



# WISCONSIN DEPARTMENT OF NATURAL RESOURCES

## 2021 Stream Survey Report Silver Creek, Shawano County 330700

### Introduction And Objectives

The Silver Creek consists of 10.1 miles of Class I trout water in Shawano County. The Silver Creek is a tributary to the West Branch Red River which provides spawning and nursery habitat for trout populations. Fishing access consists of eight road crossings along with a small tract of land off CTH D. Objectives of the rotation surveys are to determine species composition, relative abundance, and size structure for trout and other gamefish species.

### DNR Contact

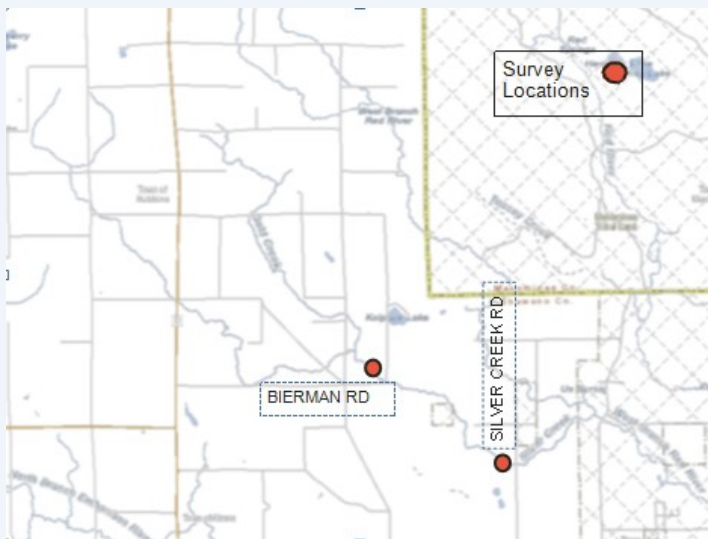
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### Regulations

Category: Green  
Daily Bag and Size Limit:  
Five and no size

### SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (°F)	Mean Stream Width	GPS (Start/Finish)	Gear	Dippers	IBI
Bierman Road	7/06/2021	668 ft	61	19.1 ft	44.92829, -88.99231 44.92871, -88.99379	Barge Shocker	3	NO
Silver Creek Road	7/06/2021	566 ft	62	16.2 ft	44.91401, -88.96175 44.91315, -88.96298	Barge Shocker	3	YES



### 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.

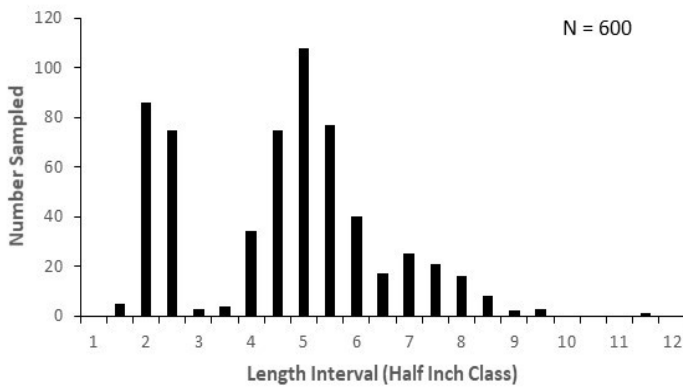


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BROOK TROUT SIZE AND ABUNDANCE (CPUE) METRICS									
Station	Total Number Sampled	Average Length (inches)	Length Range (inches)	CPUE (No. per Mile) Statewide Percentile in Parentheses					
				Total CPUE (PCTL)	YOY CPUE	≥5" CPUE (PCTL)	≥8" CPUE (PCTL)	≥10" CPUE (PCTL)	≥12" CPUE (PCTL)
Bierman Road	240	5.2	1.8 - 11.6	1897 (95th)	411	1154 (97th)	126 (91st)	16 (82nd)	0
Silver Creek Road	360	4.6	1.9 - 9.7	3358 (98th)	1129	1605 (98th)	131 (58th)	0	0

Brook Trout Length Distribution



### SPECIES COMMUNITY AND IBI FOR SILVER CREEK ROAD

Species Sampled	Total	IBI Score	Integrity Rating
Brook Trout	360	<b>90</b>	<b>Excellent</b>
Mottled Sculpin	10		
Creek Chub	21		
Pearl Dace	26		
White Sucker	2		
Blacknose Dace	16		
Central Mudminnow	9		
Brook Stickleback	1		

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

### Summary

- Trout were found in high densities at both stations with the total brook trout CPUE ranking out in the 98th and 95th percentiles when compared to trout streams throughout Wisconsin. At least three distinct year classes of brook trout were captured at both stations. YOY trout were captured at both stations in high densities, but larger trout 10+ inches were not as common.
- Both stations were last sampled in 2009 and have shown slight decreases in numbers of brook trout, while maintaining the same size structure. Even though there was a slight decrease in numbers, Silver Creek still is an excellent brook trout fishery.
- Cold water and ample spawning substrate at this sample station suggest this stretch of stream has excellent habitat for trout spawning and has quality nursery habitat for young trout.
- The IBI scores suggests this stream is a excellent coldwater stream and the WI Streams Natural Community Model considers this a cool - cold headwater stream. Easement acquisition on this stream should be a priority to protect and enhance this quality brook trout fishery.