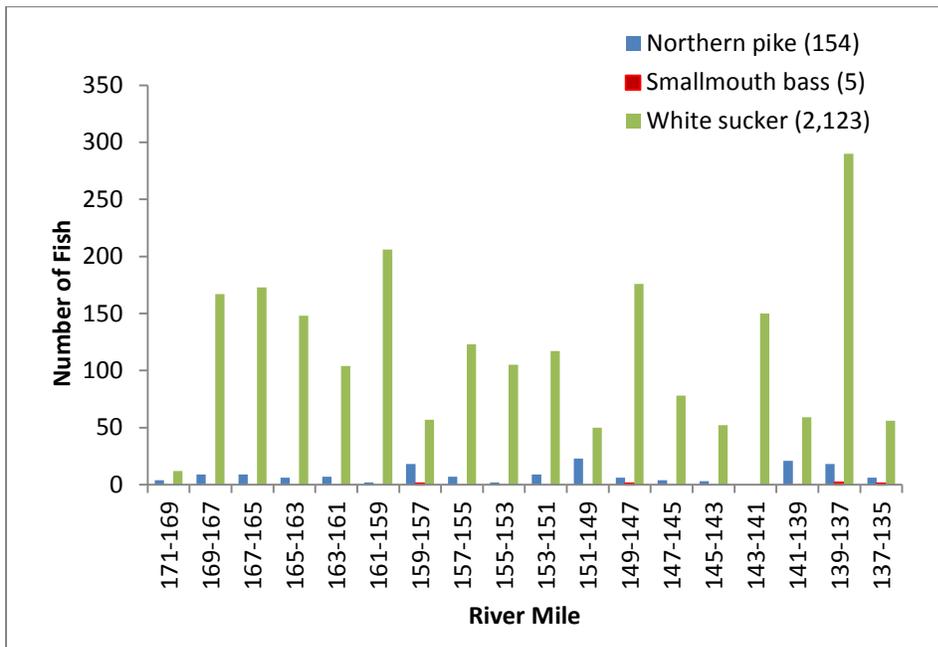


Figure 4. Total number of northern pike, smallmouth bass, and white sucker captured by river mile reach, Yampa River 2015 in project 98b.

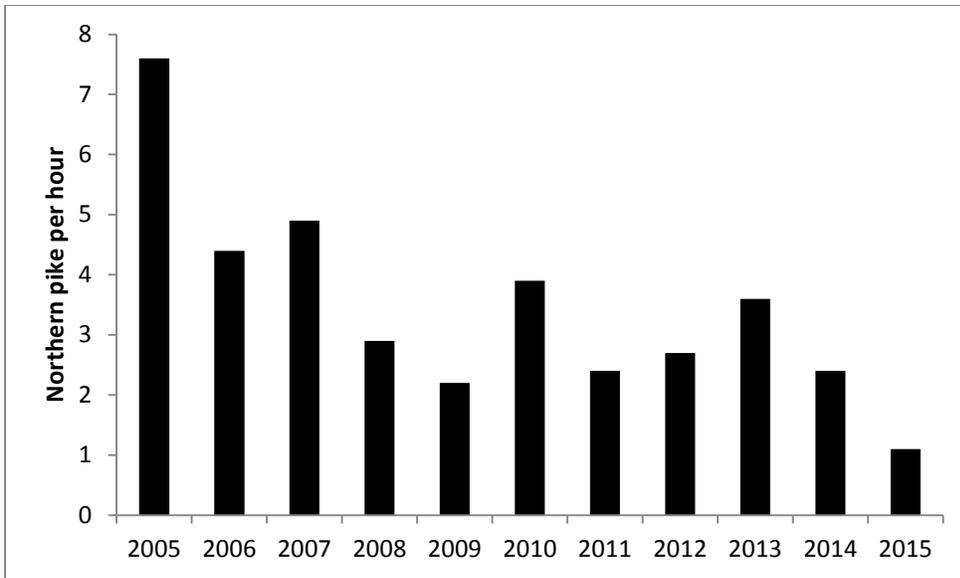


Figure 5. Overall northern pike catch rates per hour (CPUE), 2005 - 2015 for project 98b.

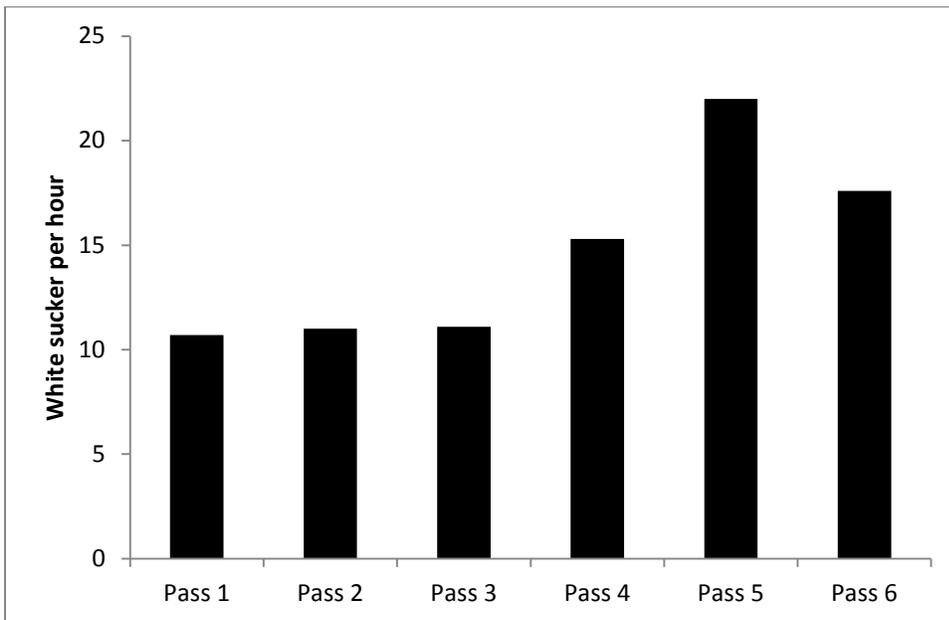


Figure 6. Number of white suckers removed by pass from the Yampa River between Hayden and Craig during 2015 in project 98b.

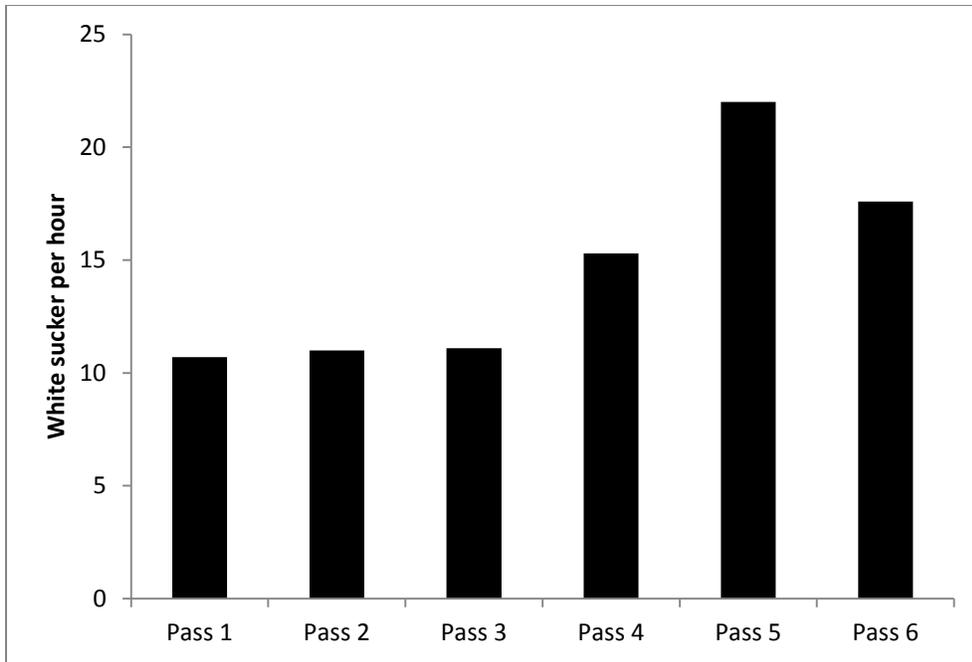


Figure 7. Catch rates for white sucker by pass from the Yampa River between Hayden and Craig during 2015 in project 98b.