2021 STREAM SURVEY REPORT

MECAN RIVER

(WBIC 155000)

MARQUETTE AND WAUSHARA COUNTIES

INTRODUCTION AND OBJECTIVES

The Mecan River is a 37.4 mile river with Class I and II trout stream for 24.6 of those miles. The Mecan River originates just west of Wautoma and flows southeast into the Fox River. Fishing access consists of large tracts of public land including the Mecan River System Fishery Area and Upper Fox Headwater State Natural Area (SNA) along with multiple road crossings. The objectives of the rotation surveys are to determine species composition, relative abundance, and size structure for trout and other gamefish.

WISCONSIN DNR CONTACT INFO.

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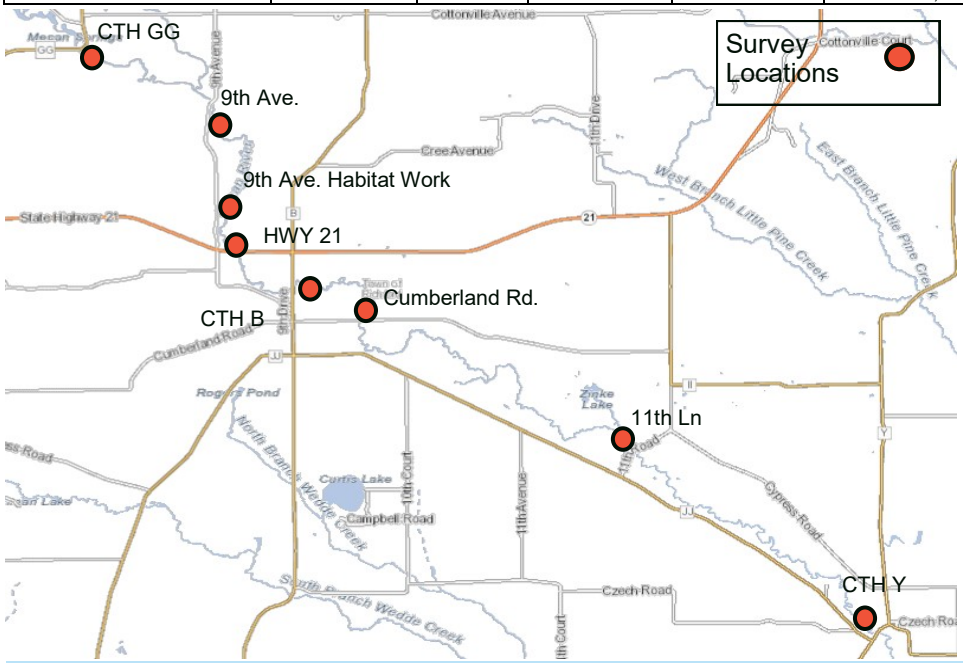
Regulations: YELLOW
Size Limit: Any trout over 8 inches
Daily Bag Limit: 3 (in total)

SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (°F)	Mean Stream Width	GPS (Start/Finish)	Gear	Dippers	IBI
CTH GG	7/21/2021	908 ft	67	25.9 ft	44.05095, -89.46421 44.04978, -89.46129	Barge Shocker	3	NO
9th Ave.	7/21/2021	749 ft	68	21.3 ft	44.045349, -89.446095 44.04352, -89.44593	Barge Shocker	3	YES
9th Ave. Habitat Work	7/20/2021	1135 ft	62	22.9 ft	44.031802, -89.445501 44.03421, -89.4437	Barge Shocker	3	NO
HWY 21	7/20/2021	808 ft	61	23.1 ft	44.029753, -89.444045 44.03094, -89.44462	Barge Shocker	3	NO
CTH B	7/14/2021	797 ft	62	22.7 ft	44.02564, -89.43397 44.02554, -89.43549	Barge Shocker	3	NO
Cumberland Rd.	7/14/2021	897 ft	59	25.7 ft	44.02230, -89.42677 44.02370, -89.42546	Barge Shocker	3	NO
11th Rd.	7/13/2021	1118 ft	62	31.9 ft	44.00764, -89.39158 44.00996, -89.39254	Barge Shocker	3	NO
CTH Y	7/13/2021	1165 ft	60	33.3 ft	43.98860, -89.35867 43.98970, -89.36076	Barge Shocker	3	YES



SURVEY METHOD

- All streams are sampled according to DNR wadable streams monitoring protocols. Mecan River is on a 3 year rotation schedule with eight sites identified for the segment of stream in Marquette and Waushara Counties
- 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

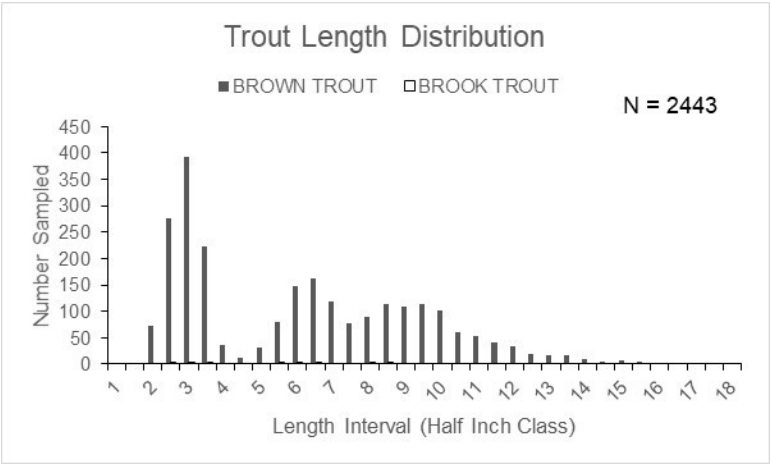
- **Catch per unit effort (CPUE)** is a method of quantifying fish population relative abundance. For all trout surveys, we typically quantify CPUE as the number of a given size class of trout captured per mile of stream. CPUE indexes are compared to other trout streams throughout the state of Wisconsin 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.

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 GG	6	3.3	2.6 - 3.8	35 (27th)	35	-	-	-	-	-
9th Ave.	269	8.0	2.2 - 15.0	1896 (94th)	923	895 (94th)	522 (93rd)	275 (93rd)	92 (91st)	7 (75th)
9th Ave. Habitat Work	318	8.6	2.7 - 15.8	1479 (91st)	368	1061 (96th)	791 (97th)	451 (97th)	181 (97th)	33 (97th)
HWY 21	394	6.9	2.0 - 13.4	2575 (96th)	1268	1170 (97th)	680 (95th)	255 (92nd)	46 (79th)	-
CTH B	485	6.1	1.8 - 13.8	3213 (97th)	2120	1014 (96th)	537 (90th)	179 (88th)	33 (73rd)	-
Cumberland Rd.	376	6.9	2.1 - 12.4	2820 (97th)	1163	1613 (98th)	705 (96th)	233 (92nd)	23 (65th)	-
11th Ln.	308	7.9	2.4 - 14.8	1455 (91st)	146	1171 (97th)	675 (95th)	392 (97th)	132 (95th)	-
CTH Y	272	7.7	2.4 - 15.8	1233 (89th)	236	920 (95th)	585 (94th)	240 (92nd)	73 (88th)	14 (87th)

BROOK 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)
9th Ave.	2	5.4	2.5 - 8.3	14 (9th)	7	7 (9th)	7 (34th)	-	-
9th Ave. Habitat Work	1	8.9	-	5 (2nd)	-	5 (6th)	5 (31st)	-	-
CTH Y	12	5.0	3.0 - 8.2	54 (27th)	32	23 (24th)	5 (31st)	-	-



SPECIES COMMUNITY AND IBI FOR 9TH AVE/.

Species Sampled	Total	IBI Score	Integrity Rating
Brown trout	269	50	Fair
Mottled sculpin	34		
Creek chub	56		
Brook lamprey	5		
Pearl dace	1		
Common shiner	3		
Blacknose dace	74		
White sucker	8		
Fantail darter	1		

SPECIES COMMUNITY AND IBI FOR CTH Y

Species Sampled	Total	IBI Score	Integrity Rating
Brown trout	272	60	Good
Brook trout	12		
Northern hogsucker	2		
White sucker	86		
Creek chub	11		
Blacknose dace	11		
Brook lamprey	10		
Mottled sculpin	107		
Central mudminnow	4		

SUMMARY

- Brown trout were found in moderate to high densities at nearly all eight of the stations with the total brown trout CPUE ranking at the 89th percentile or higher, with the exception of CTH GG when compared to trout streams throughout Wisconsin. Brown trout 10.0 inches and greater ranked above the 88th percentile at all stations except for CTH GG as well. Young-of-year brown trout were captured in the highest densities at HWY 21, CTH B and Cumberland Rd.
- All stations except CTH GG have shown significant improvement in number and size structure of brown trout since the last survey in 2017.
- Brown trout populations are doing well throughout the Mecan River system and provide opportunities to catch quantity and quality sizes. Brook trout are also present in the system, but in low densities.
- The IBI scores suggests this stream is a good coldwater stream and the Wisconsin Streams Natural Community Model considers this a cool - cold headwater stream. Habitat is already mostly protected by the large tracts of state owned land, stream bank easements should still be considered where applicable. The fishery should be protected and maintained through in-stream habitat improvement and maintenance of existing work.