2021 STREAM SURVEY REPORT

CEDAR SPRINGS CREEK

(WBIC 245000)

WAUSHARA COUNTY

INTRODUCTION AND OBJECTIVES

The Cedar Springs Creek consists of 3.93 miles of Class I trout water in Waushara County. The Cedar Springs Creek is a tributary to the Willow Creek and provides spawning and nursery habitat for trout populations. Fishing access consists of three road crossings and nearly half the stream is surrounded by public land. Objectives of the rotation surveys are to determine species composition, relative abundance, and size structure for trout and other game species.

Regulations Category: **Green** Size Limit: None Daily Bag Limit: 5 (in total)

WISCONSIN DNR CONTACT INFO.

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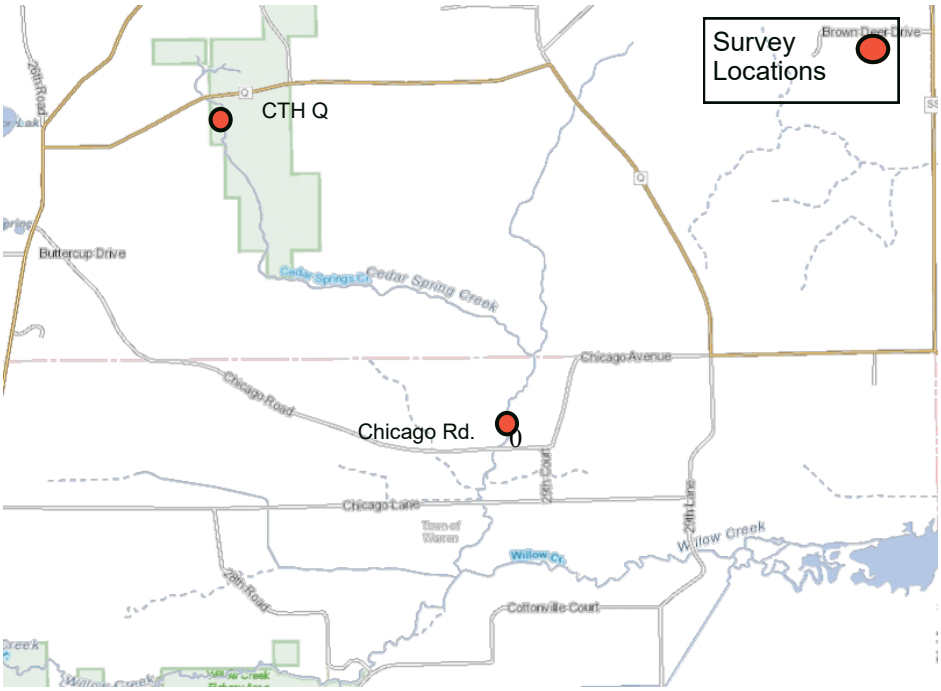
SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (°F)	Mean Stream Width	GPS (Start/Finish)	Gear	Dippers	IBI
CTH Q	7/29/2021	380 ft	56	18.9 ft	44.08636, -89.07085 44.08668, -89.07210	Barge Shocker	3	Yes
CHICAGO RD	7/29/2021	480 ft	65	16.7 ft	44.06291, -89.04592 44.063444, -89.044058	Barge Shocker	3	Yes



SURVEY METHOD

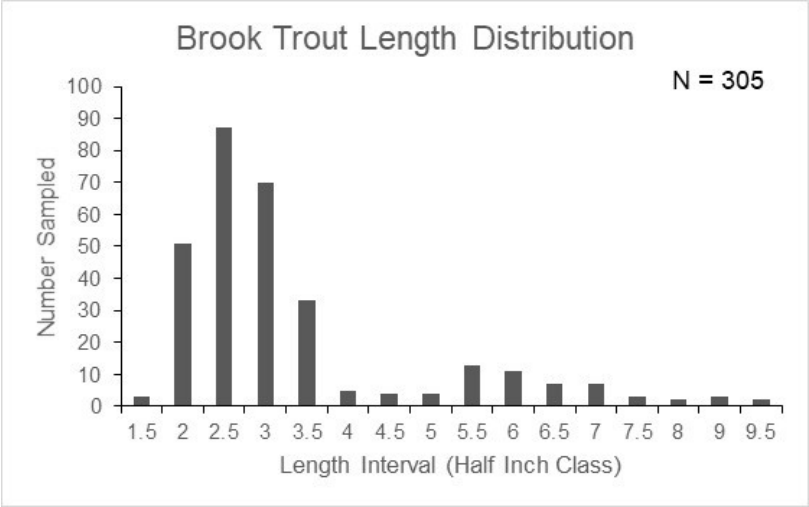
- All streams are sampled according to DNR Wadable streams monitoring protocols. Cedar Springs Creek is on a 6 year rotation schedule with two sites identified for the segment of stream in Waushara County,
- All sampling stations are electrofished with either a towed barge shocker or backpack shocker.
- Sampling distance is at least 35 times the mean stream width or a minimum of 330 feet (i.e.,100 meters).
- All trout are counted and measured and all other species are counted in order to calculate an Index of Biotic Integrity (IBI) 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 the state of 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.

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)
CTH Q	305	5.2	1.9 - 9.8	4238 (99th)	3390	723 (94th)	97 (87th)	-	-



Mottled sculpin (pictured above) is a small nongame species commonly found in coldwater streams. Similar to trout they require colder temperatures, are considered thermally intolerant, and their presence can be indicative of healthier environmental quality.

SPECIES COMMUNITY AND IBI FOR CTH Q

Species Sampled	Total	IBI Score	Integrity Rating
Brook Trout	305	80	Good
Mottled Sculpin	94		
White Sucker	37		
Central Mudminnow	2		
Green Sunfish	10		

SUMMARY

- Trout were found in high densities at the CTH Q station with the total brook trout CPUE ranking out in the 99th percentile when compared to trout streams throughout Wisconsin. At least three distinct year classes of brook trout were captured at the CTH Q station. Larger trout 10+ inches were not sampled in this survey. Poor habitat and warmer water temperatures in the lower reaches of this stream are likely a contributing factor to the lack of trout and spawning activity near the confluence with Willow Creek.
- The CTH Q and Chicago Rd. stations were last sampled in 2015. Size structure and numbers of brook trout at CTH Q were drastically higher than the last time it was sampled.
- Brook trout young of year (YOY) were captured in high densities at the CTH Q station. Cold water, and adequate spawning substrate at this sample station suggest this stretch of stream has excellent habitat for trout spawning.
- The IBI scores suggests this stream is a good coldwater stream and the WI Streams Natural Community Model considers this a cool - cold headwater stream in the upper forested section. Water warms the closer you get to Chicago Road and no trout were sampled in this station. Cold water and cover are conducive to a successful brook trout fishery upstream.