

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: 9/30/2014
Is this the final report? Yes _____ No X

III. Principal Investigators:
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IV. Project Summary:
The objective of this study is to remove as many northern pike, smallmouth bass, and white sucker as possible from the Yampa River from Hayden to Craig, CO. We use electrofishing boats and sample this reach seven times a year during spring and early summer. We euthanized 17 smallmouth bass, 2,016 white suckers, and 368 northern pike. Numbers of smallmouth bass and northern pike removed in 2014 were smaller than previous years, while white sucker removal numbers were similar to previous years. We suspect that lower northern pike catch rates were a result of gill netting removals performed by CPW immediately 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 2014 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

We conducted seven electrofishing passes through each of three sections within our 38-mile study section of the upper Yampa River from Hayden to Craig between 16 April- 9

May 2014. We also completed an additional pass from 17-20 June, one week before “The Surge”, with the primary intent of removing spawning smallmouth bass. All passes were used as removal passes, and all northern pike, smallmouth bass, and white suckers captured were euthanized.

Northern Pike

We removed 368 northern pike from the study reach in 2014. We consider fish <300mm juveniles, fish >300mm adults, and fish >450mm as piscivores. Of the 368 fish removed in 2014, 18 were juveniles, and 350 were adults, of which 248 were piscivores. This was less than we removed in 2013, when we removed 673 fish (24 juveniles, 649 adults of which 463 were piscivores).

Length-frequency of pike captured in 2014 showed small and large size classes present (Figure 1). The majority of the fish captured were adults, ranging from 400-650 mm. However, younger fish were well-represented in the sample, indicating successful spawning and recruitment in recent years. In contrast to years past, when RMI 151 typically contained markedly higher northern pike densities, more fish were caught in other reaches in 2014 (Figure 4). Additionally, the overall catch per unit effort (CPUE) in 2014 was among the lowest since this project began in 2005 (Figure 5). We suspect that both of these changes in the data could be the result of gill netting efforts by Colorado Parks & Wildlife (CPW) during the spring of this year.

Northern Pike Foreign Tags

One northern pike was captured that had a red floy tag, which was likely inserted by FWS personnel. However, the tag was worn to the point of being illegible.

Smallmouth Bass

Seventeen smallmouth bass (148 - 422 mm; 4 juveniles < 200 mm, 13 adults ≥ 200 mm, 9 piscivores ≥ 325 mm) were captured in this study compared to 46 (120 - 419 mm) in 2012 with similar number of passes. All but one of the nine smallmouth bass classified as piscivores were captured within the final six miles of this project (Yampa RMI 141.0 – 135.0). One 387 mm individual had previously been floy-tagged in May 2012 at Yampa RMI 123.0 by Colorado State University.

White Sucker

We removed 2,016 white suckers (108 - 600 mm) in 2014, compared to 1,838 white-suckers (68 - 592 mm) in 2013. Of these, 283 measured < 200 mm and 1,733 measured ≥ 200 mm compared to 198 and 1,641 in 2013 respectively. We saw no depletion from our efforts (Figure 6 and 7).

VIII. Additional noteworthy observations:

- The Elkhead and Yampa River confluence was noted in 2012 and 2013 as a smallmouth bass spawning location, however no ripe bass were captured at this site in 2014. 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 did not catch any native suckers in 2014, as opposed to 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 at lower flows later in the summer to target the smallmouth bass spawn.

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

XI. FY 2014 Budget Status:

- A. Funds Provided: \$109,816
- B. Funds Expended: \$109,816
- C. Difference: -0-
- D. Percent of the FY 2014 work completed: 100%
- E. Recovery Program funds spent for publication charges: -0-

XII. Status of Data Submission:

XIII. Signed: M. Tildon Jones 14 November 2014
Principal Investigator Date

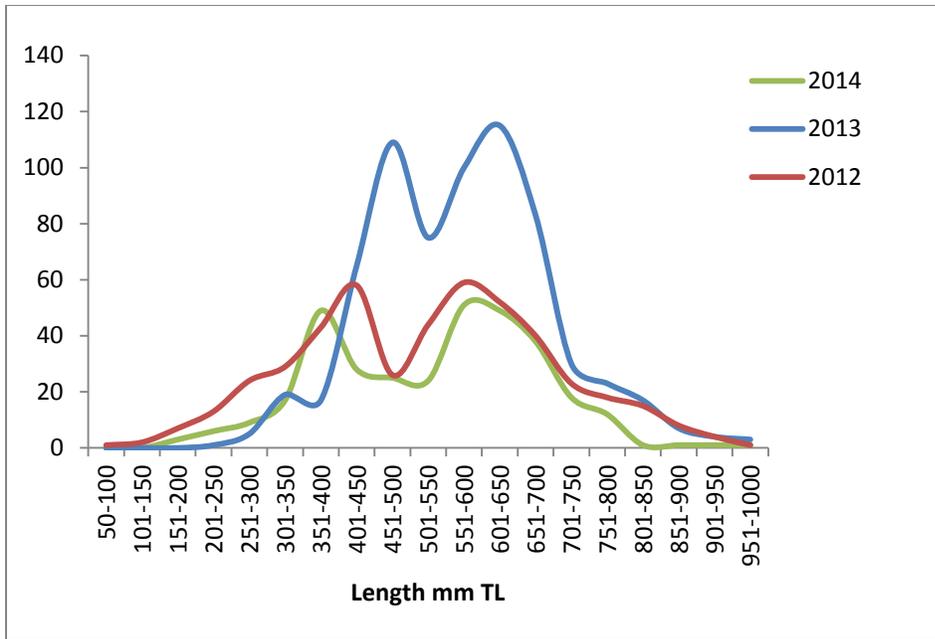


Figure 1. Length frequency (TL mm) of Yampa River northern pike captured 2012 - 2014.

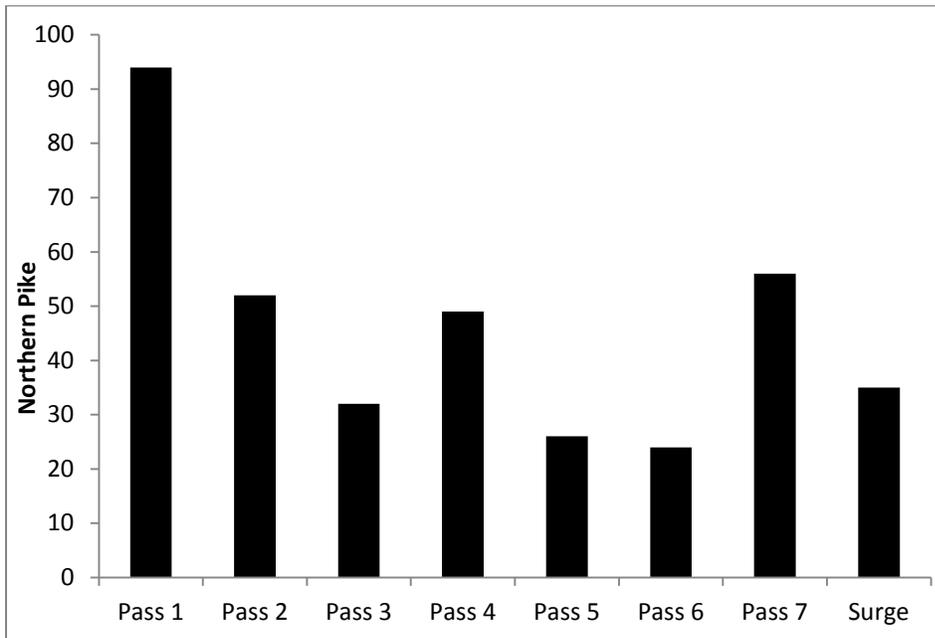


Figure 2. Northern pike captured by pass in the Yampa River, 2014 in project 98b.

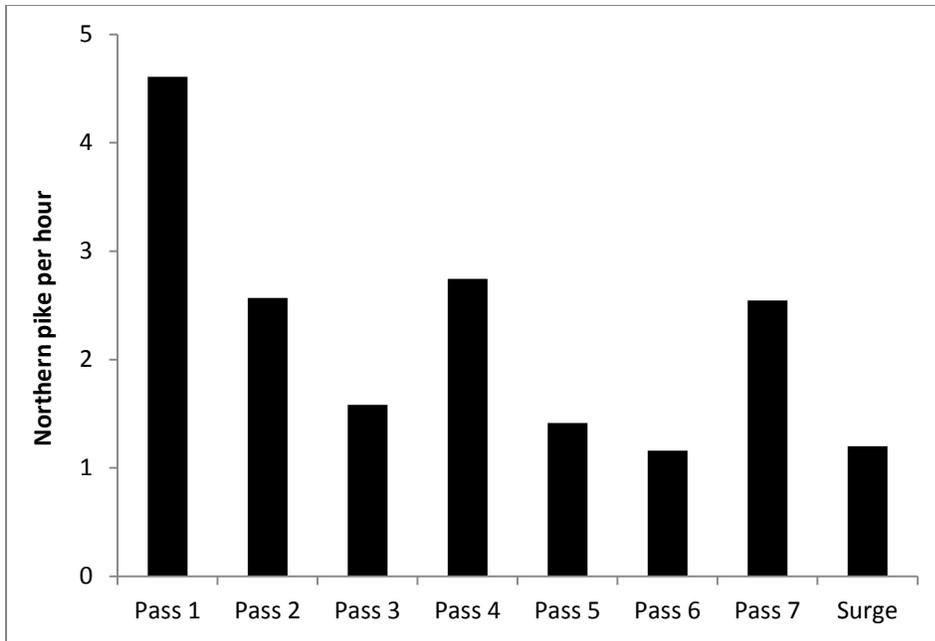


Figure 3. Catch rates for northern pike by pass, Yampa River 2014 in project 98b.

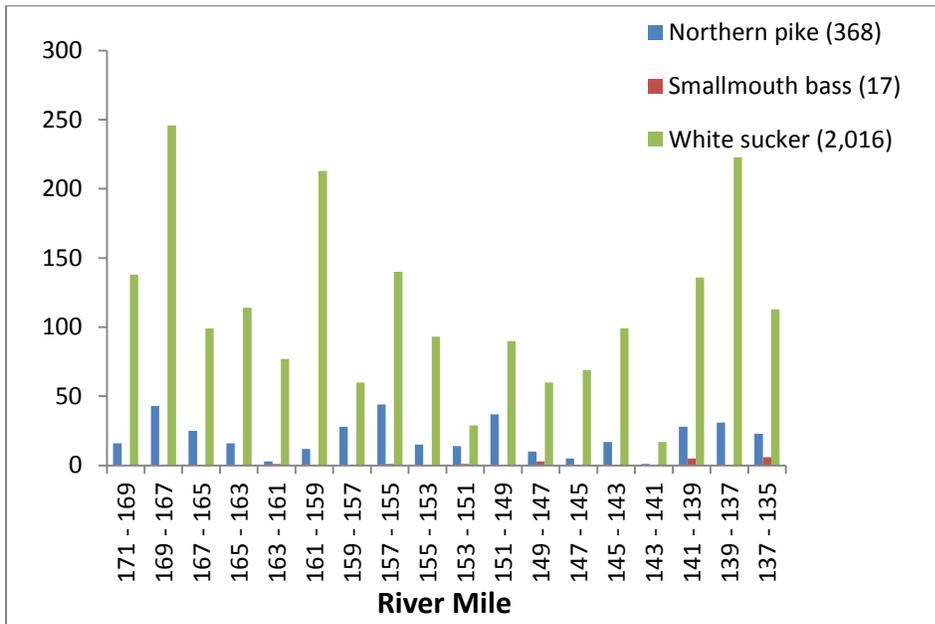


Figure 4. Total number of northern pike, smallmouth bass, and white sucker captured by river mile reach, Yampa River 2014 in project 98b.

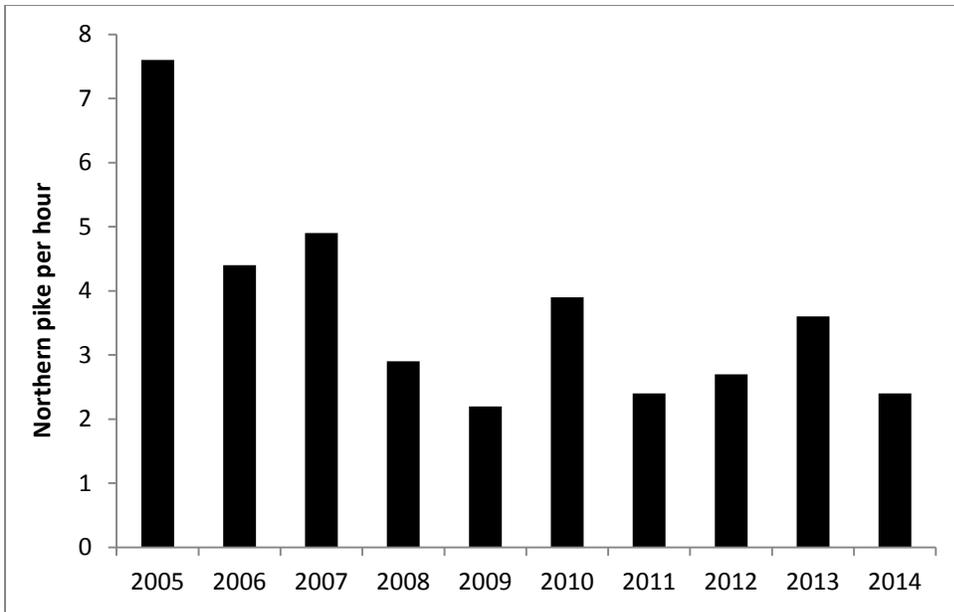


Figure 5. Overall northern pike catch rates by hour (CPUE), 2005-2014 for project 98b.

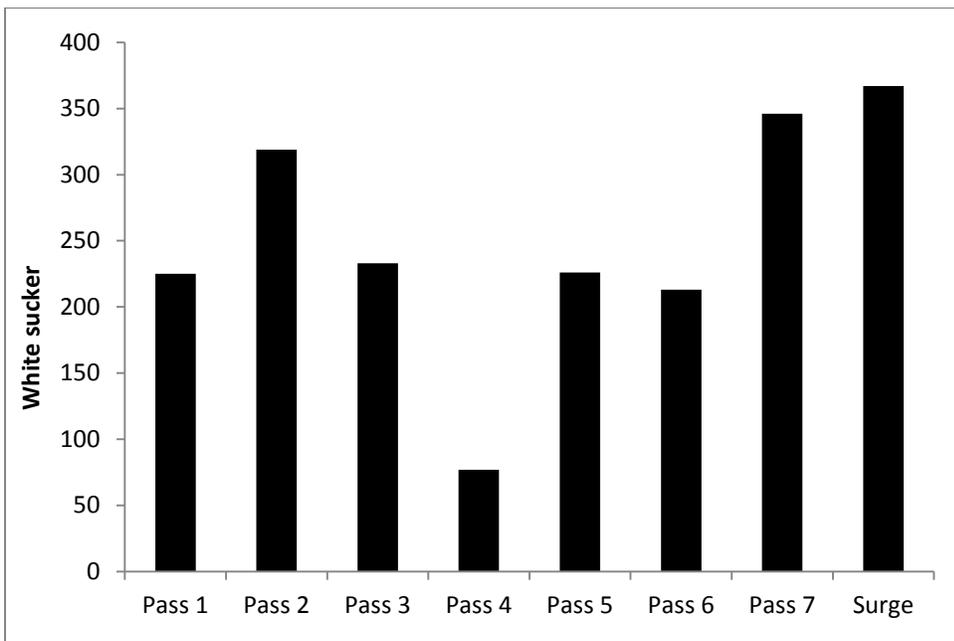


Figure 6. Number of white suckers removed by pass from the Yampa River between Hayden and Craig during 2014 in project 98b.

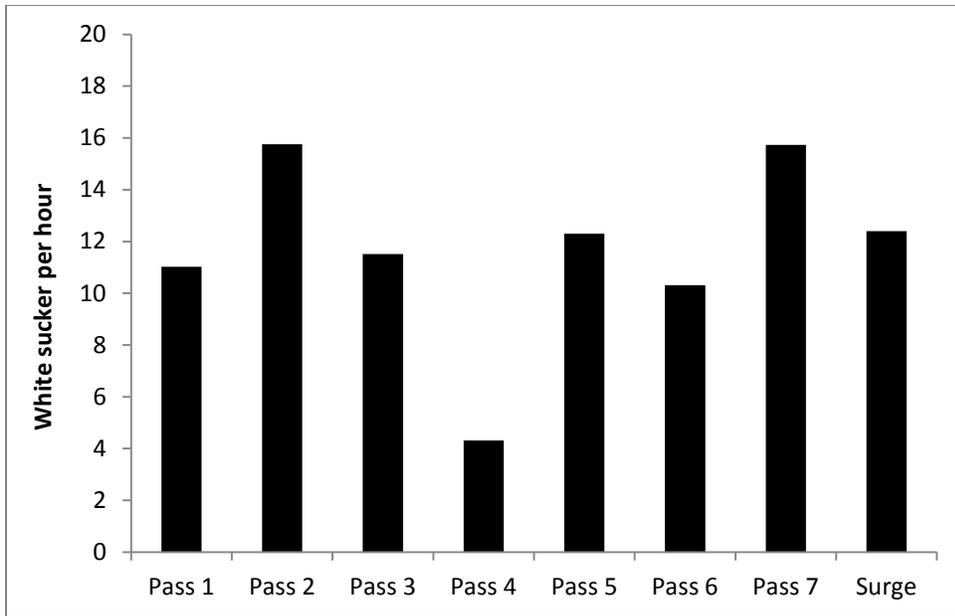


Figure 7. Catch rates for white sucker by pass from the Yampa River between Hayden and Craig during 2014 in project 98b.