



WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2023 Stream Survey Report

Nichols Creek at Cedar Lane Road, Sheboygan County

Waterbody Code 27100

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Introduction And Objectives

Nichols Creek, a tributary of the North Branch of the Milwaukee River, is a coldwater stream located in southwestern Sheboygan County, Wisconsin. Nichols Creek is a Class I trout stream which supports naturally reproducing populations of brook trout and brown trout. The Department of Natural Resources (DNR) conducted an electrofishing survey of Nichols Creek on July 11, 2023. The survey site began at Cedar Lane Road and continued upstream for 140 meters. This survey site is a DNR watershed long-term reference monitoring site that has been surveyed via electrofishing annually since 2008.

The objective of the 2023 survey was to continue to gather cold water trend data on Nichols Creek, including species composition and the relative abundance and size structure of brook trout and brown trout. While the target species for the survey was brook and brown trout, all fish species sampled were counted.

DNR Contact

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Regulations

Category: Yellow
Daily Bag and Size Limit:
3 trout in total over 8"

SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (° F)	Mean Stream Width	GPS (Start/Finish)	Gear	Dippers	IBI
Nichols Creek at Cedar Lane Road	07/11/2023	140 m	59	4 m	43.68048, -88.0203 43.68048, -88.02155	Backpack Shocker	1	Excellent (90)



Survey Method

- All streams are sampled according to DNR wadable 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.

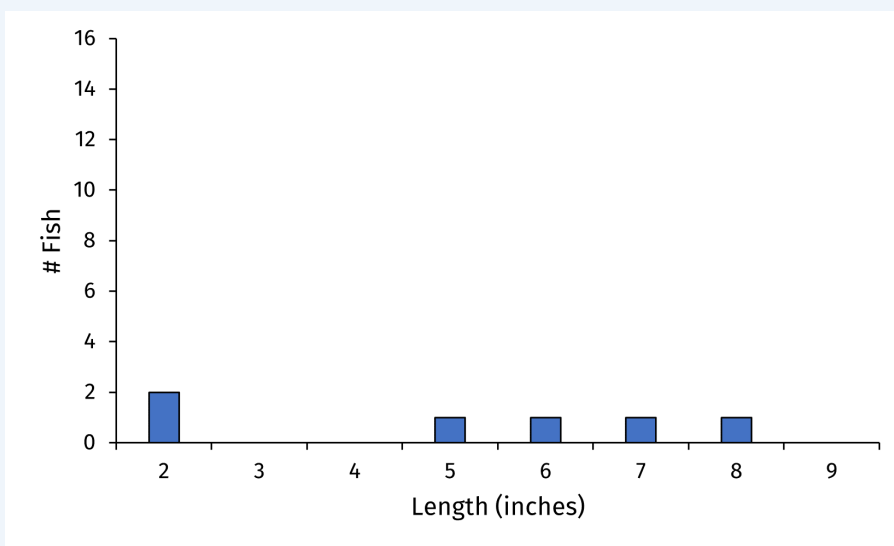


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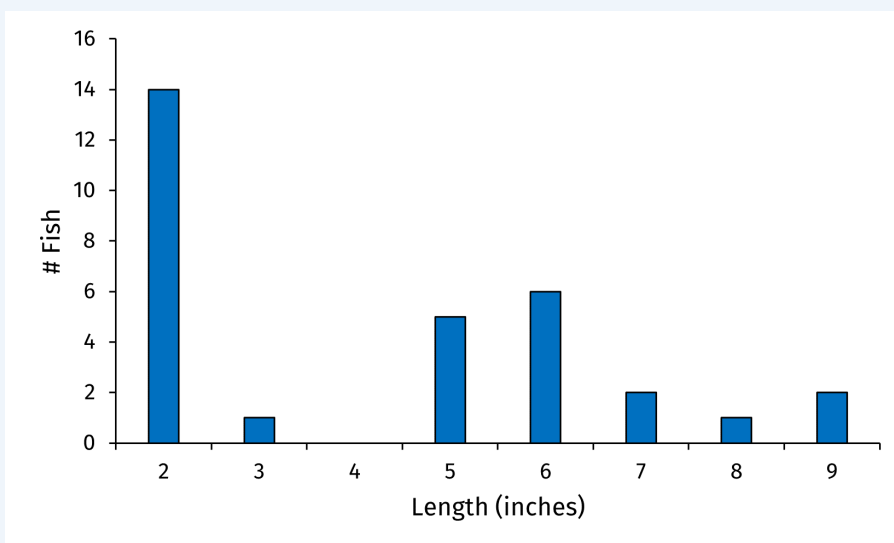
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BROOK TROUT SIZE AND ABUNDANCE (CPUE) METRICS									
Station	Total Number Sampled	Average Length (inches)	Length Range (inches)	CPUE (No. per Mile) Statewide Percentile in Parentheses					
				Total CPUE (PCTL)	YOY CPUE	≥5" CPUE (PCTL)	≥8" CPUE (PCTL)	≥10" CPUE (PCTL)	≥12" CPUE (PCTL)
Nichols Creek at Cedar Lane Road	6	5.4	2.4 - 8.1	69 (45th)	23	46 (45th)	12 (55th)	-	-



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 (PCTL)	≥10" CPUE (PCTL)	≥12" CPUE (PCTL)
Nichols Creek at Cedar Lane Rd	31	4.8	2.1 - 9.4	356 (65th)	172	184 (60th)	35 (55th)	-	-





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Summary

A total of six brook trout were sampled in the 2023 survey for a catch rate of 169 brook trout per mile. This catch rate is in the 45th percentile when compared with other Class I trout streams in Wisconsin. Brook trout ranged in length from 2.4 to 8.1 inches with an average length of 5.4 inches. While the number of brook trout sampled fluctuates from year to year, the 2023 catch rate was higher than in 2022 (49.3 brook trout per mile). Overall, the 2023 survey data indicated a brook trout population with slightly below average abundance for a Class I brook trout stream.

A total of 31 brown trout were sampled in the 2023 survey for a catch rate of 356 brown trout per mile. This catch rate is in the 65th percentile when compared with other Class I trout streams in Wisconsin. Brown trout ranged in length from 2.1 to 9.4 inches with an average length of 4.8 inches. While the number of brown trout fluctuates from year to year, the 2023 catch rate was lower than in 2022 (443.4 brown trout per mile). Overall, the 2023 survey data indicated a brown trout population with above average abundance for a Class I brown trout stream. Other species sampled during the 2023 survey included 28 mottled sculpin. The IBI score of 90 suggests that Nichols Creek is a coldwater stream of excellent quality.