

# WISCONSIN DEPARTMENT OF NATURAL RESOURCES

## 2022 STREAM SURVEY REPORT

### LANCASTER CREEK

TROUT STREAM ROTATION (WBIC 410000)

BROWN COUNTY



## INTRODUCTION AND OBJECTIVES

Lancaster Creek is currently a Class II and III trout stream consisting of 4.61 miles of water in Brown County. Lancaster Creek is a tributary to Duck Creek and is part of the Duck Creek watershed. Fishing access consists of 14 road crossings. The objectives of the rotation surveys are to determine species composition, relative abundance and size structure for trout and other gamefish present.

Regulations Category: **Yellow**

Size Limit: 8 inches

Daily Bag Limit: 3 (in total)

## WISCONSIN DNR CONTACT INFO.

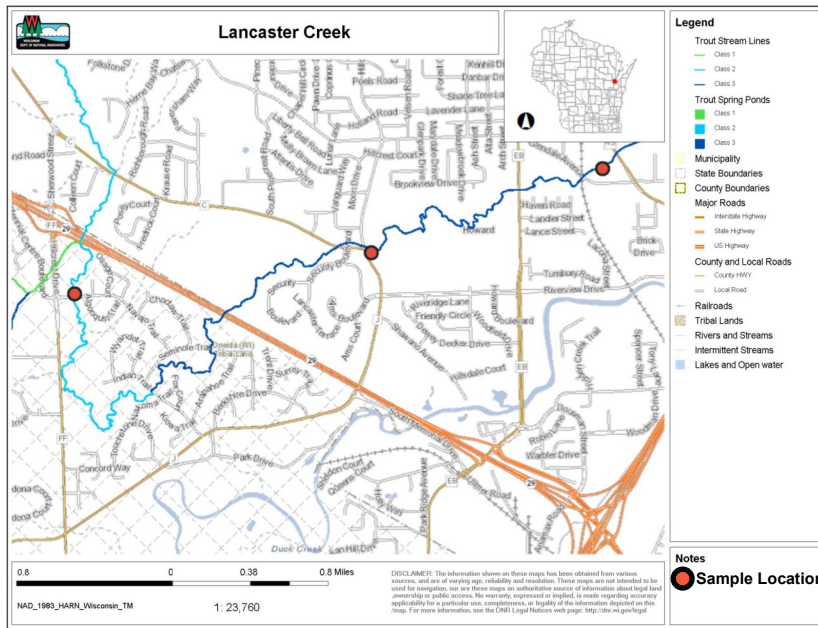
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## SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (°F)	Mean Stream Width (ft)	GPS (Start/Finish)	Gear	Dippers	IBI
Navajo Trail	8/2/2022	370 ft	69	10.4	44.555293, -88.1283017 44.559283, -88.1285433	Backpack Shocker	1	Yes
Glendale Avenue	8/2/2022	374 ft	74	11.9	44.563152, -88.0765550 44.562987, -88.0780367	Barge Shocker	2	Yes
Shawano Avenue	8/31/2022	381 ft	63	10.8	44.557670, -88.0992900 44.558120, -88.0999500	Barge Shocker	2	Yes



## SURVEY METHOD

- All streams are sampled according to DNR wadeable streams monitoring protocols. Lancaster Creek is currently on a six year rotation schedule with three locations selected for the section of stream in Brown 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 and other gamefish are measured for length and examined for fin-clips.
- In at least one stream segment (if multiple stations are being sampled), all fish species are collected and counted for the calculation of an Index of Biotic Integrity (IBI).
- Metrics used to describe trout populations include average length, catch per unit effort (CPUE), length frequency distribution and an IBI.

## 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 rank out in. For example, if a CPUE is in the 90<sup>th</sup> 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 (<33<sup>rd</sup> percentile), moderate density (33<sup>rd</sup> - 66<sup>th</sup> percentile), high density (67<sup>th</sup> - 90<sup>th</sup> percentile) and very high density (> 90<sup>th</sup> 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.



Figure 1. Brook trout captured in a DNR fisheries survey. Photo credit Wisconsin DNR.

# WISCONSIN DEPARTMENT OF NATURAL RESOURCES

## 2022 STREAM SURVEY REPORT - CONTINUED

### LANCASTER CREEK

#### TROUT STREAM ROTATION (WBIC 410000)



Species Community and IBI for Navajo Trail			
Species Sampled	Total	IBI Score	Integrity Rating
Central mudminnow	2	<b>0</b>	<b>Very Poor</b>
Creek chub	27		
Green sunfish	9		
Johnny darter	39		
Largemouth bass	1		
Longnose dace	24		
White sucker	6		
Yellow perch	1		

Species Community and IBI for Shawano Ave			
Species Sampled	Total	IBI Score	Integrity Rating
Creek chub	47	<b>0</b>	<b>Very Poor</b>
Fathead minnow	1		
Green sunfish	54		
Johnny darter	27		
Largemouth bass	3		
Longnose dace	15		
Round goby	18		
Spotfin shiner	1		
White sucker	19		
Yellow perch	23		

Species Community and IBI for Glendale Ave			
Species Sampled	Total	IBI Score	Integrity Rating
Blackside dace	2	<b>0</b>	<b>Very Poor</b>
Central mudminnow	1		
Common carp	1		
Common shiner	10		
Creek chub	43		
Fathead minnow	24		
Green sunfish	4		
Johnny darter	40		
Largemouth bass	2		
Logperch	5		
Round goby	11		
White sucker	50		
Yellow perch	44		



Figure 2. Brook Trout captured in a DNR fisheries survey. Photo credit DNR.

### SUMMARY

- No trout were captured during this year's surveys of Lancaster Creek. A total of 554 fish from 15 different species were captured at the three survey locations. Creek chub, Johnny darter, white sucker, yellow perch and green sunfish were the most abundant fish species captured during the surveys.
- Surveys have been conducted at various locations throughout Lancaster Creek in 2001, 2006, 2010, 2014 and 2015. Brook trout were last captured in Lancaster Creek in 2001. The fish community in more recent surveys was similar to what was captured in 2022 and dominated by more warm water species.
- The IBI scores suggest this stream is a very poor coldwater stream. Despite being classified as a cool-cold headwaters stream by the Wisconsin Streams Natural Community Model, summer water temperatures throughout the lower sections of the stream were at or above 70°F, meaning trout likely could not survive these warm temperatures during summer.
- Along with warm summer temperatures, habitat, and especially fine sediments due to extensive bank erosion may be limiting trout in Lancaster Creek.
- Lancaster Creek should be considered for declassification as a trout stream since water temperatures and habitat no longer appear to be able to support trout.