WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2021 Stream Survey Trend Report
Peterson Creek, Waupaca County
275400

Introduction And Objectives

Peterson Creek is a Class I trout stream consisting of 9.32 miles of trout water. Peterson Creek originates in Portage County near Portage/Waupaca County border. Peterson Creek eventually flows into the South Branch Little Wolf River near WI HWY 49. Brown trout is the dominant salmonid in the lower reaches with mixed brown and brook trout in the upstream areas. Fishing access is very good with multiple DNR managed properties and easements. Extensive habitat development projects have been completed in several areas throughout the stream including this trend survey site. Objectives of the trend survey are to monitor relative abundance and size structure over time.

DNR Contact

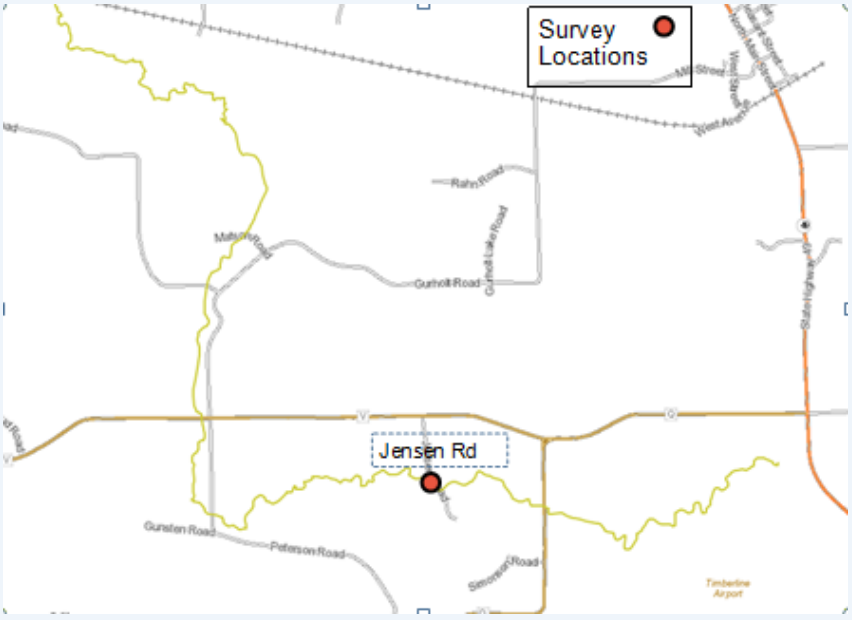
Elliot Hoffman - Fisheries Biologist Senior
647 Lakeland Rd.
Shawano, WI 54166
Phone: 920-420-9581
Email: elliot.hoffman@wisconsin.gov

Regulations

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

SURVEY INFORMATION

Station	Survey Date	Station Length	Temperature (°F)	GPS (Start/Finish)	Gear	Dippers
Jensen Road Trend Site	08/01/2019	2,000 ft.	55	44.3589, -89.1681 44.4354, -89.1768	Towed Barge Shocker	3

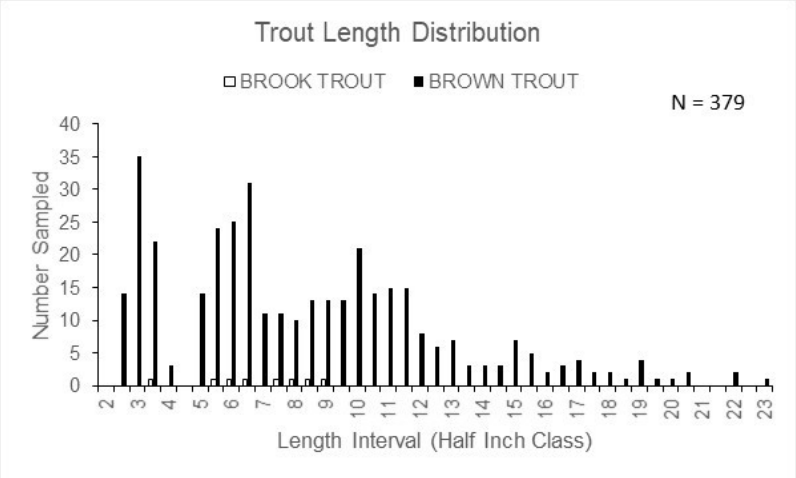


Survey Method

- 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.



SIZE AND ABUNDANCE (CPUE) METRICS - BROWN TROUT										
Year	Average Length (inches)	Length Range (inches)	Number Sampled	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)
2005	7.9	(2.9-20.0)	115	434 (70th)	57	291 (75th)	77 (60th)	55 (65th)	60 (85th)	19 (90th)
2006	8.5	(3.0-21.5)	431	759 (80th)	74	511 (85th)	356 (85th)	243 (90th)	150 (95th)	63 (95th)
2007	7.5	(2.5-24.2)	443	780 (80th)	185	452 (85th)	296 (85th)	197 (85th)	113 (90th)	39 (95th)
2008	7.5	(2.0-19.7)	390	569 (80th)	100	305 (80th)	194 (75th)	127 (80th)	79 (85th)	19 (90th)
2009	7.9	(2.3-25.2)	338	595 (80th)	178	373 (80th)	257 (80th)	185 (85th)	118 (90th)	42 (95th)
2010	8.4	(2.8-20.0)	234	412 (70th)	44	285 (75th)	178 (75th)	136 (80th)	72 (85th)	23 (90th)
2011	8.5	(2.2-20.9)	238	628 (80th)	69	480 (85th)	195 (75th)	134 (80th)	106 (90th)	47 (95th)
2012	10.1	(2.5-20.6)	418	736 (80th)	48	621 (90th)	539 (90th)	393 (95th)	224 (95th)	72 (95th)
2013	10.9	(2.6-24.0)	231	407 (70th)	7	368 (80th)	312 (85th)	239 (90th)	157 (95th)	56 (95th)
2014	8.0	(2.1-20.9)	196	345 (65th)	32	184 (65th)	109 (65th)	90 (75th)	68 (85th)	30 (95th)
2015	8.2	(2.5-21.2)	118	208 (55th)	16	158 (60th)	72 (55th)	46 (60th)	30 (70th)	19 (90th)
2016	8.9	(2.7-17.8)	188	496 (75th)	32	422 (80th)	169 (75th)	118 (80th)	71 (85th)	21 (90th)
2017	8.8	(2.5-21.0)	266	702 (80th)	66	507 (85th)	317 (85th)	251 (90th)	172 (95th)	53 (95th)
2018	9.2	(2.5-21.3)	276	728 (80th)	71	575 (85th)	412 (90th)	280 (90th)	185 (95th)	69 (95th)
2019	10.3	(2.8-21.3)	201	531 (75th)	29	438 (80th)	327 (85th)	256 (90th)	195 (95th)	87 (100th)
2021	8.6	(2.5 - 23.4)	371	979 (86th)	169	684 (91st)	478 (92nd)	348 (96th)	177 (97th)	98 (100th)

Summary

- Results from the 2021 survey again showed that Peterson Creek continues to provide one of the best brown trout fisheries in the state of Wisconsin. Total catch per unit effort ranks in the 86th percentile, the density of all adult size classes ranks at the 91st percentile or higher and the density of brown trout ≥12.0 inches and ≥15.0 inches rank in the 97th percentile and 100th percentile, respectively when compared to trout streams throughout the state of Wisconsin. Anglers have the opportunity to catch both numbers and trophy sized brown trout in Peterson Creek. Brown trout ≥20.0 inches were captured in all but two years going back to 2005 and brown trout ≥24.0 inches were captured in three years since 2005.
- Only eight brook trout were captured during the 2021 survey. Low numbers of brook trout are often captured in this stretch with higher densities found in the upper reaches.
- Brown trout young of year (YOY) relative abundance in 2021 increased 483% from what was observed in 2019, the highest since 2009. Consistent recruitment throughout the stream should continue to provide a high quality brown trout fishery into the future.
- It is recommended that easement and/or land acquisition efforts focus on other stretches of Peterson Creek. Significant habitat work has been completed within the section of river where the trend site is located because a fishery easement exists there. The superb habitat within this stretch of river is likely why the brown trout grow so well and remain there. Habitat work can not be completed on other stretches without first securing an easement or land acquisition.