



WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2023 Stream Survey Report Whitewater Creek, Walworth County WBIC 813900

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Introduction And Objectives

On July 19, 2023 the Wisconsin Department of Natural Resources (DNR) conducted a fisheries survey of Whitewater Creek in northwestern Walworth County. The objective of the survey was to continue to gather cold water trend data on Whitewater Creek, including species composition and the relative abundance and size structure of brown trout.

Sampling began at the Millis Road bridge and ended 175 meters upstream. All fish species encountered were collected and counted and all trout were also measured.

The water level was normal and water clarity was good.

DNR Contact

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Regulations

Category: Red
Daily Bag and Size Limit:
2 trout over 12"

SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (°F)	Mean Stream Width	GPS (Start/Finish)	Gear	Dippers	IBI
WHITEWATER CREEK AT MILLIS RD, NEAR WHITEWATER, WI	07/19/2023	175m	61	5m	42.80389756246432, -88.70301175897092 42.80366741990024, -88.7006997065037	Stream Shocker	2	30 (fair)



Survey Method

- All streams are sampled according to DNR wadeable streams monitoring protocols.
- All trout are counted and measured and all other species are counted in order to calculate an Index of Biotic Integrity (IBI) score.
- Metrics used to describe trout populations include average length, catch per unit effort (CPUE) and length frequency distribution.

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 out 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.

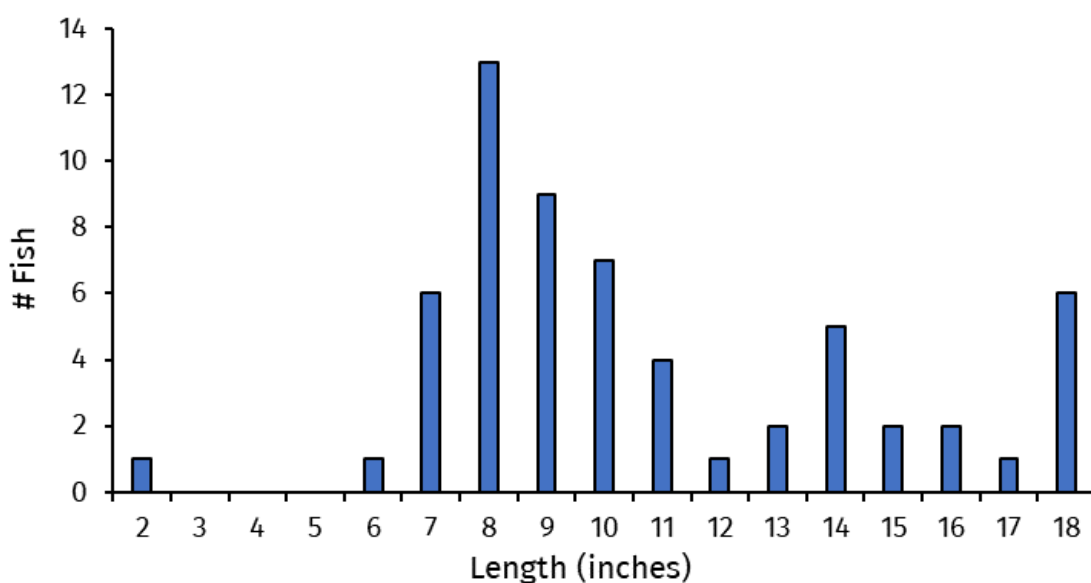


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BROWN TROUT SIZE AND ABUNDANCE (CPUE) METRICS									
Station	Total Number Sampled	Average Length (inches)	Length Range (inches)	CPUE (No. per Mile) Statewide Percentile in Parentheses					
				Total CPUE (PCTL)	YOY CPUE	≥5" CPUE (PCTL)	≥8" CPUE	≥10" CPUE	≥12" CPUE (PCTL)
WHITWATER CREEK AT MILLIS RD, NEAR WHITE-WATER, WI	60	11.1	2.8-18.5	551.661 (0.85)	9.174	541.284 (0.85)	477.064 (0.90)	275.229 (0.90)	174.312 (0.95)



Summary

A total of 60 brown trout were sampled in the 2023 survey, for a catch rate of 551.7 brown trout per mile. This catch rate is in the 85th percentile when compared with other Class II brown trout waters statewide. Brown trout ranged in length from 2.8 to 18.5 inches with an average length of 11.1 inches. Overall, the 2023 survey data indicated a brown trout population with high quality size structure and above average abundance for a Class II brown trout stream. The IBI score of 30 suggests that Whitewater Creek is a fair coldwater stream. Habitat improvement projects could enhance conditions for brown trout. Other species sampled during the survey included white sucker, common shiner, creek chub, hornyhead chub, rainbow darter, fantail darter, Johnny darter, bluntnose minnow, common carp and yellow bullhead.

The majority of Whitewater Creek from Millis Road upstream to its confluence with Bluff Creek is encompassed by the Kettle Moraine State Forest – Southern Unit. From Millis Road upstream to its confluence with Bluff Creek is approximately 0.75 miles and Bluff Creek adds another two miles of Class I and Class II trout waters. DNR habitat improvement and stream bank stabilization projects are ongoing on Whitewater Creek in cooperation with the Southeast Wisconsin Trout Unlimited (SEWTU) chapter.

