

Wisconsin Department of Natural Resources 2025 West Branch Shioc River Fisheries Summary Report, Shawano County

318900



Photo Credit: Max Scodius - WDNR



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Executive Summary

In 2025, the Wisconsin Department of Natural Resources (DNR) conducted electrofishing surveys on the West Branch Shioc River located in Shawano County in order to provide insight and direction for the future management of these waters. Primary sampling objectives of these surveys were to characterize relative abundance and size structure for all trout and overall index of biotic integrity (IBI) based on all fish species present in the sampled stretches. The following report is a summary of trout metrics for sites surveyed on the West Branch Shioc River in 2025 and compared to historical surveys as well.

Gamefish Species Sampled

Brook trout (*Salvelinus fontinalis*) is the only stream dwelling trout native to Wisconsin, found predominately in central and northern Wisconsin. Brook trout reside in cold headwater streams and spawn by building a nest called a redd in the fall of the year around November.

Methods

Sampling Schedule

Trend survey sites are sampled biannually in Shawano, and Waupaca Counties. While rotation sites are sampled on a rotational frequency by watershed and will vary by each field office.

Gear

All sampling sites are electrofished with either a towed barge or backpack electrofishing unit depending on the depth and width of a stream. Both gear types were used for the surveys listed in this report.

Site Distances

Sampling distance is at least 35 times the mean stream width or a minimum of 330 feet (100 meters), whichever is greater.

Data Collected

All gamefish are identified to species, measured for length and examined for fin-clips. In at least one survey site per stream, all fish species are collected and counted. If multiple sites are designated for a stream, only one site needs to be sampled for all fish.

Metric Descriptions

Catch per unit effort (CPUE) is a method of quantifying fish population relative abundance. For all trout surveys, we typically quantify CPUE as the number of a given

size class of trout captured per mile of stream. CPUE indexes are compared to other trout streams throughout Wisconsin by what percentile (PCTL) they fall in. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state. CPUE percentiles can also be used to categorize trout abundance as low density (<33rd percentile), moderate density (33rd - 66th percentile), high density (66th - 90th percentile) and very high density (>90th percentile).

Length frequency distribution is a graphical representation of the number or percentage of fish captured by half inch or one inch size intervals.

Index of Biotic Integrity (IBI) is a rating of environmental quality based on the fish assemblage. Scores of 90 - 100 indicate excellent stream quality, while scores less than 30 indicate poor stream quality. Our analysis utilizes the IBI for Wisconsin coldwater streams. Coldwater streams in Wisconsin are those in which the maximum daily mean water temperature is usually <22°C (71.6°F). A coolwater stream IBI may also be used when a stream doesn't fit the temperature criteria for a coldwater stream.

Survey Effort

During the 2025 survey season the Shawano work unit surveyed the West Branch Shioc River.

Table 1. Survey site information for streams surveyed in the West Branch Shioc River by the Shawano work unit in 2025.

Stream Name	County	Survey Type	Site Location	Survey Dates	Water Temperature (°F)	Site Length (feet)
West Branch Shioc River	Shawano	Rotational	HWY 29	8/6/2025	57	540
West Branch Shioc River	Shawano	Rotational	Bonduel Elementary	8/4/2025	56	330
West Branch Shioc River	Shawano	Rotational	Porter Road	8/6/2025	56	330

Results

Table 2. Catch metrics per mile for brook trout on rotational sites surveyed in 2025.

Stream Name	Site Location	Average Length and Range (inches)	Total and (PCTL)	Young of Year (YOY)	>8" (PCTL)	>10" (PCTL)
West Branch Shioc River	Bonduel Elementary	4.9 (2.1 – 9.0)	317 (61)	158	142 (60)	15 (47)
West Branch Shioc River	HWY 29	6.3 (1.5 – 12.3)	2892 (97)	2362	333 (98)	98 (99)
West Branch Shioc River	Porter Road	4.6 (2.0 – 10.9)	2428 (97)	2095	31 (62)	15 (82)

Figure 1. West Branch Shioc River Brook Trout Length Distribution 2025.

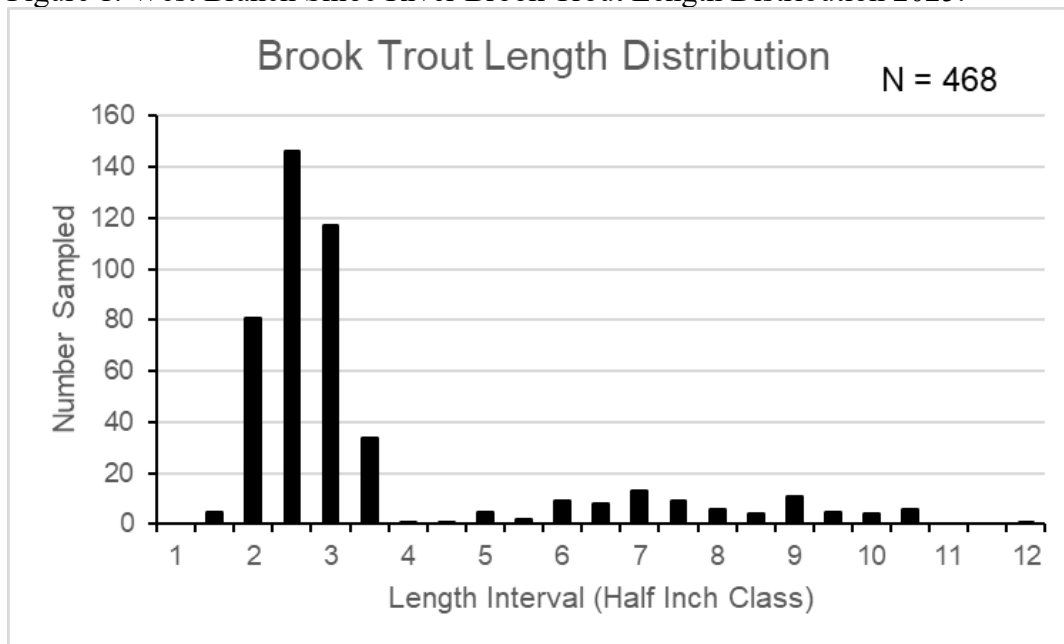


Figure 2. Historical West Branch Shioc River brook trout CPUE/Mile at Highway 29 sample site.

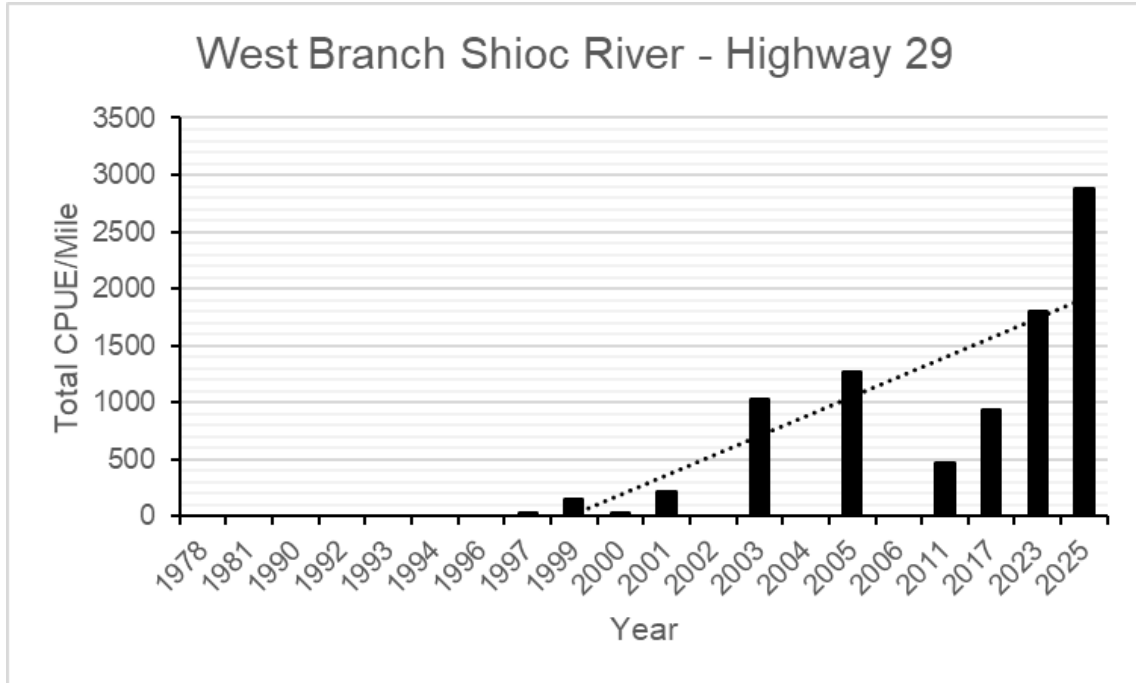


Figure 3. Historical West Branch Shioc River brook trout CPUE/Mile at Bonduel School sample site.

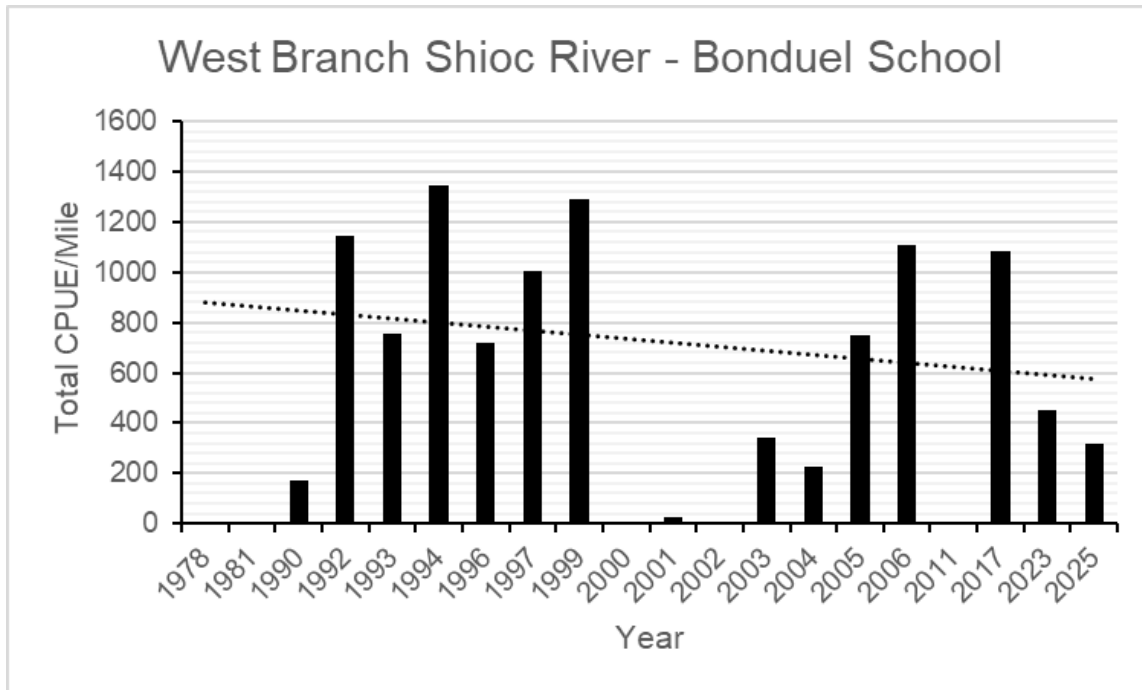


Figure 4. Historical West Branch Shioc River brook trout CPUE/Mile at Potter Road sample site.

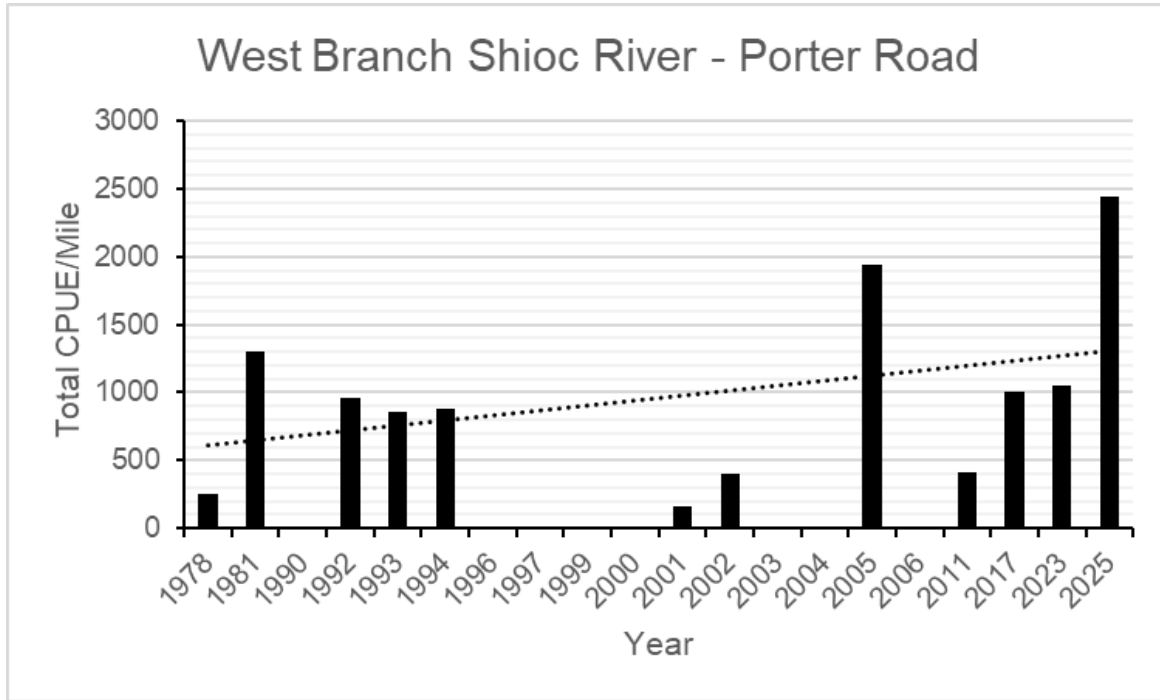
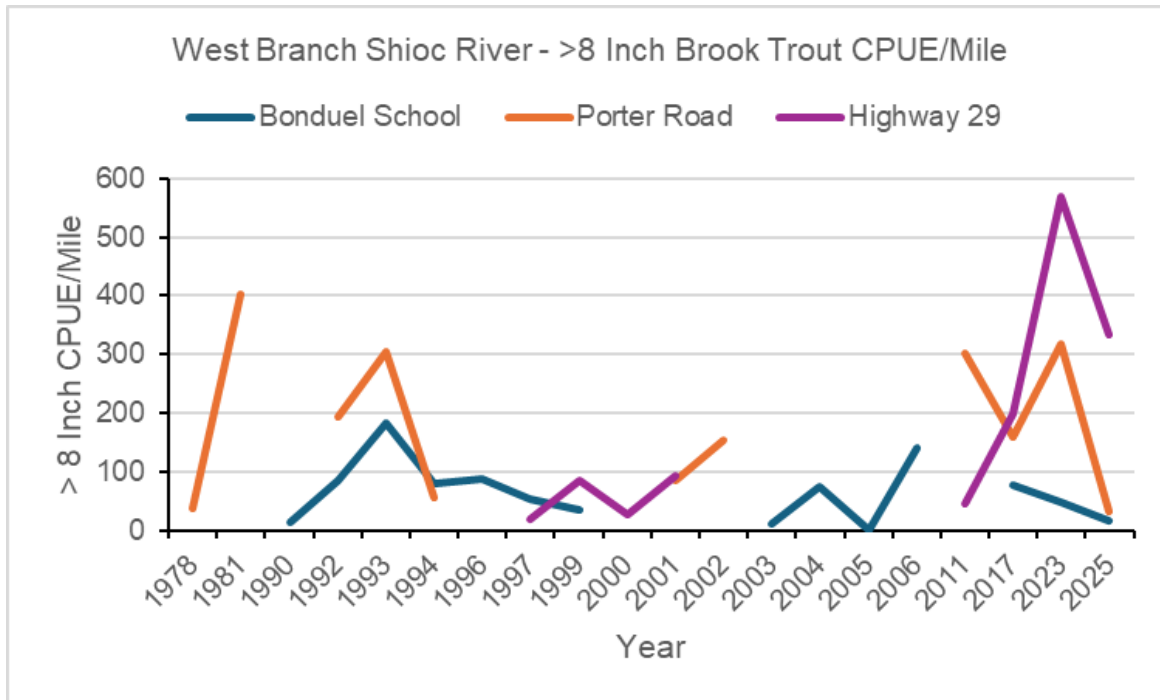


Figure 5. Comparison of historical data of brook trout CPUE/Mile >8.0 inch sampling of the West Branch Shioc River.



Discussion and Summary

The West Branch Shioc River originates in Shawano County in the city of Bonduel. The West Branch Shioc River is 15.0 miles, consisting of 3.55 miles of Class I trout water and 2.41 miles of Class II trout water. Public access on the West Branch Shioc river consists of 7 road crossings. Over time effluent of a pickle factory and a wastewater treatment facility have had determinantal impacts to the stream. Consistent monitoring and remedies have been completed to improve water quality over the past 40 years to protect the unique brook trout fishery.

Cold water temperatures $> 56-57^{\circ}\text{F}$ at sample sites in August are an important aspect of how the brook trout fishery in the West Branch Shioc River has been able to survive pollution and thrive after remedies have been taken to clean up the stream.

West Branch Shioc River brook trout densities total CPUE at two of the three sites were higher than the 90th percentile, when compared to statewide data. Highway 29 and Porter Road sample sites have shown a consistent increase in number of brook trout per mile for the past 25 years. At the Highway 29 site, the CPUE of brook trout >10.0 inches have been increasing over time. However, at the Porter Road and school sites there has been a steady decrease in CPUE of brook trout >10.0 inches over time. YOY densities of brook trout were very high in the two of the three most upstream sites, Highway 29 and Porter Road.

West Branch Shioc River and its connected tributaries have above average brook trout densities and provide an action-based angling opportunity. Opportunities to capture brook trout up to 12.0 inches are possible. Warming water temperatures, impassable barriers and habitat degrading over time are concerns for brook trout in the lower reaches of the West Branch Shioc River. Impassable barriers, whether they are dams, or perched culverts can have a negative effect on brook trout populations. Connectivity within watersheds is important for brook trout to allow them to migrate and find colder water, which is critical for brook trout survival.

The unique strain of brook trout found in West Branch Shioc has been an area of focus for local WDNR staff for nearly 50 years and should continue to be into the future. A small isolated section of river with unique genetic strains is of importance to protect to waterbody, riparian corridor and using best management practices for land in the area.