

2021 STREAM SURVEY REPORT

CHAFFEE CREEK

(WBIC 155900)

MARQUETTE AND WAUSHARA COUNTIES



INTRODUCTION AND OBJECTIVES

Chaffee Creek is a Class I or II trout water stream and consists of 17.6 miles of trout water. The Chaffee Creek stretches through both Waushara and Marquette Counties and is part of the Mecan River watershed. The only major tributary, Wedde Creek, is also a trout stream. Access is afforded by 15 road crossings. About 4.23 miles of stream are in public ownership in 1,085 acres of public hunting and fishing ground. Objectives of the trend survey are to monitor relative abundance and size structure.



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.

WISCONSIN DNR CONTACT INFO.

Scott Bunde - Fisheries Biologist Senior
 Wisconsin Dept. of Natural Resources
 427 E. Tower Drive, Suite 100
 Wautoma, WI 54982
 Phone: 920 - 787 - 5683
 E-mail: scott.bunde@wisconsin.gov

Regulations
 Category - Red
 Daily Bag Limit: 3 in total
 Size Limit: Rainbow 12" Brown and Brook 8"

SURVEY METHOD

- All streams are sampled according to DNR wadable streams monitoring protocols. Chaffee Creek is on a 3 year rotation schedule with four sites identified for the segment of stream in Marquette and Waushara Counties
- All sampling stations are electro-fished 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.

SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (°F)	Mean Stream Width	GPS (Start/Finish)	Gear	Dippers	IBI
CTH CH	7/22/2021	350 ft.	60	6.9	44.986711, -89.521838 44.986851, -89.522809	Backpack Shocker	1	NO
INTERSTATE 39 (I-39)	7/22/2021	2300 ft	51	9.8	43.97982, -89.48930 43.98152, -89.49421	Barge Shocker	3	NO
DAKOTA RD	7/28/2021	518 ft	58	14.8	43.969663, -89.424683 43.97054, -89.42480	Barge Shocker	3	YES
11th LN.	7/28/2021	591 ft.	58	16.9	43.955848, -89.390565 43.95573, -89.39209	Barge Shocker	3	NO



2021 STREAM SURVEY REPORT - CONTINUED

CHAFFEE CREEK

(WBIC 155900)

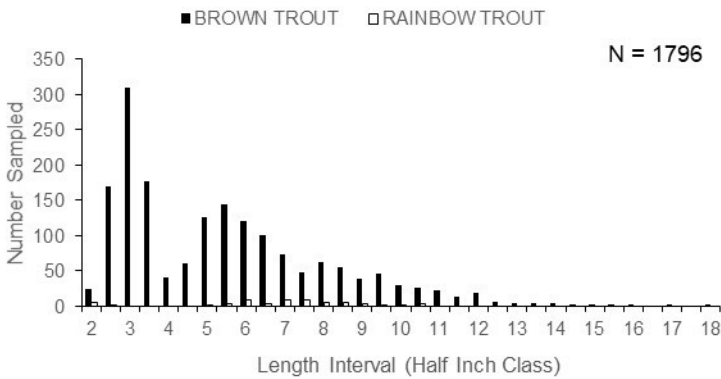
BROWN TROUT SIZE AND ABUNDANCE (CPUE) METRICS

Station	Total Number Sampled	Average Length (inches)	Length Range (inches)	CPUE (No. per Mile) Statewide Percentile in parentheses						
				Total CPUE (PCTL)	YOY CPUE	>6" CPUE (PCTL)	>8" CPUE (PCTL)	>10" CPUE (PCTL)	>12" CPUE (PCTL)	>15" CPUE (PCTL)
CTH CH	59	4.8	2.2 - 8.3	890 (85th)	573	166 (65th)	30 (43rd)	-	-	-
I-39	1458	6.3	2.0 - 14.0	3347 (97th)	1465	1074 (96th)	477 (92nd)	168 (86th)	37 (75th)	-
Dakota Rd.	86	8.3	2.9 - 17.0	877 (85th)	51	764 (92nd)	398 (90th)	153 (85th)	61 (85th)	20 (92nd)
11 Ln.	130	9.8	5.0 - 18.2	1161 (93rd)	0	1144 (96th)	822 (97th)	456 (98th)	241 (98th)	45 (98th)

RAINBOW TROUT SIZE AND ABUNDANCE (CPUE) METRICS

Station	Total Number Sampled	Average Length (inches)	Length Range (inches)	CPUE (No. per Mile)					
				Total CPUE (PCTL)	YOY CPUE	≥5" CPUE (PCTL)	≥8" CPUE (PCTL)	≥10" CPUE (PCTL)	≥12" CPUE (PCTL)
CTH CH	1	5.5	-	15	15	15	-	-	-
I-39	62	7.0	2.0 - 10.8	142	16	117	9	-	-

Chaffee Creek Trout Length Distribution

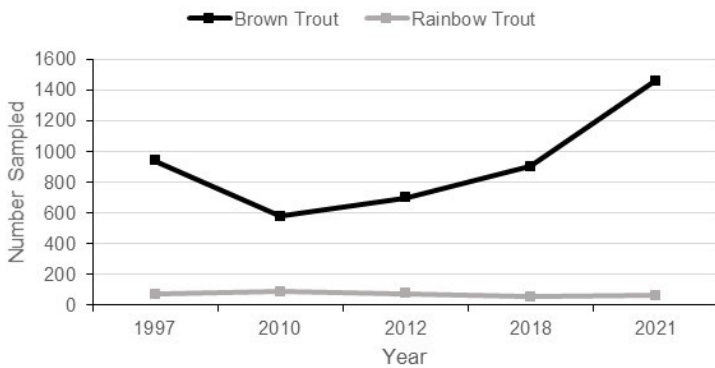


SPECIES COMMUNITY AND IBI FOR DAKOTA RD.

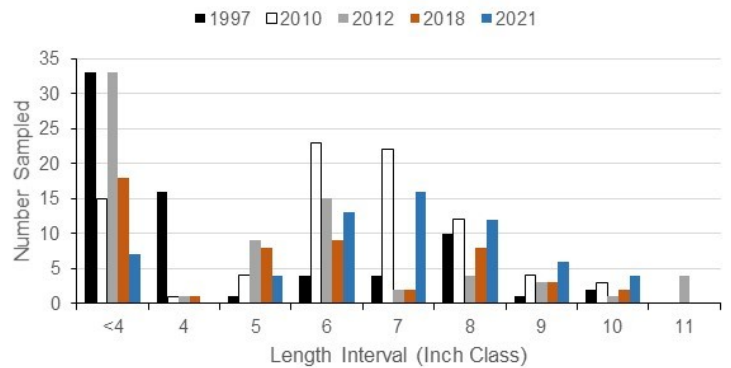
Species Sampled	Total	IBI Score	Integrity Rating
Brown Trout	86		
Black Bullhead	21		
Mottled Sculpin	27		
White Sucker	4		
Central Mudminnow	7		

IBI Score: 50
Integrity Rating: Fair

Chaffee Creek I39



Chaffee Creek I39 - Rainbow Trout



SUMMARY

- Brown trout were found in moderate to high densities at all four of the stations with the total brown trout CPUE ranking out in the 85th thru 97th percentiles when compared to trout streams throughout Wisconsin. Brown trout 10+ inches ranked above the 98th percentile at 11th Ln. YOY brown trout were captured in moderate to high densities near I39 and CTH CH.
- All stations except Dakota Ln. showed improvements in number and size structure of brown trout as well as a slight increase of rainbow trout numbers at the I-39 station since the last survey in 2018.
- Brown and rainbow trout populations are doing well throughout the Chaffee Creek system and provides both opportunities to catch quantity and quality sizes of both species of trout.
- 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. Habitat should be protected and should be able to do so with the large tracts of state owned land.
- This unique fishery which includes naturally reproducing rainbow trout should be protected and maintained through habitat maintenance and improvement.