WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2021 Stream Survey Report
Leer Creek, Waupaca County
279100

Introduction And Objectives

The Leer Creek consists of 3.01 miles of Class I trout water in Waupaca County. The Leer Creek is a tributary to the South Branch Little Wolf River which provides spawning and nursery habitat for trout populations. Fishing access consists of three road crossings along with large tracts of public land. Objectives of the rotation surveys are to determine species composition, relative abundance and size structure for trout and other game species.

DNR Contact

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Regulations

Category: Yellow
Daily Bag and Size Limit:
Three and 8-inch minimum

SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (° F)	Mean Stream Width	GPS (Start/Finish)	Gear	Dippers	IBI
Pleasant Hill Road	7/14/2021	402 ft	54	11.5 ft	44.57576, -89.20235 44.57568, -89.20351	Backpack Shocker	1	YES
Roosevelt Road	7/14/2021	389 ft	56	11.2 ft	44.56919, -89.17191 44.56979, -89.17278	Barge Shocker	3	NO

Survey Method

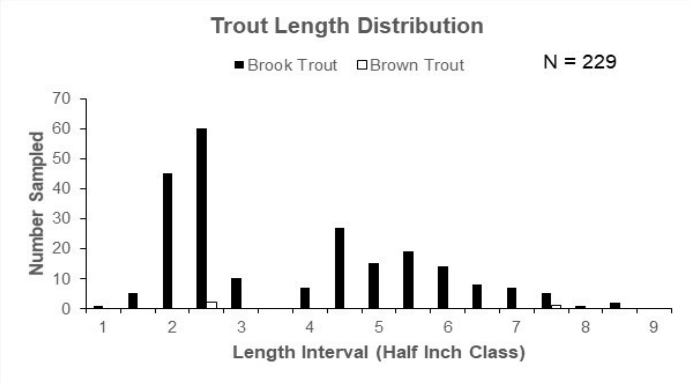
- All streams are sampled according to DNR wadeable streams monitoring protocols.
- All sampling stations are electrofished with either a towed barge shocker or backpack shocker.
- Sampling distance is at least 35 times the mean stream width or a minimum of 330 feet (i.e., 100 meters).
- All trout are counted and measured and all other species are counted in order to calculate an Index of Biotic Integrity (IBI) 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.

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)
Pleasant Hill Road	30	3.9	1.8 - 6.7	394 (66th)	210	118 (56th)	-	-	-
Roosevelt Road	196	4.0	1.3 - 8.7	2660 (97th)	1425	842 (95th)	41	-	-

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)
Roosevelt Road	3	4.5	2.9 - 7.7	41 (29th)	27	14 (19th)	-	-	-	-



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 PLESANT HILL ROAD			
Species Sampled	Total	IBI Score	Integrity Rating
Brook Trout	30	100	Excellent
Mottled Sculpin	1		

Summary

- Trout were found in high densities at Roosevelt Road with the total brook trout CPUE ranking out in the 97th percentile when compared to trout streams throughout Wisconsin. At least two distinct year classes of brook trout were captured at Roosevelt Road YOY brook trout were captured at both stations in moderate - high densities, but larger trout 10+ inches were not sampled in either of the two survey sites.
- The Roosevelt Road station was last sampled in 2014 and has shown an improvement in numbers of brook trout but size structure metrics have remained similar.
- Cold water and spawning substrate at the Pleasant Hill Road sample station suggest this stretch of stream has excellent habitat for trout spawning and should be preserved and maintained into the future.
- The IBI scores suggests this stream is an excellent coldwater stream and the WI Streams Natural Community Model considers this a cool - cold headwater stream. Habitat should be protected and should able to do so with the large tracts of state owned land.