



WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2025

Outlet Creek, Oneida County

WBIC: 1573200

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Introduction And Objectives

Outlet Creek is a coldwater system meandering 0.68 mile within the Pelican River watershed in the eastern part of Oneida County. The Wisconsin Department of Natural Resources (DNR) sampled the fish and aquatic habitat present in this Class 1 Trout water prior to the culvert on Stella Lake Road being replaced to updated our understanding of the fishery and habitat present.

DNR Contact

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Regulations

Category: Green
Daily Bag and Size Limit:
5 daily bag, no minimum length

SURVEY INFORMATION

Station	Survey date	Station length (ft)	Temperature (°F)	Mean stream width (ft)	GPS (Start/Finish)	Gear	Habitat rating	IBI
Outlet cr 250 m us Starks cr	6/5/25	328	46	6.1	45.673440 -89.228662 45.673696 -89.227513	Backpack shocker	65	90
Outlet cr 300m ds stella lk rd	6/5/25	328	47	3.3	45.676161 -89.225347 45.675782 -89.224452	Backpack shocker	45	100

Survey Method

- All stations were sampled according to DNR wadeable streams fish monitoring protocols.
- All trout were counted and measured and all other species were 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.
- Twenty eight habitat variables were measured or visually estimated at each station following guidelines for evaluating fish habitat in Wisconsin streams protocols.
- Lengths of riffles, pools, and runs and the distance between bends or riffles were measured over the length of the station. Stream width, depth, bottom substrates cover for fish, bank condition, riparian vegetation and land use across 12 transects spaced 2.0 times the mean stream width apart.

Metric Descriptions

- Catch per unit effort (CPUE)** is a method of quantifying fish population relative abundance. For all trout surveys, CPUE is quantified 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.
- Fish Habitat rating** is a scoring of the relative quality and quantity of aquatic habitat available to support a diverse, healthy fish community. Scores of 75 - 100 indicate excellent fish habitat, while scores less than 20 indicate poor fish habitat. Our analysis utilizes the Fish habitat rating for systems < 10 meters or > 10 meters depending on the mean stream width.



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SPECIES SIZE AND ABUNDANCE (CPUE) METRICS									
Species	Total number sampled	Average length (inches)	Length range (inches)	CPUE (No. per Mile)					
				Total CPUE	YOY CPUE	≥5" CPUE	≥8" CPUE	≥10" CPUE	≥12" CPUE
Brook trout	28	2.3	1.4—7.0	233.3	216.6	16.7	0	0	0
Mottled sculpin	5	NA	NA	41.7	NA	NA	NA	NA	NA
Bluegill	1	NA	1.5-1.5	8.3	NA	NA	NA	NA	NA



Photo Credit: Wisconsin DNR

Figure 1. Sampling fish in Outlet Creek using a backpack electrofisher.



Photo Credit: Wisconsin DNR

Figure 2. Assessing the aquatic habitat in Outlet Creek.

Summary

- Outlet Creek had an excellent IBI score above 90 while the habitat rating was fair to good (45-65).
- A simple fish community consisting three species was found in Outlet Creek. The fishery would remain simple if the brook stickleback regurgitated by a trout was also included in the assessment.
- The Outlet Creek fishery was dominated by age-0 brook trout representing a catch rate around the 65th percentile for the state. This stream may play as an important spawning and rearing tributary the adult trout fishery in Starks Creek.
- The capture of a bluegill was unexpected with the individual potentially migrating or washing down demonstrating the effect that the culvert impoundment could be having on the system as a whole.
- Fish habitat included coarse woody habitat, undercut bank and aquatic vegetation relative width of the stream. Most habitat was unable to be included in the qualitative habitat assessment as it focuses on adult habitat requiring a water depth greater than 0.75 feet.
- Sampling fish and habitat in a few years should be considered to determine if any changes to the habitat and fishery occurs follow culvert replacement on Starks Lake Road.