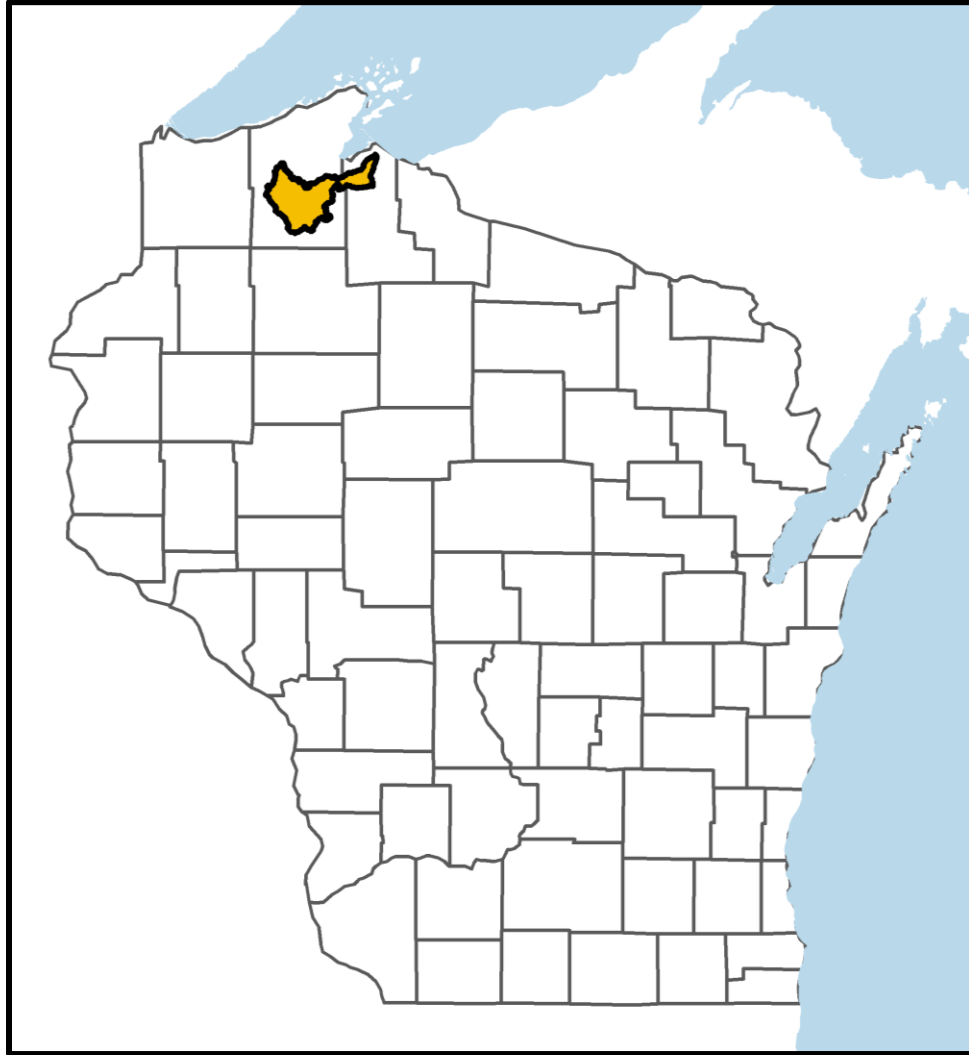


Wisconsin Department of Natural Resources White River Watershed and Creel Survey

Bayfield County, Wisconsin, 2024-2025



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Executive Summary

A watershed assessment and angler creel survey were completed in the White River watershed in Bayfield County to assess the trout fishery in 2024 and 2025. Survey objectives were to determine the status and distribution of trout populations throughout the watershed and estimate angler effort, catch and harvest on the South Fork White River and mainstem White River upstream of Bibon Rd.

The White River brown trout population has recovered since the floods of the mid-2010s with abundance similar to the long-term average and exceptional size structure. Brown trout abundance was 343 fish/mile at the Bolen site and 280 fish/mile at the Sutherland site. Proportional size distribution (PSD-15) was 40% at the Bolen site and 35% at the Sutherland site. Relative weight was poor which indicates food is limited and growth rates may be slowing. Increasing harvest opportunity while protecting large brown trout is recommended to help improve growth rates and maintain the trophy fishery downstream of Pike River Rd.

Healthy populations of catchable sized brown and brook trout are present in the main tributaries, supported by robust natural reproduction. The percent of brook trout relative to brown trout has increased since 2007 in the South Fork, Long Lake Branch and Twenty Mile Creek, which indicates high quality cold-water habitat.

Angler effort on the 21.3 river miles in the Middle White section from Bibon Rd to Pike River Rd was 4,493 angler hours in 2024 and 5,117 angler hours in 2025, a substantial increase from the historic low of 2,807 angler hours in 2014. Angler catch rates for both brown and brook trout were the highest ever observed in this section of the White, and harvest remained low. Angler effort on the 5.1 river miles in the Upper White section upstream of Pike River Rd to the Lake Two spring pond on the South Fork White River was 3,405 angler hours in 2025, which was 2.5 times more angler hours per river mile than the Middle White section. Angler catch rates and harvest rates for brown and brook trout were higher in the Upper White than the Middle White.

Introduction

The White River watershed is located about 15 miles southeast of Lake Superior's Chequamegon Bay and is primarily in Bayfield County. It is the largest HUC 10 watershed in Wisconsin's Lake Superior basin and has a total area of 234,338 acres. Most of the watershed is public land, either owned by the Wisconsin Department of Natural Resources (DNR) or U.S. Forest Service. The DNR-owned White River Fishery Area and Bibon Swamp State Natural Area encompass the entire South Fork White River (hereafter "South Fork") and most of the mainstem of the White River downstream to Bibon Rd near the town of Mason. Much of the watershed's headwaters are within the Chequamegon-Nicolet National Forest. Road access to trout water is somewhat limited in parts of the watershed, particularly on the mainstem White River. The most remote section is the 16 miles between Sutherland

Bridge and Bibon Rd, known as the Bibon Swamp, and is generally only accessible by canoe, kayak or raft. The White River is one of only eight trout streams in Wisconsin with more than 40 miles of class I or II trout water, and it supports a high-quality brown trout fishery within the Bibon Swamp. In 2024 and 2025, the DNR conducted a watershed assessment survey of streams within the White River watershed to assess the status and distribution of trout populations and conducted an angler creel survey to evaluate angler use, catch and harvest on the South Fork and mainstem White River.

Regulations

The mainstem White River downstream of Pike River Rd and the Long Lake Branch downstream of Taylor Ln has an 18-inch minimum length limit and one trout daily bag limit. The White River and tributaries upstream of Pike River Rd (including the South Fork, East Fork, West Fork and Lake Two) have an 8-inch minimum length and three trout daily bag limit. All other waters within the watershed have no minimum length limit and five trout daily bag limit. All regulations in the White River watershed are summarized in Appendix Table A1.

Habitat Improvement

Vegetation management along the South Fork to improve angler access, remove invasive buckthorn and revegetate the riparian corridor with native tree species has been ongoing since the mid-2000s. In-stream habitat lunger structures and log covers in the South Fork were rebuilt in the early 2000s. A bank stabilization project on the South Fork was completed in 2021 to restore a steep slope bank that washed out in the 2018 floods. Numerous road crossings that failed in the 2016 and 2018 floods have been repaired with upgraded culverts or bridges to ensure fish passage and flood resilience.

Management History

Brown, brook and rainbow trout were stocked in the White River since at least 1920 to 1981. Since 1981, no stocking has occurred in the White River. There are no historical reports of trout stocking in the other trout streams in the White River watershed. Severe winters from 2012-2014 and a fish kill from a summer flood event in July 2013 caused the brown trout abundance to decline to historic lows (Toshner et al. 2016). The restrictive 18-inch minimum length limit and one fish daily bag limit regulation currently in place was enacted in 2016 to limit harvest and help restore brown trout abundance to levels observed pre-2013. Previous survey reports have documented the importance of better understanding seasonal fish movement, conducting an age validation study to accurately model population growth and continuing to work with partner stakeholder groups (Toshner and Manz 2008; Toshner et al. 2016). The local Trout Unlimited chapter, Wild Rivers Trout Unlimited, has long been an active stakeholder assisting the DNR by providing additional funding and volunteer resources. In 2024, Wild Rivers Trout Unlimited officially adopted the White River Fishery Area through the DNR Adopt a Fishery Area program, a \$3,000 annual

commitment for 3 years to help fund the creel survey and habitat management in the White River Fishery Area.

Methods

The three major portions of this watershed assessment were a spring non-wadable trout survey in the mainstem White River, summer wadable trout surveys in tributaries to the White River and an angler creel survey on the South Fork and mainstem White River.

Non-Wadable Trout Surveys

Mark-recapture electrofishing surveys using mini-boom shocker boats have been conducted on the mainstem of the White River since at least 1984. These surveys occurred in early spring prior to snow melt, as sampling efficiency was best with lower water levels. Sampling sites have varied over the years, but most sampling occurred at reaches from Sutherland Bridge to 4 miles downstream and from the confluence with Bolen Creek to 4 miles downstream (Figure 1).

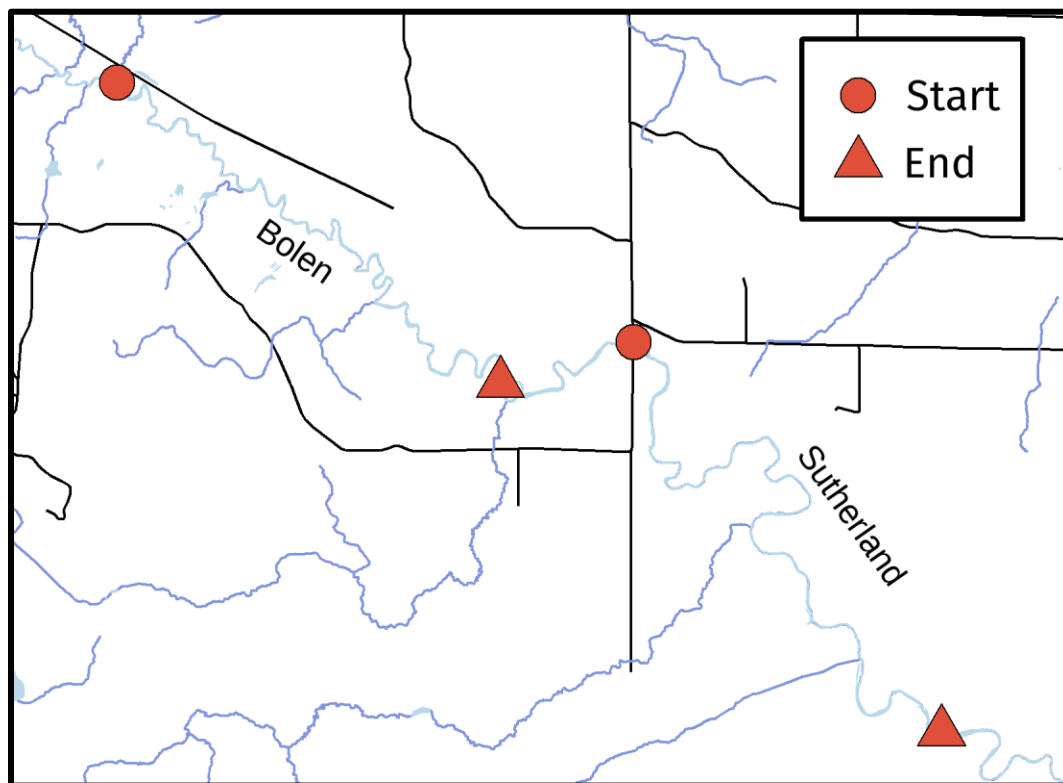


Figure 1. Site map of non-wadable electrofishing surveys on the mainstem White River. Circles indicate starting points and triangles indicate ending points.

On the first day of each survey, two mini-boom shockers were used to capture trout. All trout were measured, marked with a fin clip and released. The next day, the two mini-boom shockers sampled the same sites, and all trout were checked for fin clips,

measured and released. A brown trout population estimate for each site was calculated using the Lincoln-Peterson estimator with Chapman modification based on the number of fish marked (day 1), captured (day 2) and recaptured (day 2, with fin clip; Ricker 1975):

$$N = \frac{(M+1)(C+1)}{(R+1)}$$

where N = population estimate, M = number of fish marked on the first day, C = total number of fish captured on the second day and R = number of marked fish captured on the second day. Although some small trout were captured during each survey, capture efficiency was poor, so population estimates only include adult (≥ 6 inches) brown trout.

Size structure for each species was visualized using length frequency histograms and quantified using the proportional size distribution (PSD) metric:

$$PSD = \frac{\# \text{ of fish } \geq \text{ given length category}}{\# \text{ of fish } \geq \text{ stock length}} * 100$$

PSD can generally be interpreted as the percent of fish greater than the given length (Gabelhouse 1984; Appendix Table A2). PSD results were only included when ≥ 30 individuals were sampled.

When time allowed, brown trout were also weighed. Relative weight for brown trout was calculated using the following equation:

$$\text{Relative Weight} = 100 * \frac{\text{Weight}}{10^{-3.366 + (2.96 * \log_{10} \text{Length})}}$$

where weight is in pounds and length is in inches (Milewski and Brown 1994). Relative weight is used to assess the condition of fish, where higher values indicate more plump fish, and lower values indicate thinner fish.

Wadable Trout Surveys

Thirty-six wadable sites were sampled in the White River watershed in 2024 and 2025 (Figure 2). Sites were either “trend sites” that are sampled annually, or “other sites” that are sampled every three, six or twelve years. The five main tributaries, the South Fork, East Fork, Long Lake Branch, Eighteenmile and Twenty Mile Creek each had one trend site. The other 31 sites were located throughout the watershed on other streams or other locations on the five main tributaries (Figure 2). Sampling occurred during mid-July to early-September using backpack or towable barge electrofishing units. Site length was determined using standard WDNR wadable stream sampling protocol (35 times the mean stream width, 100 meters minimum). Site specific

characteristics and sampling methods are in Appendix Table A3. All fish were collected, identified and counted and gamefish were measured to the nearest 0.1 inch.

Trout size structure was visualized using length frequency plots and young-of-year trout were assumed to be < 4 inches based on breaks in length frequency plots. The trout species composition (i.e., percent brown trout vs. brook trout) was calculated for each trend site survey to evaluate trends in species composition over time. Species specific catch per effort (CPE; number of fish per mile) was calculated to index relative abundance. Catch rates by size class were calculated to assess relative abundance of young-of-year (<4"), catchable size (≥ 6 "), and quality size (≥ 8 " for brook trout and ≥ 12 " for brown trout) fish. Catch rates were compared to other Class I trout streams in Wisconsin and to previous years from the same site to evaluate trends through time.

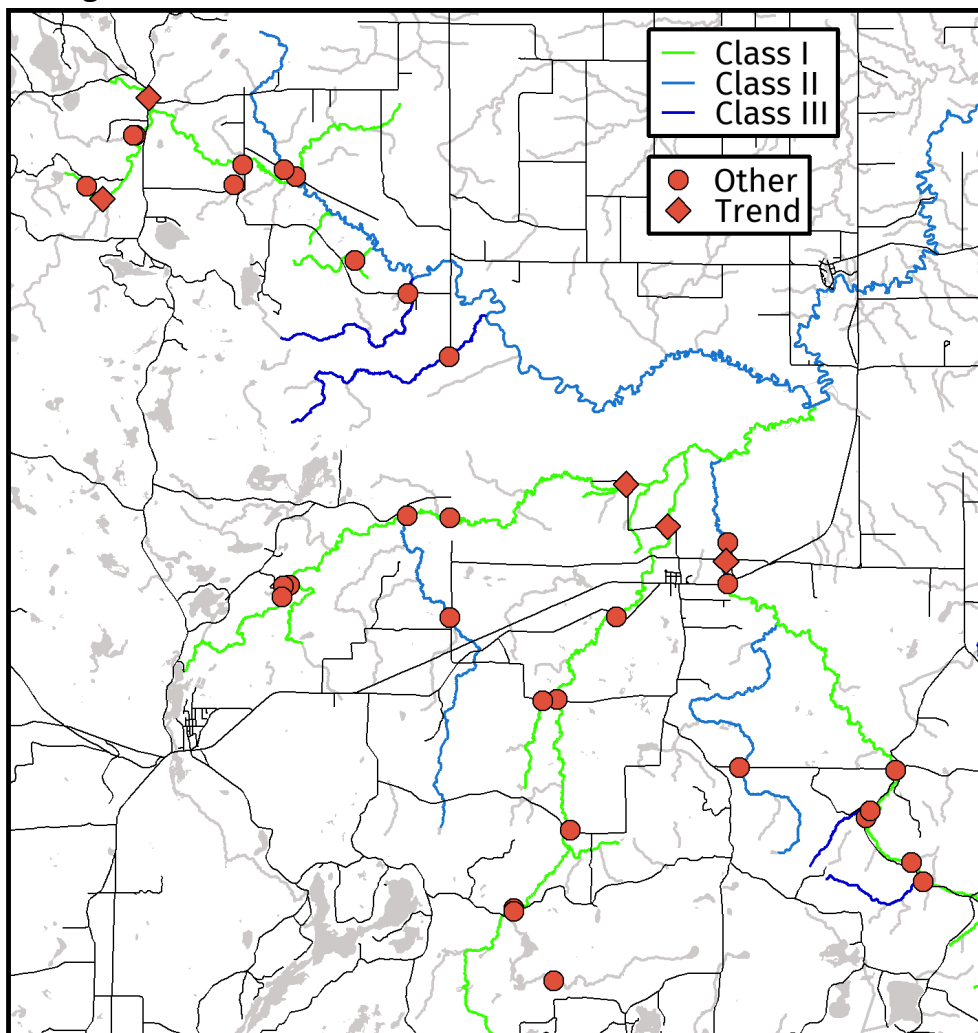


Figure 2. Site map of trend (diamonds) and other (circle) wadable trout surveys in the White River watershed in 2025. Green stream lines represent class 1 trout water, light blue stream lines represent class 2 trout water and dark blue stream lines represent class 3 trout water.

Angler Creel Surveys

Since at least 1984, angler creel surveys have been conducted during the general trout fishing season on a 21.3-mile section of the White River from the Pike River Rd Bridge downstream to the Bibon Rd Bridge (hereafter “Middle White”; Figure 3). In 2025, the angler creel survey included the 5.1-mile section from Lake Two spring pond (including 15-acre Lake Two) on the South Fork downstream to Pike River Rd Bridge (hereafter “Upper White”; Figure 3).

Various methods have been used to implement the White River creel surveys. From 1984 to 2015, creel clerks collected angler effort data by counting the number of cars at access locations using a random sampling design stratified by day type (weekend/holiday or weekday) and time of day (AM or PM). During the same time period (1984 to 2015) angler catch and harvest data was collected using two methods; by interviewing anglers or using kiosks with survey cards that anglers could voluntarily fill out. Prior to 2004, a combination of creel clerk car counts, angler interviews and kiosks were used and from 2004 to 2015 only creel clerk car counts and angler interviews were used.

In 2024 and 2025 a novel creel survey method was implemented using remote cameras to collect angler pressure data instead of creel clerk car counts along with the previously used kiosk method to collect angler catch and harvest data. We primarily set the cameras to take time lapse photos on a 15-minute interval to generate car counts at angler access parking lots (Figure 3). When a camera was not able to view the entire parking lot, motion detection photos were used to generate angler counts by viewing the access trail (Lake Two walk-in access off of W Delta Rd) or canoe landing (Sutherland Rd) or car counts by viewing the access road (Goldberg’s Landing). In addition to collecting angler pressure data, cameras were used to estimate survey card reporting rate (i.e., % of cars or anglers who completed a survey card). Site specific reporting rate from 2024 was used to estimate total car or angler count for the same sites in 2025 that did not have a camera (Bibon Rd, Goldberg’s Landing, and Pike River Rd). For sites without cameras in 2025 that were not surveyed in 2024 (End of White River Rd, White River Rd near Kern Creek, County Hwy H, Delta Drummond Rd, and Fisheries Rd) the overall mean reporting rate in 2025 was used to estimate total car or angler count. Angler metrics were determined using the following equations:

$$\text{Number of anglers} = \text{number of cars} * \text{mean anglers/car},$$

$$\text{Angler hours} = \text{number of anglers} * \text{mean number hours fished/trip},$$

$$\text{Total catch or harvest} = \text{mean catch or harvest rate (fish/hour)} * \text{angler hours},$$

$$\text{Brown trout exploitation} = \frac{\text{brown trout harvested/mile}}{\text{brown trout abundance/mile}} * 100,$$

Angler metrics from the Middle White in 2024 and 2025 were compared to previous creel surveys to evaluate trends through time. Site specific results from 2024 and 2025 were compared across sites to evaluate angler metrics spatially throughout the watershed.

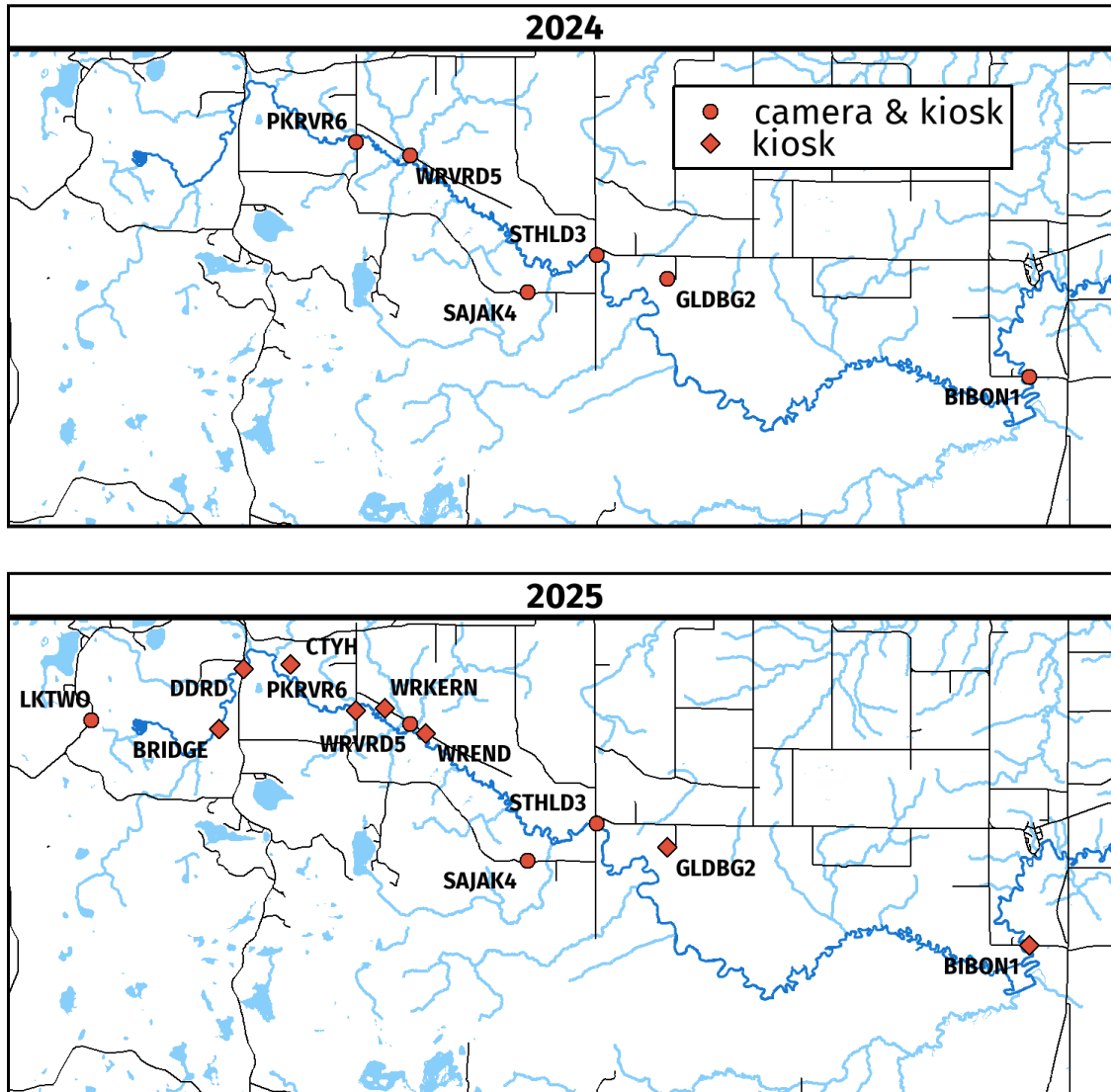


Figure 3. Map of angler creel survey kiosk (diamonds) and camera with kiosk (circle) locations with site name (black text) in the White River watershed in 2024 (top panel) and 2025 (bottom panel). The dark blue stream line is the mainstem White River, South Fork White River and Lake Two spring pond where angling primarily occurs. BIBON1=Bibon Rd, GLDBG2=Goldberg’s Landing, STHLD3=Sutherland Rd, SAJAK4=Sajdak access, WREND=End of White River Rd, WRVRD5=White River Rd parking lot, WRKERN=White River Rd near Kern Creek, PKRVR6=Pike River Rd, CTYH=County Hwy H, DDRD=Delta Drummond Rd, BRIDGE=Fisheries Rd and LKTWO=Lake Two access.

Results

Non-Wadable Survey

Brown Trout

At the Bolen site, we handled 1,163 brown trout that ranged from 3.7 to 23.1 inches, and the population estimate was 1,371 adult brown trout (343 per mile; Figure 4, top). At the Sutherland site, we handled 885 brown trout that ranged from 3.8 to 23.2 inches, and the population estimate was 1,119 brown trout over 6 inches (280 per mile; Figure 4, bottom). Brown trout abundance has increased substantially at both sites since 2015 but are slightly below long-term averages.

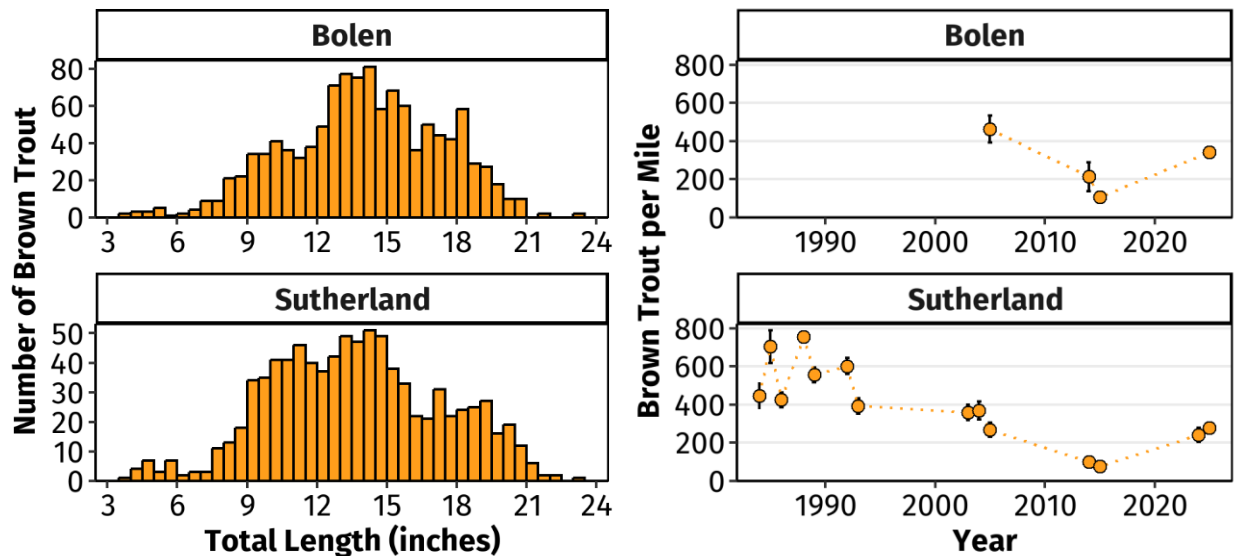


Figure 4. Length frequency (left) and adult population abundance estimates (fish/mile) with 95% confidence intervals (right) of brown trout captured during non-wadable electrofishing surveys at the Bolen (top) and Sutherland (bottom) sites on the White River since 1983.

Proportional size distribution (PSD-15) was 40% at the Bolen site and 35% at the Sutherland site in 2025 (Figure 5). Both values were at or above the long-term average for the White River. A full table of PSD at various sizes is available in Appendix Table A2. Mean relative weight was 90 at the Sutherland station, which is below average and much lower than in 2006 (Figure 6). No weights were collected at the Bolen site in 2025.

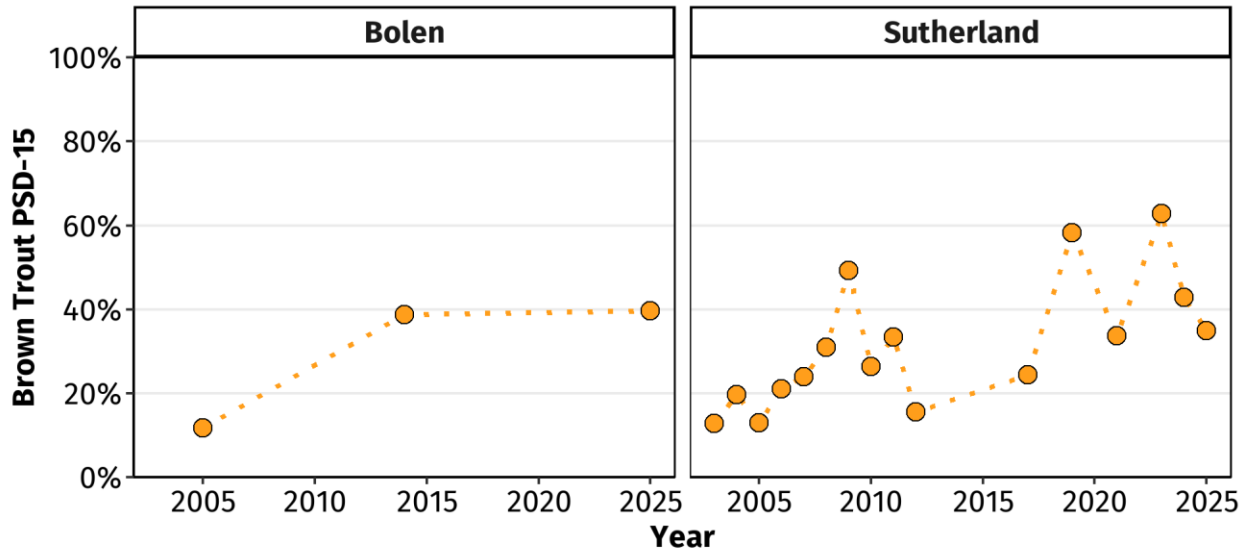


Figure 5. Proportional size distribution (PSD-15, % ≥ 15 inches) of brown trout captured during non-wadable electrofishing surveys at the Bolen (left) and Sutherland (right) sites on the White River since 2003.

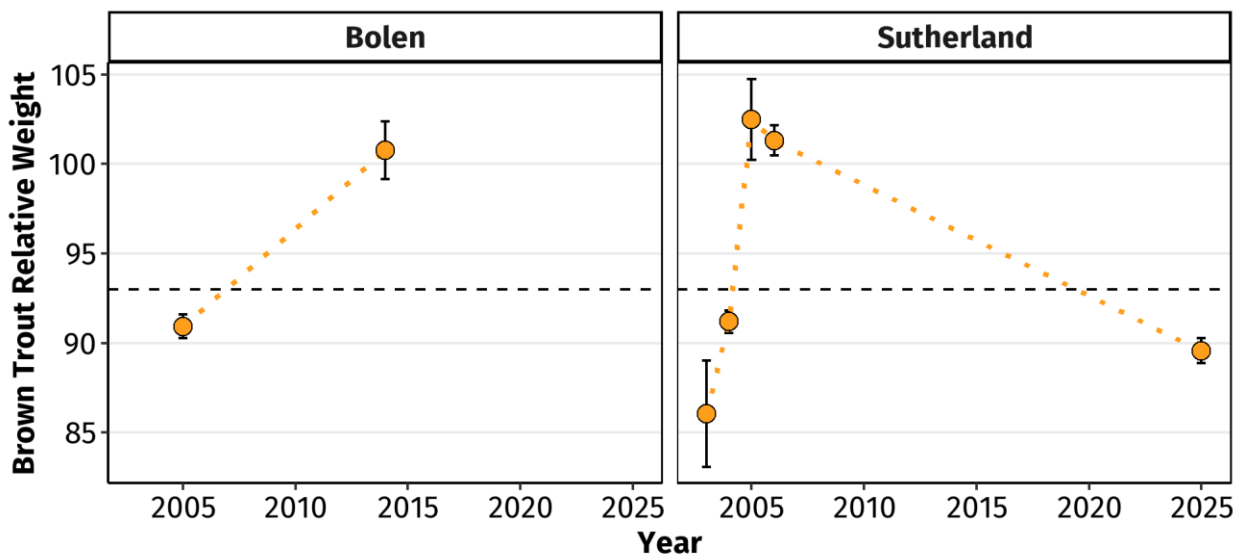


Figure 6. Average relative weight with standard error of brown trout captured during non-wadable electrofishing surveys at the Bolen (left) and Sutherland (right) sites on the White River since 2003. Points above the horizontal dashed line represent fish considered to be in good condition.

Brook Trout

In 2025, 15 brook trout were captured between the Bolen and Sunderland sites, and length ranged from 7.2 to 15.0 inches (Figure 7, left). The brook trout catch rate was 0.5 fish per mile at the Sutherland site and 0.4 at the Bolen site, which follows historical trends of low catch rates (Figure 7, right)

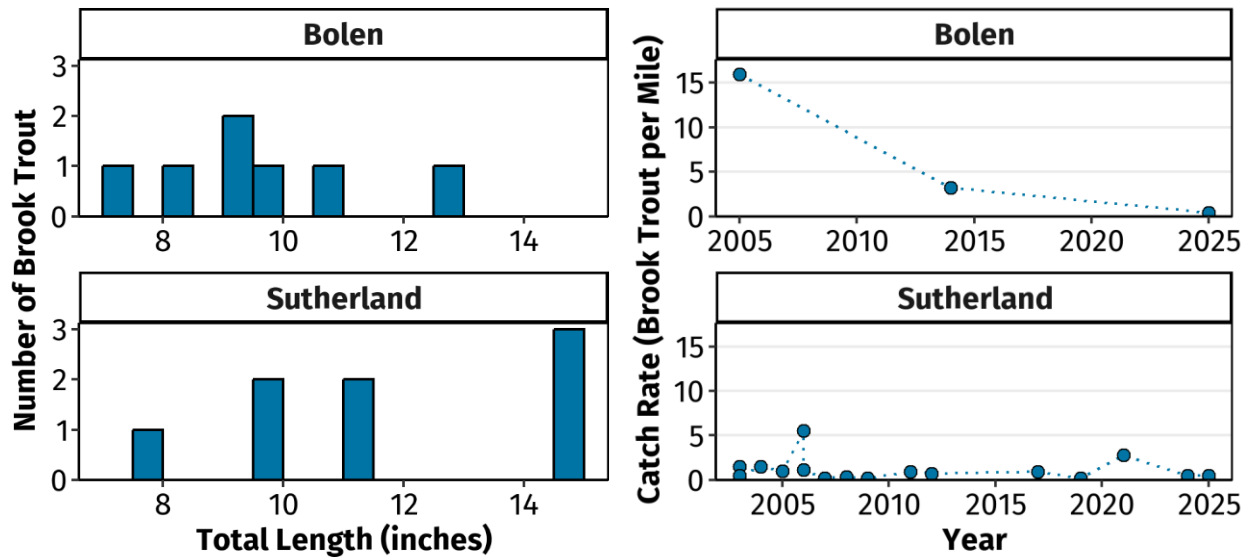


Figure 7. Length frequency (left) and catch rate (right) of brook trout captured during non-wadable electrofishing surveys at the Bolen (top) and Sutherland (bottom) sites on the White River.

Other Species

One tiger trout was captured, and it was 8.6 inches. Since 2003, five tiger trout were captured in this survey. Although historically prevalent, only two northern pike were sampled in 2025 (22.5 and 28.0 inches) and are the only northern pike sampled since 2015. Other species observed included white sucker, creek chub, slimy sculpin and brook stickleback.

Wadable Trout Survey

Trout Species Composition

In 2025, trout captured in the trend sites were 38% brook trout, 62% brown trout and <1% tiger trout in the South Fork, 45% brook trout and 55% brown trout in Eighteenmile Creek, 74% brook trout and 26% brown trout in Long Lake Branch, 90% brook trout, 10% brown trout and <1% tiger trout in Twenty Mile Creek, and 100% brown trout in the East Fork (Figure 8). Since 2007, percent brown trout has decreased in the South Fork, Twenty Mile Creek and Long Lake Branch, while it has remained stable in the East Fork and Eighteenmile Creek. Percent of all trout captured that were brown trout and brook trout for each stream in the White River watershed is in Appendix Table A4.

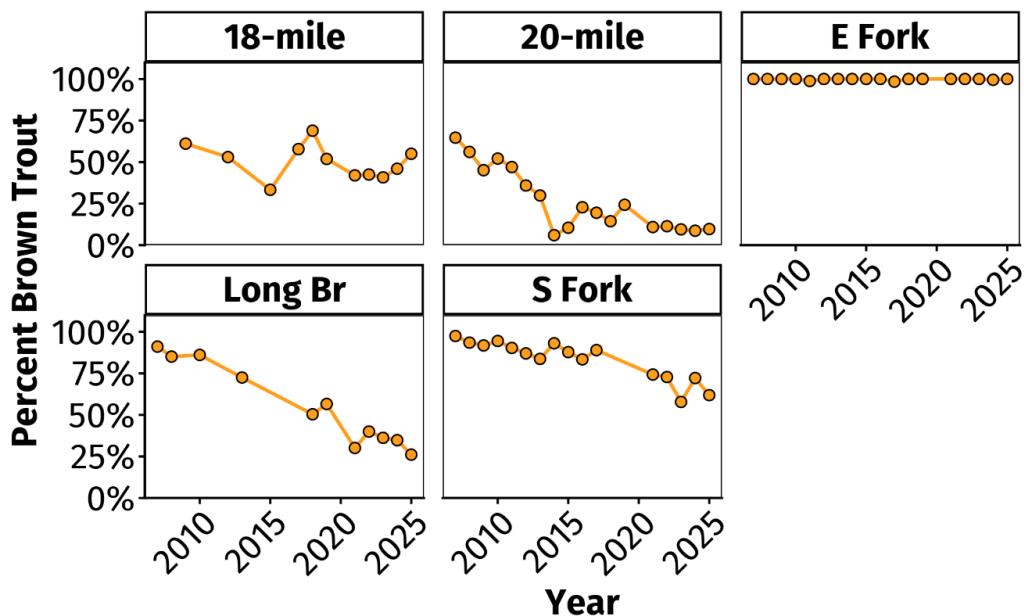


Figure 8. Percent of trout captured in trend sites since 2007 that were brown trout.

Size Structure

Brook trout ranged from 2.0 to 10.5 inches in Eighteenmile Creek, 2.2 to 12.1 inches in the Long Lake Branch, 1.6 to 10.6 inches in the South Fork and 2.0 to 11.2 inches in Twenty Mile Creek. No brook trout were captured in the East Fork (Figure 9, left).

Brown trout ranged from 2.7 to 14.3 inches in the East Fork, 2.2 to 11.2 inches in Eighteenmile Creek, 5.7 to 12.3 inches in the Long Lake Branch, 1.8 to 22.1 inches in the South Fork and 2.4 to 8.7 inches in Twenty Mile Creek (Figure 9, right).

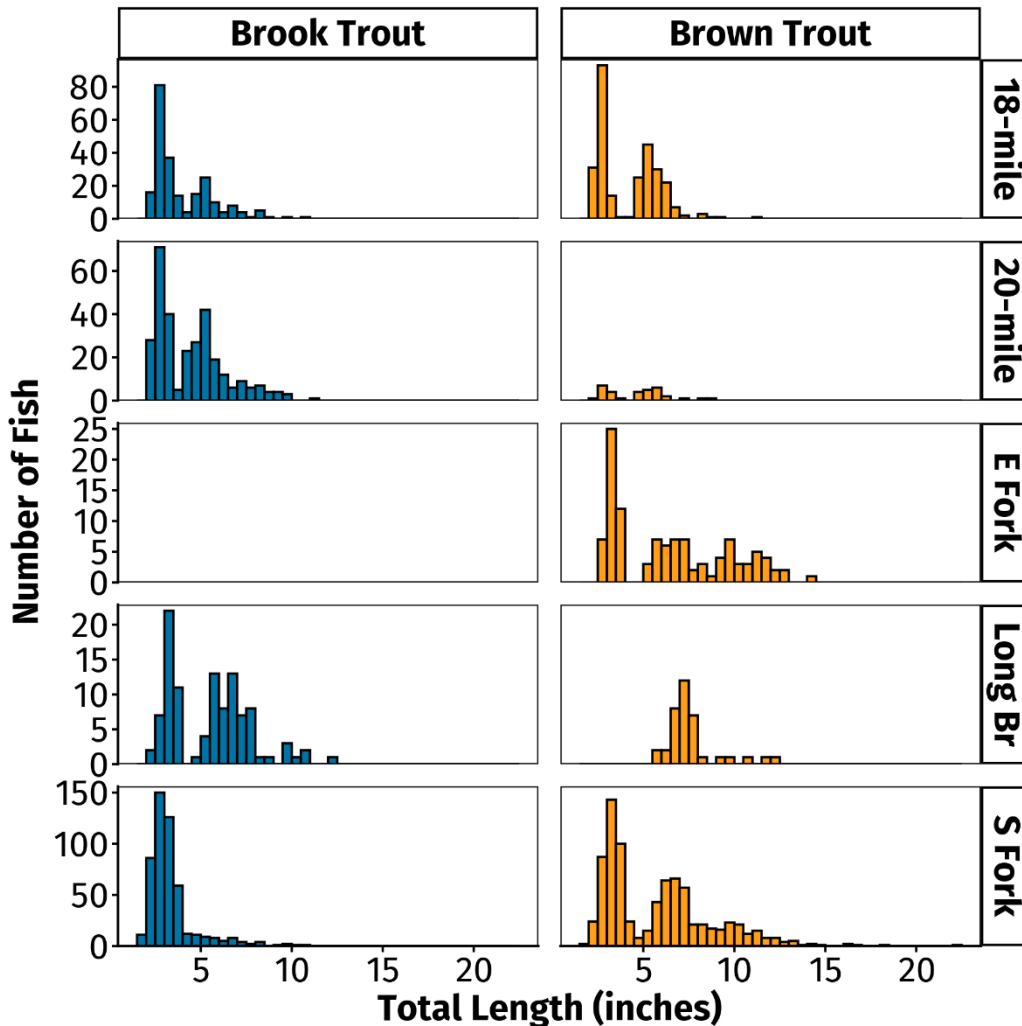


Figure 9. Length frequency of brook trout (left) and brown trout (right) captured in trend site surveys in 2025 by stream.

Abundance

Catch rates of catchable size (≥ 6 inches) brook trout in the trend sites in 2025 was 156 fish per mile in Eighteenmile Creek, 300 fish per mile in the Long Lake Branch, 175 fish per mile in the South Fork, and 274 fish per mile in Twenty Mile Creek (Figure 10, left). No brook trout were captured in the East Fork in 2025. Catch rates of brook trout over 6 inches have increased in Eighteenmile Creek, Twenty Mile Creek and the Long Lake Branch and remained stable in the South Fork and East Fork since 2007.

Catch rates of catchable size (≥ 6 inches) brown trout in the trend sites in 2025 was 335 fish per mile in the East Fork, 231 fish per mile in Eighteenmile Creek, 233 fish in the Long Lake Branch, 2,294 fish per mile in the South Fork and 26 fish per mile in Twenty Mile Creek (Figure 10, right). Catch rates of brown trout over 6 inches have increased in the South Fork, decreased in the Long Lake Branch and Twenty Mile Creek and remained stable in the East Fork and Eighteenmile Creek.

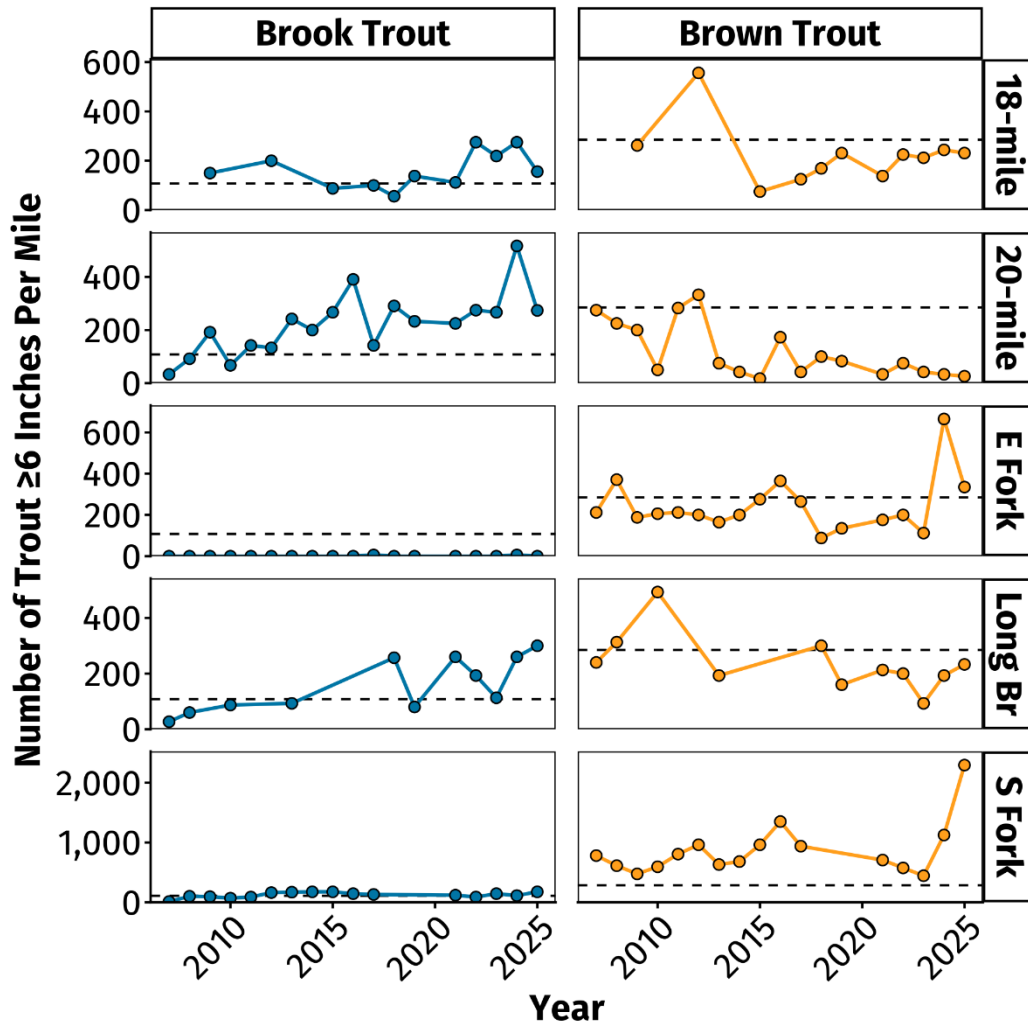


Figure 10. The number of catchable size (≥ 6 inches) brook trout (left) and brown trout (right) per mile in the Eighteenmile, Twenty Mile, East Fork, Long Branch and South Fork trend sites from 2007 to 2025. The dashed line represents the 50th percentile of all Wisconsin class I trout streams.

Catch rates of young-of-year (<4 inches, born that spring) brook trout in the trend sites in 2025 was 925 fish per mile in Eighteenmile Creek, 280 fish per mile in the Long Lake Branch, 2,700 fish per mile in the South Fork and 758 fish per mile in Twenty Mile Creek (Figure 11, left). No brook trout were captured in the East Fork in 2025. Since 2007, young-of-year brook trout catch rates have increased in the Long Lake Branch and South Fork and have been variable with no noticeable trend in Eighteenmile Creek and Twenty Mile Creek.

Catch rates of young-of-year (<4 inches) brown trout in the trend sites in 2025 was 259 fish per mile in the East Fork, 869 fish per mile in Eighteenmile Creek, 2,225 in the South Fork, and 68 fish per mile in Twenty Mile Creek (Figure 11, right). There were no young-of-year brown trout captured in the Long Lake Branch trend site in 2025. Since

2007, young-of-year brown trout catch rates have decreased in Long Lake Branch and Twenty Mile Creek and have been variable with no noticeable trend in the East Fork, Eighteenmile Creek and the South Fork. Catch rates for all size classes of brown and brook trout for all wadable survey sites are included in Appendix Table A5.

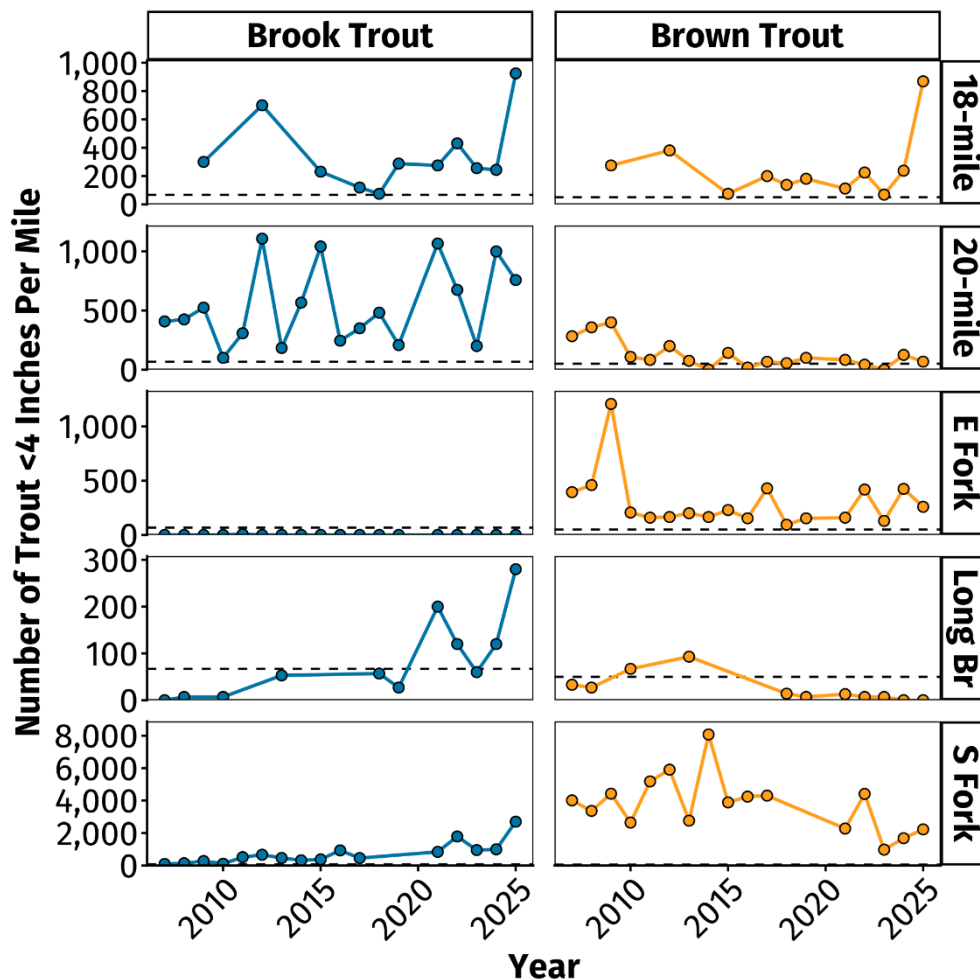


Figure 11. The number of young-of-year (<4 inches) brook trout (left) and brown trout (right) per mile in the trend sites from 2007 to 2025. The dashed line represents the 50th percentile of all Wisconsin class I trout streams.

Other Species

In addition to brook trout and brown trout, six tiger trout were also captured in the watershed. Three tiger trout were captured in the South Fork (3.7, 3.9 and 8.4 inches), one in Twenty Mile Creek (2.8 inches), one in the West Fork (5.5 inches) and one in the unnamed tributary to the White River upstream of Pike River Rd (5.6 inches).

Other species captured in the watershed were largemouth bass, black crappie, pumpkinseed, yellow perch, blacknose shiner, common shiner, golden shiner, brook stickleback, central mudminnow, creek chub, fathead minnow, longnose dace,

northern redbelly dace, pearl dace, western blacknose dace, Iowa darter, johnny darter, mottled sculpin, slimy sculpin, white sucker, yellow bullhead and northern brook lamprey. The number of fish captured by species for each stream is included in Appendix Table A6.

Angler Creel Survey

Angler Effort

In the Middle White, angler effort was 4,493 angler hours in 2024 and 5,117 angler hours in 2025 (Figure 12). Angler effort in 2024 and 2025 increased substantially from the historic low of 2,807 hours in 2014 but was still below levels observed from 1984 to 2005 (Figure 12). Angler effort per week in the Middle White was variable in both 2024 and 2025 with a moderately high level of effort during the first week and highest effort during the *Hexagenia* mayfly hatch (hereafter “hex hatch”) in late June and early July (Figure 13, top). Angler effort per week in the Upper White in 2025 was variable but the most effort occurred in mid-May and early September (Figure 13, bottom).

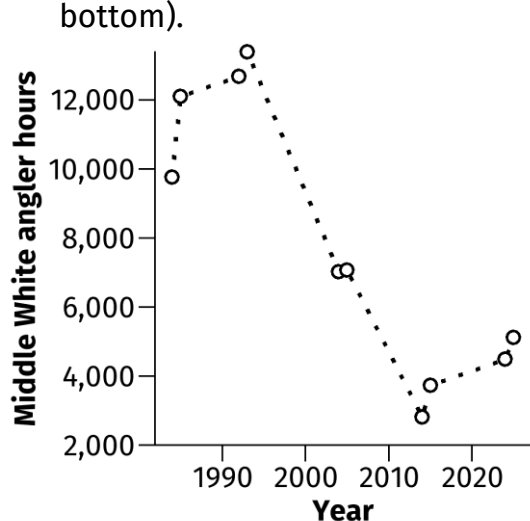


Figure 12. Angler effort on the Middle White section of the White River since 1984.

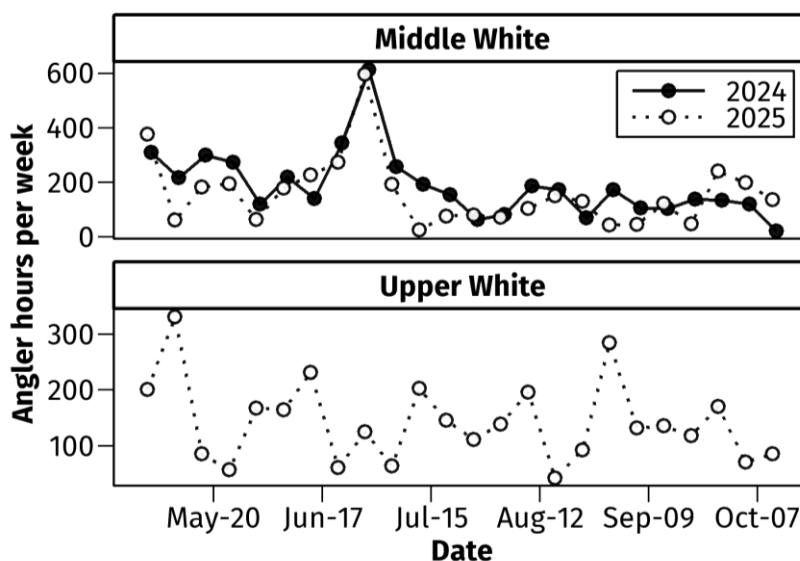


Figure 13. Angler effort per week on the Middle White section (top) and Upper White section (bottom) of the White River in 2024 (black) and 2025 (white).

In the Middle White, Sutherland Bridge received the most effort in both years (34% of total in 2024 and 28% of total in 2025) with the second most effort occurring at Pike River Rd Bridge in 2024 (22% of total) and Goldberg’s Landing in 2025 (25% of total; Figure 14). In the Upper White in 2025, total angler effort was 3,405 angler hours and the most effort occurred at the Fisheries Rd Bridge on the South Fork (43% of total) and the second most effort occurred at the Lake Two walk-in access trail off West Delta Rd (31% of total; Figure 14). In 2024, site-specific reporting rates ranged from 5-33% and was 10% for all six sites combined. In 2025, site-specific reporting rates ranged from 7-40% and was 13% for all four sites combined. More information on

reporting rate, number of survey cards and effort calculation methods by site, section and year are included in Appendix Table A7. For comparison, effort during opening weekend, May and June from other Wisconsin trout creel surveys is included in Appendix Table A8.

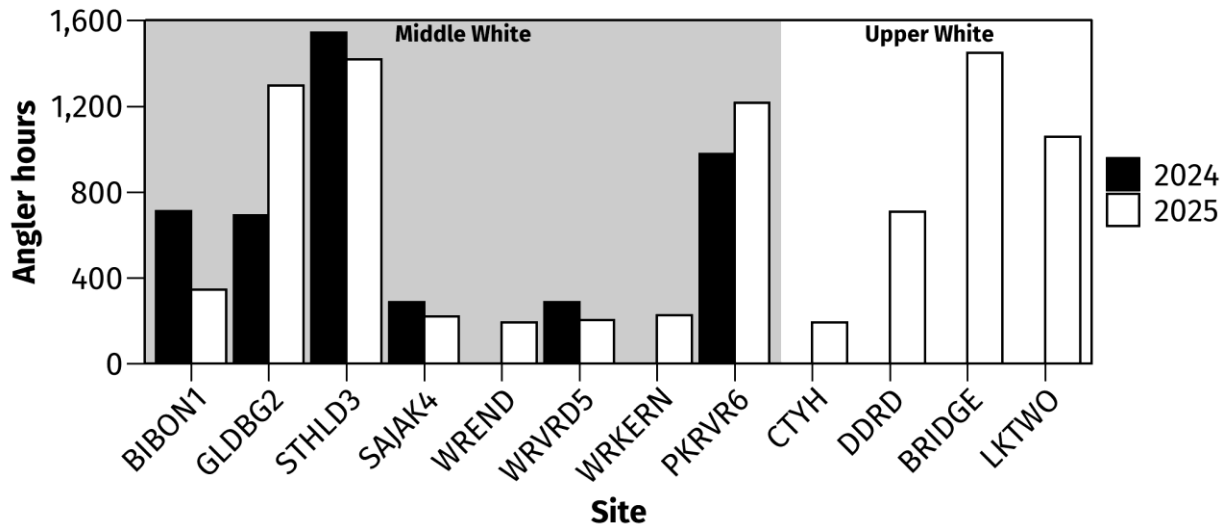


Figure 14. Angler effort at the 12 creel sites in 2024 (black) and 2025 (white). Sites in the Middle White section where previous creel surveys occurred are in the gray area and sites in Upper White section where no previous creel surveys occurred are in the white area. BIBON1=Bibon Rd, GLDBG2=Goldberg’s Landing, STHLD3=Sutherland Rd, SAJAK4=Sajdak access, WREND=End of White River Rd, WRVRD5=White River Rd parking lot, WRKERN=White River Rd near Kern Creek, PKRVR6=Pike River Rd, CTYH=County Hwy H, DDRD=Delta Drummond Rd, BRIDGE=Fisheries Rd and LKTWO=Lake Two access.

Angler Catch, Harvest and Exploitation

The estimated total number of brown trout caught in the Middle White was 6,150 in 2024 and 6,986 in 2025, a substantial increase from the historic low of 512 brown trout in 2014 and near 1992 (6,338 brown trout) and 1993 (6,956 brown trout; Figure 15, left). Total number of brook trout caught in the Middle White was 2,325 in 2024 and 1,776 in 2025, substantially higher than previous years which averaged 334 brook trout from 2004 to 2015 (Figure 15, left).

Total number of brown trout harvested in the Middle White was 166 in 2024 and 171 in 2025, similar to 2014 (148 brown trout) but substantially lower than annual total brown trout harvest from 1984 to 2005 (Figure 15, right). Brown trout exploitation (% of population harvested) in the Middle White declined since 1984 and in 2025 exploitation was the lowest ever at 2.6%, slightly lower than in 2024 which was at 3.2% (Figure 16). Total number of brook trout harvested in the Middle White was 0 in 2024 and 20 in 2025, slightly lower than previous years which averaged 69 brook trout harvested per year from 1984 to 2015 (Figure 15, right).

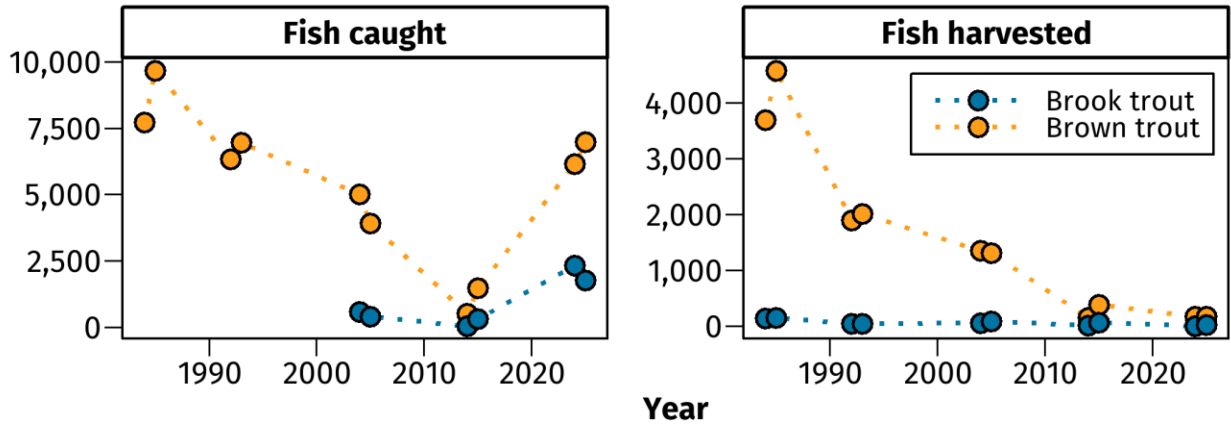


Figure 15. Total number of brook trout (blue) and brown trout (orange) caught (left) and harvested (right) in the Middle White section of the White River since 1984.

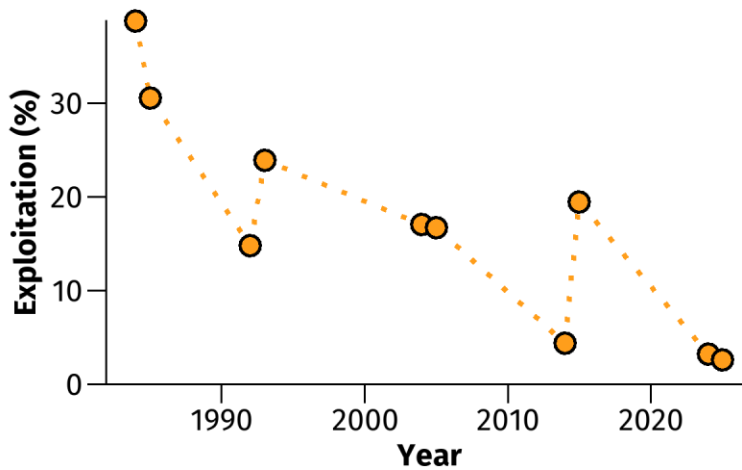


Figure 16. Brown trout exploitation (% of population harvested) in the Middle White section of the White River since 1984.

Average brown trout catch rates were highest at Pike River Rd in 2024 with 3.3 fish/hour and at the County Highway H walk-in access in 2025 with 3.7 fish/hour (Figure 17). Average brook trout catch rates were highest at Sutherland Bridge in 2024 with 1.1 fish/hour and at the Lake Two walk-in access off West Delta Rd in 2025 with 2.5 fish/hour (Figure 18). All catch and harvest rates by site, section and year are included in Appendix Table A7. Catch and harvest rates (all trout species combined) during opening weekend, May and June from other Wisconsin trout creel surveys are included in Appendix Table A8.

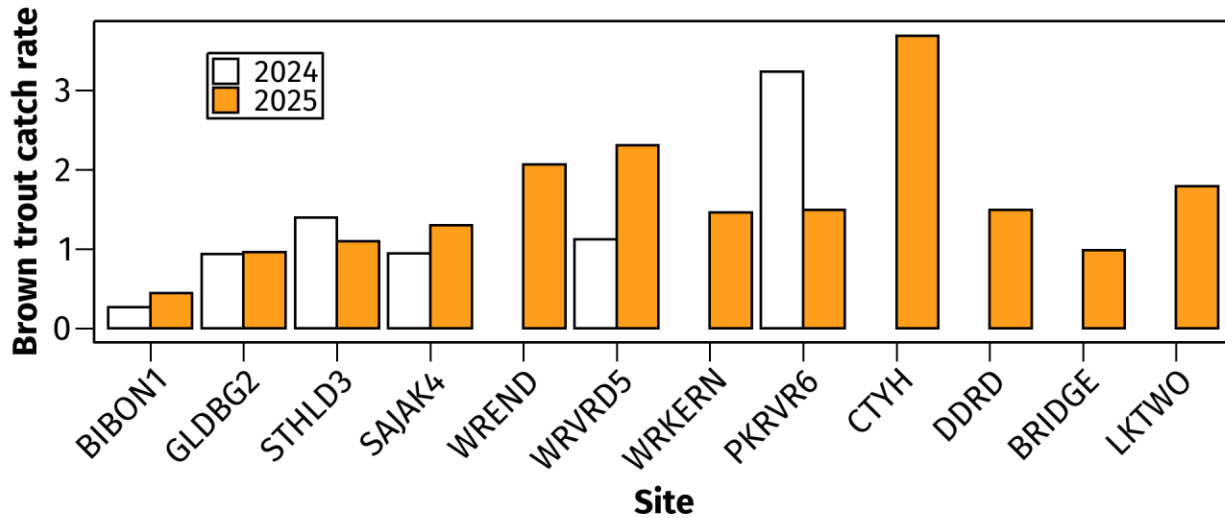


Figure 17. Average number of brown trout caught per hour fished by site in 2024 (white) and 2025 (orange). BIBON1=Bibon Rd, GLDBG2=Goldberg’s Landing, STHLD3=Sutherland Rd, SAJAK4=Sajdak access, WREND=End of White River Rd, WRVRD5=White River Rd parking lot, WRKERN=White River Rd near Kern Creek, PKRVR6=Pike River Rd, CTYH=County Hwy H, DDRD=Delta Drummond Rd, BRIDGE=Fisheries Rd and LKTWO=Lake Two access.

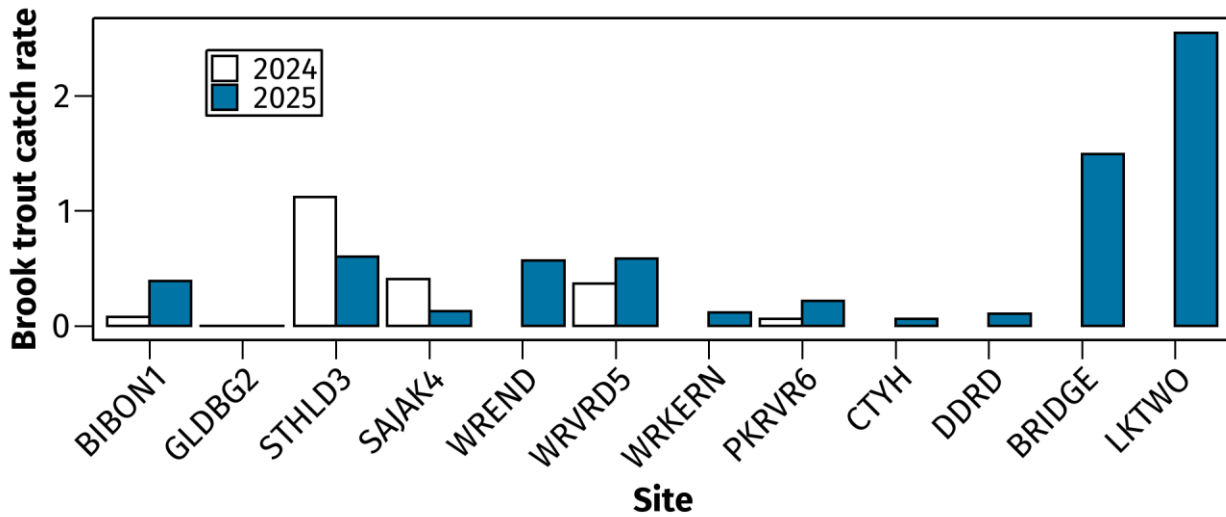


Figure 18. Average number of brook trout caught per hour fished by site in 2024 (white) and 2025 (blue). BIBON1=Bibon Rd, GLDBG2=Goldberg’s Landing, STHLD3=Sutherland Rd, SAJAK4=Sajdak access, WREND=End of White River Rd, WRVRD5=White River Rd parking lot, WRKERN=White River Rd near Kern Creek, PKRVR6=Pike River Rd, CTYH=County Hwy H, DDRD=Delta Drummond Rd, BRIDGE=Fisheries Rd and LKTWO=Lake Two access.

Discussion

Throughout the White River watershed, anglers have a diverse range of trout fishing opportunities from an action fishery in spring ponds and a spring creek environment in the South Fork, to the wade fishery upstream of Pike River Rd Bridge and the remote trophy fishery in the Bibon Swamp primarily accessed by canoe, kayak or raft. Trout abundance and size structure, and angler effort, catch and harvest varied throughout the study area driven by these diverse habitats, accessibility and harvest regulations.

Mainstem White River

The White River brown trout population has recovered since the floods of the mid-2010s. Since implementing the 18-inch minimum length limit and one trout bag limit to aid in the recovery, brown trout density approached the long-term average, size structure was exceptional and angler catch rates were the highest ever observed on the White River. However, relative weight was poor in 2025, which indicated that food is limited and growth rates are slowing. The current regulation helps to increase abundance but may continue to slow growth rates. To maximize growth and retain trophy potential, harvest opportunity should be increased while protecting large brown trout.

Despite increasing brown trout abundance, angler effort has not returned to levels seen in the mid-2000s. Ease of access likely influenced angler effort, as the bridge access sites (Sutherland Bridge, Pike River Rd and Bibon Rd) received the most effort, and the walk-in access sites off White River Rd and at Sadjak Springs (SAJAK4) received the lowest effort. Despite the longest distance for a walk-in access, Goldberg's Landing had high effort, primarily related to the hex hatch that occurs in this area of the Bibon Swamp. Across all sites in the Middle White, we observed moderate levels of effort in May, a peak in effort during the hex hatch (late June to early July), followed by lower effort through the end of the season (October 15th). This pattern mimics what has been found in previous creel surveys (Toshner and Manz 2008; Toshner et al. 2016). While there were no clear upstream to downstream trends in angler effort, brown trout catch rates tended to be lower further downstream in the Middle White. Brown trout harvest rates and exploitation in the Middle White in 2024 and 2025 were the lowest ever observed, likely driven by the restrictive harvest regulation (1 trout over 18 inches) implemented in 2016, and the increasing trend of catch and release (Mundahl 2022; Fennell et al. 2025).

While brown trout abundance has increased, brook trout abundance remains low as has historically been observed. However, roughly a third of angler catches in the Middle White were brook trout, up from about 10% in previous creel surveys. Brook trout catch rates were the highest at Sutherland Bridge in both years, and even Bibon Rd Bridge had moderate brook trout catch rates despite being the furthest downstream location. Ground water seeps and cold-water tributaries such as Kern and Bolen Creek are likely supporting a patchy distribution of brook trout throughout

the mainstem White River. Angler harvest of brook trout was minimal due to the high minimum length limit.

Historically, northern pike predation on trout has been a concern of anglers in the White River, particularly in the Bibon Swamp (between Sutherland Bridge and Bibon Rd Bridge). However, abundance of northern pike since 2015 has been low, with only two northern pike sampled, both in 2025. Similarly, reports of northern pike in the creel survey cards were minimal, with only one northern pike reported in 2024 and two in 2025. Within the watershed, northern pike primarily reside in the White River Flowage (above the White River Dam, near the Ashland-Bayfield county line) but will occasionally move upstream. Because northern pike abundance remains low and removal efforts are not feasible, anglers are encouraged to harvest northern pike captured in the mainstem White River, where the trout fishery is of management priority.

Tributaries

In addition to the mainstem White River, anglers have quality trout fishing opportunities elsewhere in the watershed as documented by the wadable stream surveys and the Upper White creel. Healthy populations of catchable sized fish are present in the main tributaries, and high young-of-year catch rates throughout much of the watershed indicate robust natural reproduction. Long-term trends within the wadable survey trend site data indicate the White River watershed contains exceptional cold-water resources and quality trout fisheries.

While angler effort was historically centered around the Middle White, the Upper White received a considerable amount of angling effort in 2025. Angler effort per river mile was substantially higher in the Upper White (668 hours/mile) than the Middle White (240 hours/mile). Many anglers may prefer the Upper White due to more harvest opportunities and being easier to wade fish. Without the consistent hex hatch in the Upper White, effort was more consistent throughout the season compared to the Middle White, but effort was still higher in early May relative to the rest of the season. Recent creel surveys on trout streams in southern WI documented a similar pattern of substantial angling effort during opening weekend (Meng and Hagland 2024; Walchak and Parks 2024). Compared to the Middle White, anglers in the Upper White had slightly higher brown trout catch rates and markedly higher brook trout catch rates, averaging roughly one more brook trout caught per hour fished. Harvest followed a similar pattern, with the Upper White accounting for 75% of brown trout harvest and 95% of brook trout harvest documented in this creel survey.

The most noticeable trend within the wadable survey data is a shift in trout species composition. Since 2007, percentage of brown trout to brook trout has decreased in the South Fork, Twenty Mile and Long Lake Branch. Interestingly, this trend in trout species composition in the White River headwaters is counter to the predicted trend of increasing brown trout density and distribution in Wisconsin streams relative to

brook trout (Maitland and Latzka 2022). This shift is primarily a result of increased brook trout abundance, not declines in brown trout abundance. In the creel, anglers caught similar numbers of brown trout and brook trout in the Upper White but harvested over twice as many brown trout than brook trout. For some anglers, this may be a conservation decision, releasing native brook trout and harvesting non-native brown trout. Additionally, the 8-inch minimum length limit likely directs harvest towards brown trout, as a higher percent of brown trout were harvestable size (20%) than brook trout (2%) in our 2025 trend survey on the South Fork.

Movement of trout between the White River and these tributaries likely occurs, however, further evaluation is needed to better understand what tributaries are the primary source of recruitment to the popular mainstem fishery. A stable isotope analysis in 2014 and 2015 provided some evidence of brown trout moving upstream into the upper reaches of the South Fork during the spawning season. However, because there was no difference in chemical signatures in the lower South Fork and the Bibon Swamp, there was no ability to determine if these brown trout migrated from the Bibon Swamp or just the lower South Fork (Toshner et al. 2016). To better document these movements, 384 brook trout (2.6-6.2 inches) and 357 brown trout (2.3-7.3 inches) were PIT tagged (similar to a pet microchip) and marked with VIE (a visible, colored marker applied to the anal fin) in the trend sites in 2025. Recapturing these tagged fish in subsequent surveys will provide information on the movement, or lack thereof, throughout the watershed. Additionally, recaptured fish will provide growth information by using the unique tag number and lengths over time. More fish could be tagged in subsequent years to increase the sample size of recaptures to better understand movement patterns and more accurately assess growth.

The 2024 and 2025 White River watershed assessment incorporated a new creel survey technique for this watershed and an updated sampling design of the wadable trout surveys. These new approaches proved effective at determining angler metrics and trout population status and distribution throughout the watershed. Remote cameras paired with kiosks provided meaningful data on angling effort, catch and harvest. Additionally, standardized methods in camera and kiosk placement, camera photo settings and survey card questions allow the creel survey to be replicated in the future. This was also the first time all wadable trend sites within the watershed were surveyed when the mark recapture population estimates were conducted at the Sutherland and Bolen sites. Conducting all of these surveys at the same time provided a comprehensive view of the entire watershed allowing for better comparisons among streams and sites.

In summary, the White River watershed is a large and diverse cold-water ecosystem with varying habitat types that sustain great trout fisheries. The brown trout population in the Bibon Swamp that supports a popular trophy fishery has increased in abundance to levels observed prior to the flooding and fish kills of the mid-2010s. Angler use increased in the Middle White since the mid-2010s, and angler use was substantial in the Upper White. Brook trout catch rates, both by anglers and in

wadable electrofishing surveys in Twenty Mile, Long Lake Branch and the South Fork, were at the highest levels ever observed. Continued monitoring of the trout populations throughout the watershed and conducting angler creel surveys in the Middle White and Upper White will be integral to effectively managing this valuable resource. Additionally, continued collaboration with Wild Rivers Trout Unlimited will improve outreach and provide more funding and volunteer resources for fisheries management and habitat improvement projects.

Management Recommendations

1. Explore options to increase harvest opportunities while protecting large brown trout to maintain the trophy fishery in the Middle White.

Brown trout abundance has increased and relative weight declined, indicating food is limited and growth rates are slowing. To maximize growth and retain trophy potential, harvest opportunity should be increased while protecting large brown trout.

2. Maintain brown trout density in Bolen and Sutherland sites at 200-400 fish/mile with a PSD-15 of at least 30.

These abundance and size objectives are within the historical range and should provide a quality trophy fishery and maintain good fish condition.

3. Conduct fish monitoring efforts in trend sites every 2 years.

Including the five wadable trend sites in the main tributaries and the non-wadable Sutherland trend site.

4. Conduct watershed assessment every 6 years.

Including wadable surveys, an angler creel survey in the Middle and Upper White, and brown trout population estimates at the Bolen and Sutherland non-wadable sites.

5. Continue maintenance control of invasive buckthorn.

Including in the upper South Fork and strategically expanding efforts downstream. Collaboration with Wild Rivers Trout Unlimited and other stakeholders will help to increase our impacts.

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Appendix

Table A1. General fishing regulations for the White River in 2026.

Location	Season Dates	Daily Bag Limit	Size Limit
White River downstream from Pike River Rd to the White River Dam	1 st Saturday in April at 5:00 AM to October 15 th	1 trout	18 inches
Long Lake Branch of the White River downstream from Taylor Ln	1 st Saturday in April at 5:00 AM to October 15 th	1 trout	18 inches
White River and tributaries upstream of Pike River Rd	1 st Saturday in April at 5:00 AM to October 15 th	3 trout	8 inches
South Fork White River (including Lake Two spring ponds)	1 st Saturday in April at 5:00 AM to October 15 th	3 trout	8 inches
East Fork White River	1 st Saturday in April at 5:00 AM to October 15 th	3 trout	8 inches
West Fork White River	1 st Saturday in April at 5:00 AM to October 15 th	3 trout	8 inches
All waters not listed	1 st Saturday in April at 5:00 AM to October 15 th	5 trout	Any length

Table A2. Proportional size distributions (PSD, % \geq size) and sample size of brown trout in the non-wadable White River survey by site and year.

Site	Year	Number of Fish	PSD-9	PSD-12	PSD-15	PSD-18
Bolen	2025	1,163	94%	76%	40%	14%
Bolen	2014	297	61%	50%	39%	7%
Bolen	2005	454	76%	29%	12%	2%
Sutherland	2025	885	94%	67%	35%	16%
Sutherland	2024	639	91%	66%	42%	18%
Sutherland	2023	207	98%	88%	63%	11%
Sutherland	2021	466	87%	65%	34%	11%
Sutherland	2019	202	93%	80%	58%	14%
Sutherland	2017	227	87%	61%	24%	6%
Sutherland	2012	622	80%	47%	16%	3%
Sutherland	2011	374	95%	81%	49%	11%
Sutherland	2010	385	86%	62%	31%	8%
Sutherland	2009	325	95%	80%	49%	11%
Sutherland	2008	380	85%	62%	31%	8%
Sutherland	2007	541	90%	62%	24%	7%
Sutherland	2006	1,124	73%	44%	21%	6%
Sutherland	2005	680	59%	34%	13%	4%
Sutherland	2004	736	76%	50%	20%	5%
Sutherland	2003	1,054	60%	31%	13%	4%

Table A3. Wadable electrofishing site information with trend sites in gray (Confl=confluence, Upstr=upstream, Downstr=downstream, Un=unnamed).

Stream	Trout Class	Site Location	Gear	Length (m)
South Fork	I	Confl with West Fork	1 Barge	241
South Fork	I	Upstr Un Trib from South	1 Barge	258
South Fork	I	Dwnstr of Lk Two	1 Barge	209
West Fork	N/A	Confl with South Fork	1 Barge	193
East Fork	I	Delta-Drummond Rd	1 Barge	274
18 Mile Creek	I	Taylor Ln	1 Barge	258
18 Mile Creek	I	S Sweden Rd	2 Backpack	209
18 Mile Creek	I	Deer Lick Rd	2 Backpack	177
18 Mile Creek	I	Confl with Porcupine Cr	2 Backpack	177
20 Mile Creek	II	Matt's Ln	1 Barge	193
20 Mile Creek	II	N Sweden Rd	1 Barge	306
20 Mile Creek	I	Hwy 63	2 Backpack	258
20 Mile Creek	I	Camp 8 Rd	2 Backpack	161
20 Mile Creek	I	Wisco Rd	2 Backpack	129
20 Mile Creek	I	N Country Trail	1 Backpack	97
Long Lake Branch	I	Taylor Ln	1 Barge	241
Long Lake Branch	I	Nymphia Lake Rd	2 Backpack	274
Long Lake Branch	I	Dwnstr of Johnson Springs	1 Backpack	177
Long Lake Branch	I	Upstr of Johnson Springs	1 Backpack	97
Long Lake Branch	I	N Country Trail	1 Backpack	97

Stream	Trout Class	Site Location	Gear	Length (m)
Bolen Creek	I	Upstr of White River Rd	1 Backpack	129
Kern Creek	II	Upstr of White River Rd	1 Backpack	97
Jader Creek	II	Upstr of Confl with Long Lake Branch	1 Backpack	129
Jader Creek	II	Dwnstr of N Sweden Rd	1 Backpack	113
Tader Creek	I	Upstr of S Sweden Rd	1 Backpack	145
Hanson Creek	III	Upstr of Sutherland Rd	1 Backpack	97
Hanson Creek	III	Jn Trib to Hanson Cr	1 Backpack	48
Johnson Creek	III	Dwnstr Mason-Delta Rd	1 Backpack	97
Porcupine Creek	N/A	Upstr of Porcupine Creek Rd	1 Backpack	129
Ramstead Creek	N/A	Trail Crossing from N Diamond Lk Rd	1 Backpack	129
Pre-emption Creek	II	Upstr of Camp 8 Rd	1 Backpack	97
N Trib to 20 Mile Creek	III	Upstr of Wisco Rd	1 Backpack	97
S Trib to 20 Mile Creek	III	Upstr of Wisco Rd	1 Backpack	97
Jn Trib to White River	N/A	Upstr of Confluence	1 Backpack	113
Jn Trib to White River	N/A	Dwnstr of Cutoff Rd	1 Backpack	113
Un Trib to Sadjak Springs	I	Upstr of Confl with Sadjak Springs	1 Backpack	97

Table A4. Percent of all trout captured that were brook trout and brown trout within each stream in the White River watershed in 2024 and 2025.

Stream	% Brook trout	% Brown trout
South Fork	25.3%	74.6%
West Fork	1.3%	98.0%
East Fork	0.0%	100.0%
Eighteenmile Creek	58.9%	41.1%
Tader Creek	45.9%	54.1%
Porcupine Creek	N/A	N/A
Ramstead Creek	100.0%	0.0%
Twenty Mile Creek	89.0%	10.9%
Pre-Emption Creek	100.0%	0.0%
N. Trib to Twenty Mile Creek	100.0%	0.0%
S. Trib to Twenty Mile Creek	100.0%	0.0%
Long Lake Branch	79.5%	20.5%
Jader Creek	96.3%	3.8%
Bolen Creek	23.1%	76.9%
Kern Creek	37.3%	62.7%
Hanson Creek	60.5%	39.5%
Johnson Creek	N/A	N/A
Trib To White River (Pike River Rd)	52.7%	46.4%
Trib To Sadjak Springs	56.3%	43.8%

Table A5. Site specific brook trout and brown trout CPE (fish/mile) with percentile ranking compared to WI Class I trout streams in parentheses and trend sites in gray (Confl=confluence, Upstr=upstream, Downstr=downstream).

Stream	Site name	Brook Trout CPE				Brown Trout CPE			
		All sizes	<4"	≥6"	≥8"	All Sizes	<4"	≥6"	≥12"
South Fork	Confl With West Fork	20 (10th)	7 (30th)	7 (10th)	0	2073 (95th)	847 (90th)	640 (70th)	73 (75th)
South Fork	Upstr Un Trib from South	3125 (95th)	2700 (95th)	175 (65th)	56 (70th)	5081 (100th)	2225 (95th)	2294 (95th)	162 (90th)
South Fork	Dwnstr of Lake Two	238 (50th)	208 (70th)	15 (15th)	15 (40th)	3485 (95th)	1608 (95th)	1108 (85th)	69 (75th)
West Fork	Confl With South Fork	17 (10th)	17 (35th)	0	0	1233 (80th)	808 (90th)	175 (40th)	8 (35th)
East Fork	Delta-Drummond Rd	0	0	0	0	653 (60th)	259 (70th)	335 (55th)	29 (55th)
18 Mile Cr	Taylor Ln	1419 (90th)	925 (90th)	156 (60th)	50 (65th)	1731 (90th)	869 (90th)	231 (45th)	0
18 Mile Cr	S. Sweden Rd	931 (85th)	377 (80th)	277 (75th)	154 (85th)	708 (65th)	208 (70th)	254 (45th)	15 (45th)
18 Mile Cr	Deer Lick Rd	1636 (95th)	673 (85th)	418 (85th)	155 (85th)	136 (25th)	18 (40th)	64 (25th)	9 (35th)
18 Mile Cr	Confl with Porcupine Creek	291 (55th)	36 (40th)	82 (40th)	18 (45th)	55 (15th)	9 (30th)	18 (10th)	0
20 Mile Cr	Matt's Ln	2433 (95th)	1408 (95th)	225 (70th)	67 (70th)	333 (40th)	67 (55th)	92 (30th)	8 (35th)
20 Mile Cr	N Sweden Rd	1616 (95th)	758 (90th)	274 (75th)	100 (80th)	174 (30th)	68 (55th)	26 (15th)	0
20 Mile Cr	Hwy 63	1444 (95th)	638 (85th)	356 (80th)	175 (90th)	469 (55th)	300 (75th)	56 (20th)	12 (40th)
20 Mile Cr	Camp 8 Rd	1990 (95th)	910 (90th)	250 (70th)	50 (65th)	0	0	0	0
20 Mile Cr	Wisco Rd	1462 (95th)	688 (85th)	150 (60th)	38 (60th)	0	0	0	0
20 Mile Cr	North Country Trail	1033 (90th)	183 (65th)	167 (60th)	17 (45th)	0	0	0	0
Long Lake Br	Taylor Ln	700 (80th)	280 (75th)	300 (75th)	60 (70th)	247 (35th)	0	233 (45th)	7 (35th)
Long Lake Br	Nymphia Lake Rd	547 (75th)	165 (65th)	235 (70th)	24 (50th)	529 (55th)	212 (70th)	288 (50th)	6 (35th)
Long Lake Br	Dwnstr of Johnson Springs	1573 (95th)	945 (90th)	209 (65th)	18 (45th)	109 (20th)	9 (30th)	45 (20th)	0

Table A5 continued.

Stream	Site name	Brook Trout CPE				Brown Trout CPE			
		All sizes	<4"	≥6"	≥8"	All Sizes	<4"	≥6"	≥12"
Bolen Cr	Upstr of White River Rd	225 (45th)	162 (65th)	12 (10th)	0	750 (65th)	588 (85th)	0	0
Kern Cr	Upstr of White River Rd	317 (55th)	183 (65th)	50 (30th)	17 (45th)	533 (55th)	467 (80th)	17 (10th)	0
Jader Cr	Upstr of Confl with Long Lake Br	488 (70th)	362 (80th)	125 (55th)	0	38 (10th)	25 (40th)	12 (10th)	0
Jader Cr	Dwnstr of N Sweden Rd	543 (75th)	386 (80th)	86 (45th)	0	0	0	0	0
Tader Cr	Upstr of S Sweden Rd	378 (60th)	278 (75th)	11 (10th)	0	444 (50th)	311 (75th)	56 (20th)	0
Hanson Cr	Upstr of Sutherland Rd	283 (55th)	0	150 (60th)	33 (55th)	67 (15th)	0	0	0
Hanson Cr	Unnamed Trib to Hanson Creek	200 (45th)	67 (50th)	33 (25th)	0	367 (45th)	267 (75th)	33 (15th)	0
Johnson Cr	Dwnstr Mason-Delta Rd	0	0	0	0	0	0	0	0
Porcupine Cr	Upstr of Porcupine Cr Rd	0	0	0	0	0	0	0	0
Ramstead Cr	Trail Crossing from N. Diamond Lake Rd	62 (20th)	12 (30th)	25 (20th)	0	0	0	0	0
Pre-emption Cr	Upstr of Camp 8 Rd	550 (75th)	367 (80th)	167 (60th)	17 (45th)	0	0	0	0
N Trib to 20 Mile Cr	Upstr of Wisco Rd	433 (65th)	317 (75th)	0	0	0	0	0	0
S Trib to 20 Mile Cr	Upstr of Wisco Rd	933 (85th)	350 (80th)	133 (55th)	0	0	0	0	0
Un. Trib to White River	Upstr of Confluence	357 (60th)	157 (65th)	71 (40th)	29 (55th)	600 (60th)	414 (80th)	43 (20th)	0
Un. Trib to White River	Dwnstr of Cutoff Rd	471 (70th)	86 (55th)	86 (45th)	0	129 (25th)	43 (50th)	29 (15th)	0
Un. Trib to Sadjak Springs	Upstr of Confl with Sadjak Springs	300 (55th)	250 (75th)	0	0	233 (35th)	233 (70th)	0	0
Long Lake Br	Upstr of Johnson Springs	1267 (90th)	1117 (90th)	0	0	33 (10th)	17 (40th)	0	0
Long Lake Br	North Country Trail	1700 (95th)	1383 (95th)	33 (25th)	0	17 (5th)	0	17 (10th)	0

Table A6. Total number of fish captured by species in wadable electrofishing surveys for each stream surveyed in 2025 in the White River watershed.

Species	Stream								
	Long Lake Branch	West Fork	20 Mile	South Fork	18 Mile	Ramstead	Jader	Hanson	Pre-Emption
Brook Trout	549	2	1,208	534	560	5	77	23	33
Brown Trout	142	148	148	1,577	390	0	3	15	0
Black Crappie	0	1	0	0	0	0	0	0	0
Blacknose Shiner	0	0	0	0	1	3	0	0	0
Brook Stickleback	3	0	1	23	1	0	1	0	0
Central Mudminnow	2	2	41	1	2	3	0	0	0
Common Shiner	0	0	0	0	0	21	0	0	0
Creek Chub	43	22	2	0	22	63	2	32	63
Fathead Minnow	0	0	0	0	0	0	0	1	0
Golden Shiner	1	0	0	0	0	0	0	0	0
Iowa Darter	0	0	0	0	0	0	0	0	1
Johnny Darter	16	4	0	1	0	0	0	0	0
Largemouth Bass	0	6	0	0	0	0	0	0	0
Longnose Dace	0	19	0	7	0	0	0	0	0
Mottled Sculpin	19	0	62	0	38	0	0	0	0
Northern Brook Lamprey	9	14	32	1	1	0	0	0	0
Northern Redbelly Dace	2	1	2	7	0	0	0	0	6
Pearl Dace	0	0	18	0	0	1	0	0	0
Pumpkinseed	0	0	0	0	0	0	0	1	0
Slimy Sculpin	0	0	0	0	0	0	15	0	0
Western Blacknose Dace	1	0	10	0	48	38	3	0	29
White Sucker	6	6	6	1	6	3	0	12	1
Yellow Bullhead	3	0	0	0	0	0	0	0	0
Yellow Perch	0	0	0	0	0	2	0	0	0

Table A6 continued.

Species	Stream									
	Johnson	Pike River Rd Trib	Kern	East Fork	Bolen	Porcupine	Trib to Sadjak	N. Trib to 20 Mile	S. Trib to 20 Mile	Tader
Brook Trout	0	58	19	0	18	0	18	26	56	34
Brown Trout	0	51	32	111	60	0	14	0	0	40
Black Crappie	0	0	0	0	0	0	0	0	0	0
Blacknose Shiner	0	0	0	0	0	0	0	0	0	0
Brook Stickleback	12	0	0	0	0	0	0	0	0	0
Central Mudminnow	18	7	1	0	0	0	0	0	0	0
Common Shiner	0	0	0	0	0	0	0	0	0	0
Creek Chub	57	0	0	44	0	29	0	0	0	0
Fathead Minnow	0	0	0	0	0	0	0	0	0	0
Golden Shiner	0	0	0	0	0	0	0	0	0	0
Iowa Darter	0	0	0	0	0	0	0	0	0	0
Johnny Darter	1	0	0	0	0	0	0	0	0	0
Largemouth Bass	0	0	0	2	0	0	0	0	0	0
Longnose Dace	0	0	0	0	0	0	0	0	0	0
Mottled Sculpin	0	6	7	0	22	0	6	2	2	0
Northern Brook Lamprey	0	0	0	0	0	0	0	0	0	0
Northern Redbelly Dace	0	0	0	0	0	0	0	0	0	0
Pearl Dace	0	0	0	0	0	0	0	0	0	0
Pumpkinseed	0	0	0	0	0	0	0	0	0	0
Slimy Sculpin	0	0	0	0	0	0	0	0	0	0
Western Blacknose Dace	1	0	0	0	0	13	0	0	0	0
White Sucker	0	0	0	0	0	2	0	0	0	0
Yellow Bullhead	0	0	0	0	0	0	0	0	0	0
Yellow Perch	0	0	0	0	0	0	0	0	0	0

Table A7. Angler hours, effort method, survey card sample size, reporting rate and mean catch and harvest rates by section, year and site from the White River creel survey.

Section	Year	Site	Angler hours	Effort method	# survey cards	Reporting rate (%)	Brown trout/hour		Brook trout/hour		Trout/hour	
							Catch	Harvest	Catch	Harvest	Catch	Harvest
Middle	2024	BIBON1	710	camera	11	10.9	0.259	0.018	0.078	0.000	0.337	0.018
Middle	2024	GLDBG2	691	camera	5	5.2	0.930	0.000	0.000	0.000	0.930	0.000
Middle	2024	STHLD3	1,544	camera	27	7.4	1.393	0.093	1.115	0.000	2.508	0.093
Middle	2024	SAJAK4	286	camera	13	27.1	0.942	0.019	0.406	0.000	1.348	0.019
Middle	2024	WRVRD5	286	camera	12	33.3	1.118	0.000	0.367	0.000	1.485	0.000
Middle	2024	PKRVR6	977	camera	12	7.9	3.229	0.000	0.061	0.000	3.290	0.000
Middle	2024	ALL SITES	4,493	camera	80	10.0	1.369	0.037	0.517	0.000	1.886	0.037
Middle	2025	BIBON1	346	reporting rate	9		0.437	0.077	0.387	0.012	0.825	0.090
Middle	2025	GLDBG2	1,296	reporting rate	15		0.958	0.072	0.000	0.000	0.958	0.072
Middle	2025	STHLD3	1,417	camera	28	6.9	1.096	0.042	0.598	0.000	1.694	0.042
Middle	2025	SAJAK4	220	camera	12	21.4	1.296	0.000	0.124	0.000	1.420	0.000
Middle	2025	WREND	193	reporting rate	5		2.059	0.000	0.564	0.000	2.623	0.000
Middle	2025	WRVRD5	204	camera	17	39.5	2.299	0.031	0.582	0.006	2.881	0.037
Middle	2025	WRKERN	225	reporting rate	7		1.459	0.020	0.116	0.000	1.575	0.020
Middle	2025	PKRVR6	1,216	reporting rate	23		1.488	0.011	0.217	0.011	1.706	0.022
Middle	2025	ALL SITES	5,117	camera & reporting rate	116		1.365	0.033	0.347	0.004	1.712	0.037
Upper	2025	CTYH	193	reporting rate	6		3.681	0.111	0.056	0.000	3.736	0.111
Upper	2025	DDRD	708	reporting rate	23		1.490	0.358	0.101	0.000	1.591	0.358
Upper	2025	BRIDGE	1,447	reporting rate	44		0.982	0.265	1.490	0.115	2.472	0.380
Upper	2025	LKTWO	1,057	camera	43	16	1.783	0.336	2.543	0.263	4.326	0.599
Upper	2025	ALL SITES	3,405	camera & reporting rate	116		1.519	0.302	1.531	0.141	3.05	0.443

Table A8. Effort and trout catch and harvest rates during Wisconsin DNR trout creel surveys in early season, opening weekend, May and June. White River 2024 and 2025 excluded from percentile calculations for comparative purposes.

Creel survey	Effort (hours/mile/day)				Catch rate (trout/hour)				Harvest rate (trout/hour)			Investigator
	Early season	Opening weekend	May	June	Early season	Opening weekend	May	June	Opening weekend	May	June	
White River 2025		10.80	1.71	2.05		0.74	1.97	3.80	0.10	0.34	0.35	Shaikh, Thomas, Cutler
White River 2024		4.72	1.62	1.04		1.39	1.19	3.12	0.05	0.13	0.00	Shaikh, Thomas, Cutler
White River 2015		11.97	1.40			0.23	0.58		0.14	0.15		Olson and Toshner
White River 2014		3.24	1.20			0.03	0.14		0.01	0.05		Olson and Toshner
White River 2005		13.97	5.80			0.53	0.77		0.35	0.26		S. Toshner
White River 2004		18.46	3.00			0.45	0.82		0.23	0.35		S. Toshner
Big Green River 2023	8.37	30.68	9.03	5.26	1.83	1.06	1.57	1.28	0.23	0.17	0.15	Walchak and Parks
Big Green River 1979	8.50		5.00		0.53		0.57			0.37		R. Kerr
Castle Rock Creek 1979	15.00		5.70		1.55		1.26					R. Kerr
Rush River 2023		6.98	1.77	1.82		1.48	2.03	2.62	0.00	0.17	0.36	Yallaly and Scott
Gordon Creek 2022	2.09	6.34	2.57	2.61	1.60	1.08	1.81	1.25	0.19	0.19	0.05	Haglund and Meng
West Fork Kickapoo 2022	2.70	15.30	6.30		1.82	2.34	2.08		0.46	0.07		K. Olson
Poynette 2018		4.90	2.10	1.00		1.25	2.21	1.83	0.64	0.82	0.42	Rowe, Oele, Nye
Fitchburg 2018		4.90	0.90	0.20		1.25	1.95	2.29	0.42	1.17	0.00	Rowe, Oele, Nye
Bohemian Valley 2016			6.40				1.30			0.15		M. Mitro
Timber Coulee 2016			8.70				1.50			0.00		M. Mitro
25th Percentile	2.40	4.90	1.68	0.60	1.04	0.40	0.72	1.27	0.11	0.11	0.03	
Median	8.37	9.48	4.00	1.82	1.60	1.07	1.40	1.83	0.23	0.17	0.15	
75th Percentile	11.75	16.09	6.33	3.94	1.83	1.31	1.97	2.46	0.43	0.36	0.39	

Note: For White River Upper and Middle White River combined in 2025, other years are just Middle White section. June only includes the first two weeks for the Big Green River and Gordon Creek and first three weeks for the White River surveys.

*****One survey card per vehicle*****

Today's date: ____/____/____

How many anglers in your vehicle? _____ **angler(s)**


ZIP Code: _____

How long did you fish today? (nearest ¼ hour; Example: 1.25) _____ **hour(s)**

About how many times per year do you fish the White River? 1-5 6-10 11-20 20+

How did you fish today? (check all that apply) Fly-fishing Artificial lures Live bait Wading Boat/canoe/kayak

How many fish of each species did you catch, release, and harvest today, if any? Example: 4 catch = 3 release + 1 harvest

	Catch	=	Release	+	Harvest
 Brown Trout	_____		_____		_____
Brook Trout	_____		_____		_____
Other: _____	_____		_____		_____

Additional Comments: _____




Figure A1. Example of voluntary reporting survey card used during 2024 and 2025 angler creel survey.