DEPARTMENT OF NATURAL RESOURCES

# KNIFE RIVER FISH TRAP REPORT
# 2023

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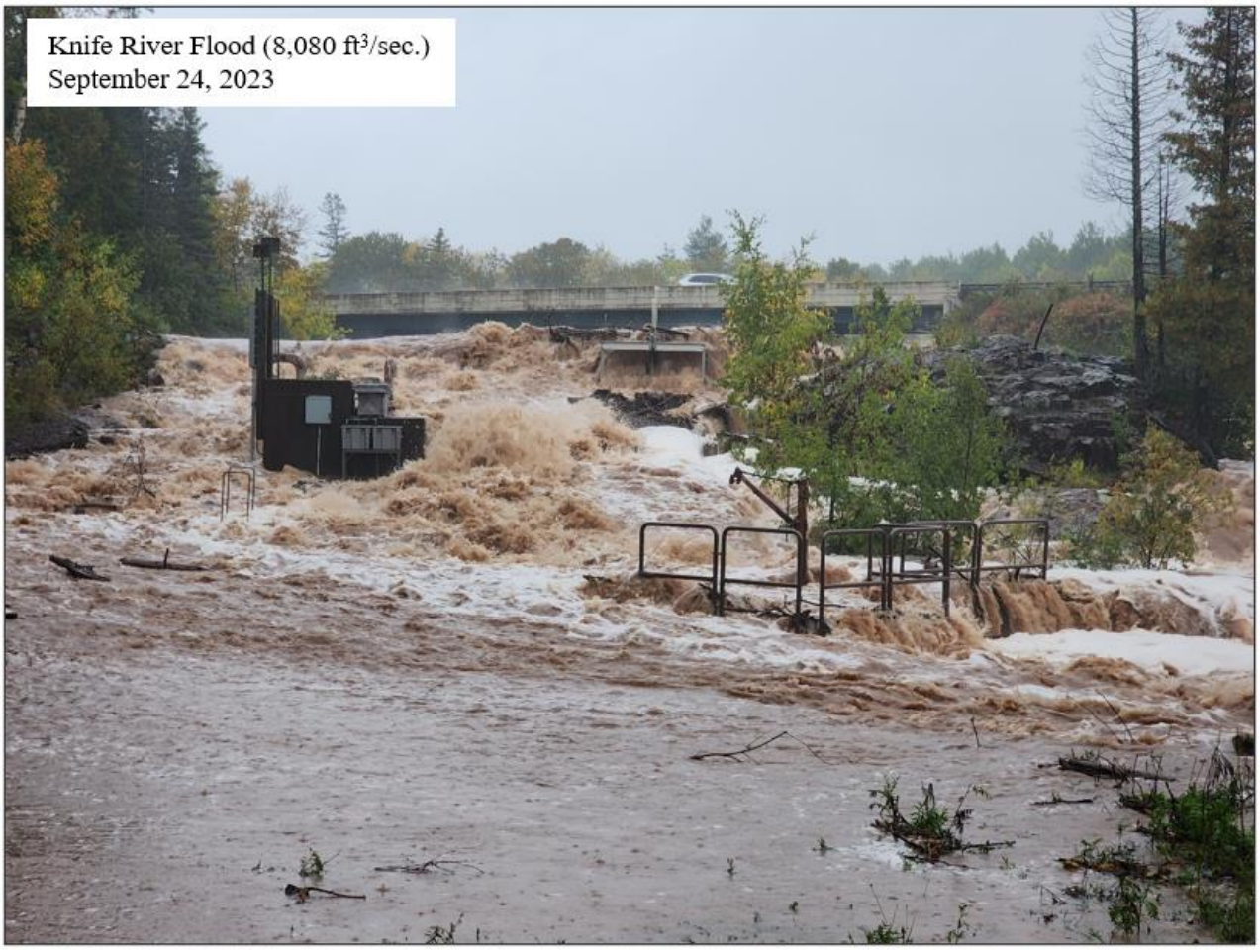


## Purpose & Methods

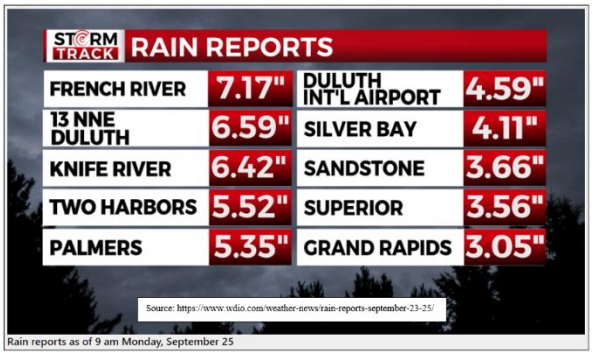
The Minnesota Department of Natural Resources (MNDNR) Knife River fish trap is used to monitor the abundance and health of migratory fishes in Minnesota waters of Lake Superior (particularly of migratory Rainbow Trout [steelhead]), and to monitor Sea lamprey control efforts in Lake Superior. The trap captures adult fish migrating upstream and adult and juvenile fish migrating downstream from the Knife River to Lake Superior. The adult trap is operated during annual spawning runs of steelhead in the spring and many other trout (Brook and Brown Trout) and salmon (Coho, Chinook, and Pink Salmon) in the fall.

All adult fish are measured, weighed, and checked for external signs of disease and lamprey wounds. All adult steelhead Rainbow Trout, Brown Trout, or Brook Trout are given a uniquely numbered grey Floy®Tag to identify individual fish for mark-recapture population estimates. All Kamloops Rainbow Trout (clipped, hatchery product) and salmon are given an unnumbered colored plastic tag to indicate when and where they were first captured. Non-lethal scale samples are collected from all adults and a subset of juveniles to evaluate age and growth. All fish are passed upstream of the trap after workup, except for Kamloops Rainbow Trout to limit reproductive and genetic risks associated with introgression into steelhead populations (Miller et al. 2020).

The number of juvenile fish captured in the juvenile trap each day is adjusted to account for daily flow conditions that might have allowed juvenile fish to bypass the trap. The total number of fish caught per day is adjusted using the average trap efficiency from all mark-recapture trials conducted in previous years (0.58) on all days when the gauge height at the trap was 0.20 or greater. Likewise, the number of adult steelhead captured in the trap is adjusted to account for fish that bypass the trap on their upstream migration. A population estimate is calculated during the spring spawning season using the number of adult steelhead tagged in the adult trap and put upstream, and the number of tagged and untagged steelhead recaptured in the juvenile trap headed back to Lake Superior after spawning. Population estimates for unclipped (wild-produced) steelhead are provided in this report.

## Trap Operation Dates and Environmental Conditions Summary

The Knife River traps were opened for the spring steelhead run on April 24, which was two weeks later than the historic trap opening date (April 10) and remained open until July 3 (70 days; Table 1). Ice out occurred around March 30, which was similar to 2022 (Peterson 2022). Historic amounts of snowfall in winter of 2022-23 (146 inches) melted intermittently throughout the late-winter and early spring, (luckily) providing suitable conditions for fish to access spawning areas in the Knife River. Streamflow in the spring peaked on April 14 at 3,000 cubic feet per second (cfs) and then gradually declined from late-April through June. Discharge dropped below the historic median on May 12 and remained there until early-September (Figure 1). The traps were closed for summer on July 4 (Table 1).




The trap was reopened for fall spawning runs on September 5 and remained open for 47 days. Many inches of rain over a couple days in mid-September increased water levels significantly; around September 22nd and 23rd, discharge at the Knife River increased from 8 to 8,080 cfs in just 40 hours (Figure 1). The flood event overtopped the trap depositing massive amounts of flood debris and destroying steel grates. The trap remained closed for 6 days (September 23-28) as flood waters declined. The trap was repaired and reopened on September 29 and remained operational for 29 more days until it was closed for winter on October 27 (Table 2). Harsh environmental conditions (i.e., drought, low stream flow going into winter, and sporadic floods) likely impacted adult reproduction, spawning success, and juvenile survival over the past few years.


**Figure 1.** Knife River streamflow ($ft^3/s$) data provided by the U.S. Geological Survey (monitoring location: 04015330).

## Catch Summary by Species

### *Unclipped (wild-produced) Steelhead Rainbow Trout*

Emigration timing for juvenile steelhead in 2023 followed the historic trend with age-2 and older smolts leaving in May, a peak of the age-1 parr in the first week or two of June, and few to no fish captured after the first week of July. The timing and duration of juvenile steelhead emigration at Knife River is principally influenced by annual environmental and river conditions (i.e., water temperatures and discharge). Those conditions vary from year-to-year based on the timing of the annual winter-to-spring transition and resulting snow melt patterns, and the timing and frequency of rain events throughout the spring (Figure 2). Trap operation dates need to remain flexible and reflect the emigration timing observed each year.

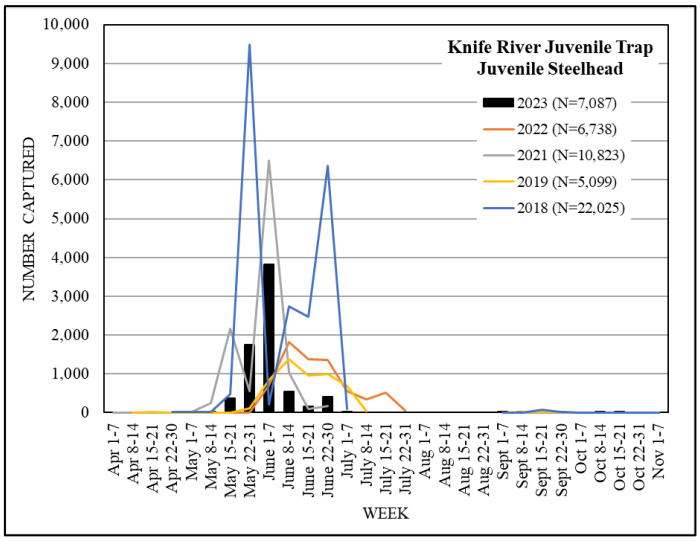



**Figure 2**. The number of juvenile steelhead captured in the Knife River juvenile fish trap by week in 2023 (black bars) and 2018 thru 2022 (colored lines).

In total, 7,087 juvenile steelhead (all ages) were captured in 2023 which was lower than the historic average of 11,836 (range: 1,856-23,971). Accounting for daily trap capture efficiencies, the estimated total number of juvenile steelhead that emigrated from Knife River in 2023 was 7,091, which was lower than the historic average of 13,630 (range: 2,069-34,108). Approximately 71% (5,030) of all fish captured were age-1, 29% (2,050) were age-2, and 1% or less were age-0 (3) and age-3 (4) (Figure 3).

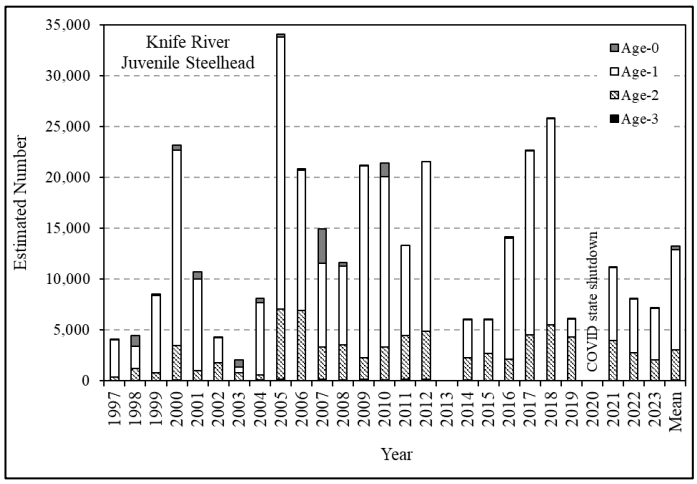



**Figure 3**. The number of juvenile steelhead captured by age in the Knife River juvenile fish trap by year.

Adult steelhead that return to Knife River are most likely the juveniles that emigrated at age-2 or older (hereafter, referred to as smolts). Smolts are larger than age-1 parr and are more able to avoid predation in Lake Superior, and have likely reached a size to imprint to Knife River waters, therefore will most likely return there as adults (Negus 2011). Smolt production was lower than the historic average (3,220) in two of the last three years; however, smolt estimates are incomplete for some year-classes due to trap remaining closed in 2020. The below average smolt production from the 2020 and 2021 year-classes likely resulted from poor rearing conditions in the streams in subsequent years. Abundant smolt year-classes are typically produced in years with more favorable stream rearing conditions (i.e., adequate water temperatures and discharge and warm winters), and immediately following years with abundant adult steelhead spawning returns (Table 1; Figure 4).

A total of 288 individual unclipped adult steelhead were captured in the Knife River adult (upbound) or juvenile (downbound) traps in spring 2023. Two hundred one were captured in the adult trap and 87 in the juvenile trap. Thirty-two steelhead were captured multiple times in spring 2023; recaptures were excluded from the total daily counts and the mark-recapture population estimates. The mark-recapture population estimate that accounts for fish that bypassed the trap during upstream migration estimated that 388 (95% C.I.: 348-428) adult steelhead returned to Knife River in spring 2023 (Table 1; Figure 5). Approximately 40% (114) of all unclipped steelhead were captured in April, 53% (152) in May, and 8% (22) in June.

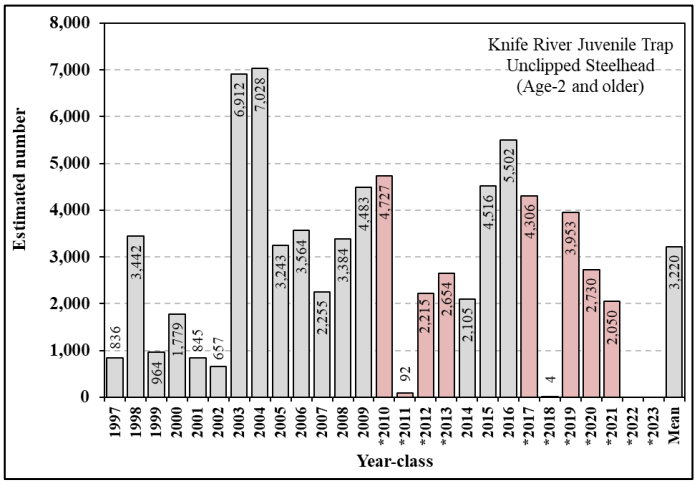



**Figure 4.** Estimated number of age-2 and older unclipped juvenile steelhead emigrants in the Knife River by year-class. The historic average (Mean) excludes all incomplete year-classes shown with an asterisk (*).

Adult steelhead were age-3 through age-14. Approximately 19% (56) were age-4 or younger, 34% were age-5 (55) or age-6 (44), 35% (116) were age-7, and 46% (132) were age-7 or older. Average size of females was 26 inches (range: 18-30) and 6.1 pounds (range: 1.6-6.9). Average size of males was 24 inches (range: 14-29) and 5.0 pounds (range: 0.6-7.2). Forty-precent (115) of all unclipped fish captured had a numbered Floy®Tag from a previous year, and 1% (5) had a tag stub or mark that indicated tag loss. Five unclipped steelhead were captured in the fall.

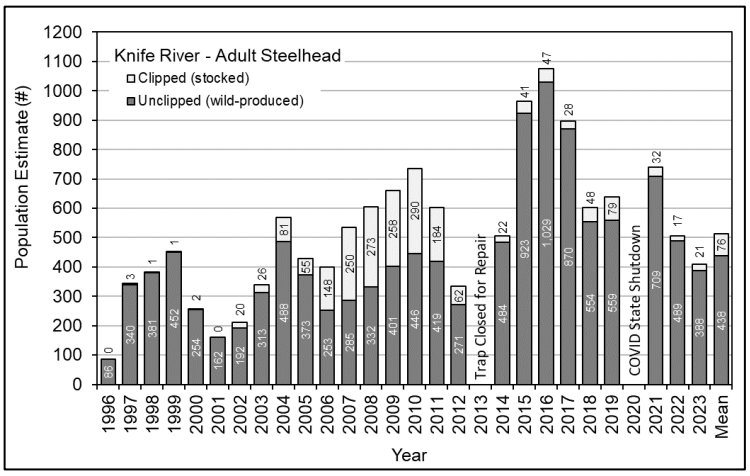



**Figure 5.** Number of unclipped (wild-produced) and clipped (stocked) adult steelhead that returned to the Knife River in the spring by year from 1996 to 2023, including the historic average (Mean).

In general, average or above-average returns of adult steelhead at Knife River over the past decade have been maintained mainly by wild reproduction. Adults have been comprised of a relatively high proportion of older aged fish (age 7+) in recent years. This is good as age-structure reflects the lack of harvest from restrictive harvest regulations that have been in place since 1997 (catch-and-release only) and, not surprisingly, a relatively high proportion of adults captured in recent years were previously tagged, repeat spawners. However, reproductive yields from fish can decline with age and juvenile parr and smolt production appears to have been low over the past few years. The overall low number of adults, and particularly the lack of age-4 thru age-6 adults, in recent years was somewhat unexpected given the smolts produced from those year-classes (Figure 4); this resulted from poor lake survival and returns of those year-classes. The declines in juvenile and adult abundances observed in Knife River and many other populations on the North Shore over the past few years is a bit concerning (Peterson 2022). Supplemental stocking might want to be considered to counteract poor lake and stream survival in recent years.

***Clipped (stocked) Steelhead & Kamloops Rainbow Trout***

Fifteen clipped steelhead were captured in the spring and five different fin clip combinations were found: 4 right-maxillary (RM), 2 left-pelvic (LR), 1 right-pectoral (RF), 2 adipose plus left-rear (ALR), and 6 adipose plus right-pelvic (ARR) fin clips (Table 1, Figure 1). No clipped Rainbow trout (steelhead or Kamloops) were captured in the fall (Table 2).

All 7 RM clipped steelhead were Knife River captive adult broodstock that were clipped and released into Lake Superior prior to closure of the French River Coldwater Hatchery (FRCWH). These fish were originally wild-produced fish captured as age-1 parr at the Knife River smolt trap, transported to the FRCWH where they were grown out and spawned to produce fish to stock. All these fish were tagged and released to Lake Superior in 2018 or earlier, and all were females. Two fish were age-8 (2015 year-class), 1 was age-9 (2014 year-class), and one was age-10 (2013 year-class). Average length was 27.0 inches (range: 26.0-27.7) and 6.8 pounds (range: 5.0-7.9) (Table 2).

All LR and RF clipped steelhead were wild-produced fish from the Lake Superior Steelhead Associations (LSSA) Steelhead Relocation Project (2015-2018). These fish were originally captured at the Knife River juvenile fish trap as age-1 parr, brought back to French River Hatchery, fin clipped, and reintroduced back into a few cold-water tributaries in the upper Knife River watershed. One fish was age-6 (2017 year-class) and 2 were age-8 (2015 year-class). The average length was 25.9 inches (range: 25.2-27.1) and 6.0 pounds (range: 5.0-8.4) (Table 2).


All ALR or ARR clips were Superior strain steelhead stocked by the Minnesota DNR above barriers in both the Lester and French Rivers (approx. 60,000 per river, 120,000 total annual stocking quota). The Superior strain steelhead stocking program began with pre-smolt yearlings stocked in 2018 (2017 year-class); these fish averaged 4-inches total length and were stocked above barriers in the French and Lester rivers in hopes to improve imprinting of juveniles and returns of adults to Minnesota waters of Lake Superior. The two ALR clipped steelhead captured in 2023 were 4 years old (2019 year-class) and both fish were females. One fish measured 24.5 and 5.2 pounds and the other was 25.7 inches and 4.8 pounds. Five of six ARR clipped steelhead were 5 years old (2018 year-class) and from the second year-class of the new clipped steelhead stocking program; average length of this year-class was 25.5 inches (range: 24.2 to 27.7) and 6.2 pounds (range: 5.3 to 7.0). One ARR steelhead was a male from the 2021 year-class that measured 16.2 inches and weighed 1.5 pounds (Table 2). Superior strain steelhead are not expected to return to Knife River traps because they are not currently stocked in Knife River.

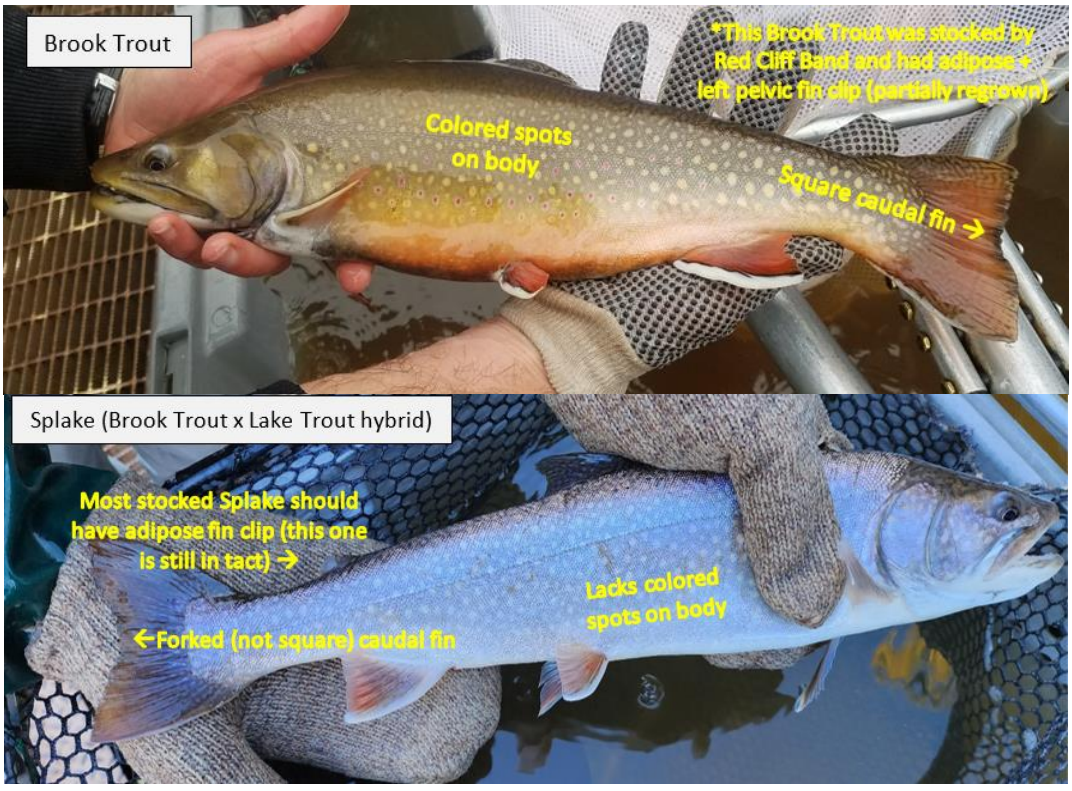
One clipped Kamloops was captured this spring (Table 2). This fish was originally stocked in the French or Lester river in 2017 and strayed to the Knife River. It had an ARR clip, was 7 years old (2016 year-class), measured 26.2 inches, and weighed 7.0 pounds. The Kamloops stocking program ended after stocking pre-smolt yearlings in 2017 (2016 year-class). Kamloops have now well exceeded their average life-expectancy (5 years old), therefore any adipose-clipped (stocked) Rainbow Trout caught in Minnesota waters moving forward will likely be the Superior strain steelhead and not Kamloops.

***Brook Trout & Splake (Brook Trout x Lake Trout hybrid)***

Brook Trout are a primary management species in the Knife River and populations are currently supported solely by natural reproduction. The peak emigration patterns of juvenile Brook Trout at Knife River typically correspond to the upstream and downstream peak migrations of adult steelhead, and a lesser degree related to seasonal water temperatures than is observed with juvenile steelhead.

Thirty-six Brook Trout were captured in the juvenile trap in 2023, 33 were captured in the spring and 3 in the fall. Average total length was 6.6 inches (range: 4.4-11.2). Eighteen were age-1 (2022 year-class), 16 were age-2 (2021 year-class), and 2 were age-3 (2020 year-class). Two Brook Trout were given a numbered pink Floy®Tag prior to releasing downstream. Only one Brook Trout was captured in the adult trap in 2023 (Table 1); the fish was captured in the spring, measured 10.1 inches, was age-3 (2020 year-class), was given a pink Floy®Tag and released upstream of the trap. A small left pectoral fin clip was collected from a subset of Brook Trout for the Coaster Genetics Project. If you catch a tagged Brook Trout or any other species with a tag, please DO NOT remove the tag, record the tag number, and report it to the Minnesota DNRs Tagged Fish Reporting website.

No Splake (Brook Trout x Lake Trout hybrids) were captured at Knife River in 2023.



***Brown Trout***

Brown Trout are a primary management species in the Knife River and populations are currently supported solely by natural reproduction. Seventy-three juvenile Brown Trout were captured in the juvenile trap in 2023, 35 were captured in the spring (April-June) and 38 in the fall (September-October). Average total length was 5.9 inches (range: 3.9-9.9). Forty-one were age-1 (2022 year-class), 31 were age-2 (2021 year-class), and one was age-3 (2020 year-class).


Brown Trout

No adult Brown Trout were captured in the spring. Sixteen adult Brown Trout were captured in the fall of 2023; the first was captured on September 8 and the last on October 27. Ten were females and six were males. The average size was 22.4 inches (range: 12.8-28.8) and 4.4 pounds (range: 0.7-6.6). Four Brown Trout were recaptures (repeat spawners) tagged at the Knife River trap in previous years. Two tagged recaps were 9 years old (2014 year-class); one was a 25.1-inch female that was originally tagged in 2018 when it measured 18.3 inches, and the other was a 28.8 -inch male that originally tagged in 2021 when it measured 26.3 inches. Two other tagged recaps were females that were 6 years-old (2017 year-class); one was 24.6 inches and originally tagged in 2021 when it measured 19.5 inches, and one was 23.2 inches and originally tagged in 2021 when it measured 18.4 inches.

***Chinook, Coho, and Pink Salmon***

Pacific salmon species typically spend one year or less in the rivers prior to emigrating to Lake Superior; Chinook and Coho typically spend 1 year in the streams, and Pink salmon emigrate to Lake Superior as fry soon after they hatch. It is assumed that most of the juvenile Pacific salmon species born in Lake Superior streams emigrate to Lake Superior early in the spring when river conditions are high from snowmelt and at small sizes that are not conducive to being captured in the Knife River traps (<2.0 inches). Chinook, Coho, and Pink salmon are not primary management species in Knife River and any captured here are most likely produced in other jurisdictions and strayed to Knife River; however, natal origins of adult salmon that return to spawn in Minnesota waters of Lake Superior has never been corroborated. Adult Coho and Chinook salmon are very rare at Knife River and the historic average annual return of Chinook salmon at Knife River is only 2 fish and Coho is 14 fish per year. Abundant returns of adult Pink salmon typically appear on a two- or three-year cycle (Table 2; Beckman 2022).

No adult or juvenile Chinook salmon were captured in 2023. Eleven adult Coho Salmon were captured in the adult trap in the fall; 5 were males that ranged in size from 18.9 to 25.4 inches and six were females that ranged from 19.8 to 27.2 inches (Table 2).


Pink Salmon

No juvenile Pink salmon were captured in 2023. Twenty adult Pink salmon were captured in the fall. The first adult Pink salmon was captured on September 29 and all others were captured within 5 days (Sept. 29-Oct. 4). Nine were males that ranged in size from 14.6 to 17.5 inches, and eleven were females that ranged from 14.3 to 17.4 inches. As expected, Pink salmon were very abundant in the lake and streams in 2023 (Beckman 2023). The trap catches at Knife River do not necessarily reflect how abundant Pink salmon were in 2023, which reflects the known spawning tendencies of this species to spawn in river habitat relatively close to Lake Superior, and potentially supports the assumption that most Pink salmon spawn and are produced elsewhere in Lake Superior (Table 2).

## Sea Lamprey Wounding Rates


A field guide for classifying Sea Lamprey wounds on fish that is used by agencies throughout the Great Lakes for estimating sea lamprey-induced mortality of target fish species, evaluating the success of the sea lamprey control program, allocating resources for sea lamprey control, and setting fish community targets (Ebner et al. 2006). This guide has been used by Minnesota DNR at the Knife River traps since 2008. Prior to 2008, lamprey wounds were recorded but without any sort of classification system. Annual wounding rates observed at the Knife River traps are regularly shared with others who manage the Lake Superior fishery (i.e., Lake Superior Technical Committee).

In total, 18 lamprey wounds were found on 306 steelhead Rainbow Trout examined at the Knife River traps in 2023. Five were classified as fresh wounds (A1-A3 type) and 13 as 'old' wounds (A4-B4 type). The fresh wounding rate (A1-A3 types) for steelhead Rainbow Trout at the Knife River in 2023 was 1.6% (5 wounds per 306 fish examined), which was like the historic average rate from 2008 to 2022 (1.4%; range: 0.4-2.9%). Combining all wound types, all wound rate was 5.9% in 2023, which was also like the historic average (5.5%; range: 2.7 to 9.8%) (Figure 6). Overall, wounding rates at the Knife River remain relatively low and below maximum target wound rates for other species (e.g., annual fresh wound standards for Lake Trout is less than 3.0% with 5% being critical concern; Goldsworthy et al. 2017). Lamprey wounds were only present on Rainbow Trout captured in the spring, except for one A2-type wound on one Coho salmon in late-October. No lamprey wounds were observed on other salmonid species.

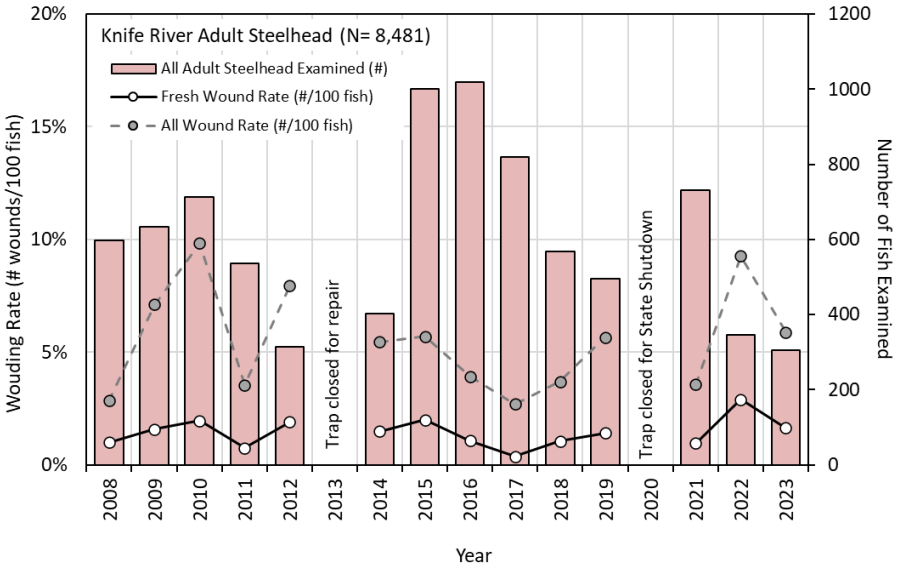



**Figure 6.** Fresh lamprey wounding rate (#/100 fish with A1-A3 wounds), all lamprey wound rate (#/100 fish), and the number of adult steelhead captured and evaluated for lamprey marks by year.

SUPPLEMENTAL REPORT

# Knife River Fish Trap Report
# 2023

Prepared by:
Nick Peterson

Edited by:
Cory Goldsworthy

Area Fisheries Supervisor: Cory Goldsworthy Digitally signed by Cory Goldsworthy Date: 2024.07.01 10:06:01 -05'00'

Regional Fisheries Supervisor: David Weitzel Digitally signed by David Weitzel Date: 2024.07.01 10:03:43 -05'00'

**Table 1**. Operation dates and total number of adult fish collected at the Knife River adult trap in the spring by year and species, including the historic averages (Mean). The trap was not operated in 2013 (trap repairs) and 2020 (COVID state shutdown).

| Year | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date trap was opened | 4/23 | 4/14 | 3/25 | 4/7 | 3/26 | 4/18 | 4/14 | 4/21 | 4/7 | 4/10 | 4/6 | 4/15 | 4/16 | 4/12 | 3/28 | 4/18 | 3/25 | — | 4/28 | 4/13 | 3/27 | 4/5 | 4/24 | 4/5 | — | 4/1 | 4/9 | 4/24 | 4/10 |
| Date trap was closed | 6/5 | 6/30 | 6/22 | 6/30 | 6/30 | 6/30 | 6/30 | 6/28 | 6/30 | 6/30 | 5/25 | 6/26 | 6/30 | 6/22 | 5/31 | 6/20 | 6/1 | — | 7/7 | 7/6 | 7/19 | 7/14 | 7/5 | 7/12 | — | 6/24 | 7/29 | 7/3 | 6/27 |
| Days trap was open | 43 | 77 | 89 | 84 | 96 | 73 | 77 | 68 | 84 | 81 | 49 | 72 | 75 | 71 | 64 | 63 | 68 | — | 70 | 85 | 115 | 101 | 68 | 99 | — | 84 | 105 | 70 | 78 |
| Brook Trout | 0 | 3 | 3 | 7 | 3 | 11 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 6 | — | 0 | 7 | 39 | 5 | 14 | 5 | — | 7 | 6 | 1 | 5 |
| Brown Trout | 0 | 2 | 0 | 1 | 2 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | — | 0 | 5 | 4 | 0 | 2 | 0 | — | 1 | 1 | 0 | 1 |
| Chinook Salmon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | — | 0 | 0 | 0 | 0 |
| Kamloops (clipped) | 37 | 48 | 48 | 82 | 65 | 108 | 44 | 72 | 120 | 97 | 27 | 22 | 21 | 46 | 26 | 29 | 20 | — | 29 | 17 | 19 | 44 | 43 | 58 | — | 15 | 6 | 1 | 44 |
| Steelhead (clipped) | 29 | 28 | 20 | 43 | 120 | 40 | 76 | 111 | 201 | 136 | 204 | 284 | 274 | 258 | 290 | 182 | 62 | — | 21 | 47 | 47 | 28 | 48 | 71 | — | 44 | 16 | 15 | 104 |
| *Adipose only (A)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *0* | *1* | *0* | *0* |
| *Adipose + Left-pelvic (ALR)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *0* | — | *2* | *2* | *2* | 2 |
| *Adipose + Right-pelvic (ARR)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *0* | — | *1* | *2* | *6* | 2 |
| *Left-pelvic (LR)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *0* | *3* | — | *8* | *3* | *2* | 3 |
| *Right-pectoral (RF)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *1* | *2* | — | *4* | *1* | *1* | *2* |
| *Right-pelvic (RR)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *2* | *1* | — | *0* | *0* | *0* | 1 |
| *Right-maxillary (RM)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *45* | *64* | — | *29* | *7* | *4* | 30 |
| Steelhead (unclipped)[1] | 86 | 340 | 381 | 452 | 254 | 162 | 192 | 313 | 488 | 373 | 253 | 285 | 332 | 401 | 446 | 419 | 271 | | 484 | 923 | 1,029 | 870 | 554 | 559 | — | 709 | 489 | 388 | 440 |
| **All Species** | **153** | **426** | **480** | **585** | **477** | **334** | **357** | **568** | **862** | **656** | **562** | **593** | **627** | **705** | **765** | **634** | **360** | **—** | **533** | **999** | **1,138** | **947** | **661** | **693** | **—** | **776** | **518** | **405** | **608** |

[1] *Numbers estimated using a mark-recapture population estimate to account for fish that bypassed the trap during upstream migration.*

**Table 2**. Operation dates and total number of adult fish collected at the Knife River adult trap in the fall by year and species, including the historic averages (Mean). The trap was not operated in fall 2012 and 2013 (trap repairs), and 2020 (COVID).

| Year | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 [1] | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date trap was opened | 8/19 | 8/18 | 8/17 | 8/9 | 8/4 | 8/13 | 8/16 | 9/8 | 9/8 | 9/5 | 9/5 | 9/5 | 9/2 | 9/21 | 9/13 | 9/19 | — | — | 9/9 | 9/9 | 9/6 | 8/25 | 9/4 | 8/30 | — | 9/7 | 9/13 | 9/5 | 8/31 |
| Date trap was closed | 11/8 | 11/7 | 11/6 | 11/12 | 11/10 | 11/16 | 11/8 | 11/7 | 11/5 | 11/4 | 11/4 | 11/2 | 11/7 | 11/7 | 11/5 | 11/4 | — | — | 11/6 | 11/18 | 11/16 | 11/6 | 11/7 | 11/6 | — | 11/1 | 11/2 | 10/27 | 11/6 |
| Days trap was open | 81 | 81 | 81 | 95 | 98 | 95 | 84 | 60 | 58 | 60 | 60 | 58 | 66 | 47 | 53 | 46 | — | — | 58 | 71 | 72 | 74 | 63 | 62 | — | 56 | 33 | 47 | 66 |
| Brook Trout | 0 | 2 | 3 | 1 | 0 | 3 | 2 | 0 | 3 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | — | — | 1 | 1 | 1 | 3 | 2 | 0 | — | 0 | 1 | 0 | 1 |
| Brown Trout | 32 | 67 | 43 | 61 | 58 | 20 | 45 | 30 | 27 | 26 | 9 | 7 | 17 | 8 | 7 | 1 | — | — | 7 | 5 | 5 | 0 | 15 | 23 | — | 28 | 3 | 16 | 22 |
| Chinook Salmon | 4 | 1 | 9 | 9 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 5 | 0 | 0 | 0 | — | — | 1 | 3 | 0 | 1 | 3 | 1 | — | 0 | 0 | 0 | 2 |
| Coho Salmon | 6 | 16 | 37 | 10 | 5 | 1 | 16 | 0 | 3 | 3 | 0 | 9 | 11 | 9 | 71 | 0 | — | — | 0 | 8 | 17 | 5 | 53 | 32 | — | 6 | 2 | 11 | 13 |
| Kamloops | 4 | 0 | 12 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 7 | 0 | 3 | 10 | — | — | 0 | 2 | 0 | 0 | 1 | 0 | — | 0 | 0 | 0 | 2 |
| Pink Salmon | 0 | 9 | 20 | 39 | 48 | 0 | 3 | 0 | 0 | 2 | 7 | 10 | 0 | 2 | 258 | 103 | — | — | 0 | 1 | 4 | 207 | 2 | 10 | — | 94 | 5 | 20 | 34 |
| Rainbow Trout - unknown type [2] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | 0 | 0 | 0 | 0 | 0 | 0 | — | 0 | 0 | 0 | 1 |
| Splake (Brook Trout x Lake Trout) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — | 0 | 1 | 0 | 0 | 1 | 4 | — | 1 | 2 | 0 | 0 |
| Steelhead Rainbow Trout (clipped) | 2 | 0 | 16 | 6 | 9 | 0 | 2 | 0 | 0 | 7 | 0 | 22 | 10 | 5 | 2 | 0 | — | — | 0 | 5 | 3 | 1 | 10 | 7 | — | 0 | 0 | 0 | 4 |
| *Adipose only (A)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *0* | *0* | *0* | *0* |
| *Adipose + Left-pelvic (ALR)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *2* | — | *0* | *0* | *0* | *1* |
| *Adipose + Right-pelvic (ARR)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *0* | — | *0* | *0* | *0* | *0* |
| *Left-pelvic (LR)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *1* | *0* | — | *0* | *0* | *0* | *0* |
| *Right-pectoral (RF)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *0* | *2* | — | *0* | *0* | *0* | *0* |
| *Right-pelvic (RR)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *0* | *0* | — | *0* | *0* | *0* | *0* |
| *Right-maxillary (RM)* | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | *9* | *3* | — | *0* | *0* | *0* | *2* |
| Steelhead Rainbow Trout (unclipped) | 60 | 16 | 105 | 17 | 37 | 19 | 23 | 6 | 49 | 9 | 1 | 50 | 49 | 21 | 18 | 2 | — | — | 8 | 155 | 22 | 25 | 35 | 53 | — | 31 | 0 | 4 | 33 |
| **All Species** | **108** | **111** | **245** | **144** | **163** | **44** | **93** | **36** | **96** | **49** | **17** | **115** | **100** | **45** | **359** | **117** | **—** | **—** | **17** | **181** | **52** | **242** | **122** | **130** | **—** | **160** | **13** | **51** | **112** |

*[1] Counts made from fishway and video survalence; [2] Specific clips/strains were not identifiable on videotape*