



Introduction And Objectives

The Red Cedar River originates at the Red Cedar Dam in Barron County and flows southward for approximately 90 miles until it reaches the Chippewa River in southern Dunn County. The Red Cedar River drains a large watershed in Barron and Dunn Counties. The Red Cedar River is divided into three riverine segments by dams and flowages which include: Red Cedar Lake to Rice Lake, Rice Lake to Tainter Lake, and Lake Menomin to the Chippewa River. This survey included two sites, one within the Rice Lake to Tainter Lake section (upper river) and one site from Lake Menomin to the Chippewa River (lower river). The gradient is around 2.7 feet per mile and the median flow for August is 800 to 1000 cubic feet per second (cfs). During this survey the flow was 648 cfs during the upper river survey and 1110 cfs during the lower river survey. While substrate was not sampled during the survey, observationally substrate in both stations consisted mainly of gravel, cobble and sand with boulders, bedrock and silt in lesser amounts. Bank erosion was light to heavy in the upper river station while the lower river station had moderate bank erosion upstream of Downsville and heavy bank erosion from Downsville to Dunnville. Several species found in the lower Red Cedar River are protected with special state status: as follows; Endangered: crystal darter. Threatened: river herring, blue sucker and black buffalo. Special Concern: lake sturgeon, mud darter and american eel.

For the upper river station, sampling occurred from Highway 64 downstream to the intersection of Hwy S and W for a total length of 4.4 miles. Total electrofishing time was 118 minutes. Sampling of the lower river station occurred from Downsville downstream to approximately 1 mile upstream of County Rd Y for a total of 6.5 miles sampled. Total electrofishing time was 162 minutes.

SURVEY INFORMATION

Stream Name	Site Location	Survey Dates	Water Temperature (°F)	Target Species	Gear
Upper Red Cedar	STH 64 to CTH MW	09/10/2024	65	Smallmouth Bass	Miniboom
Lower Red Cedar	Downsville to Dunnville	09/16/2024	69	Smallmouth Bass	Miniboom

Metric Descriptions

- **Catch per unit effort (CPUE)** is a method of quantifying fish population relative abundance. For all surveys, we typically quantify CPUE as the number of a given size class of captured per mile of stream. CPUE indexes are compared to other 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 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.
- **Proportional stock density (PSD)** and relative stock density (RSD) were used as measures of size structure of gamefish species with values ranging from 1 to 100 with higher values indicating more larger individuals within the sample.
- **Relative weight (Wr)** was used as a measure of the condition and overall health individual fish with values near 100 indicating good condition of fish and values less than 100 indicating poorer condition.

DNR Contact

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Watershed/Region Information

Notable Public Accesses: STH 64
 CTH M/W
 Folland Park, Colfax
 Dobbs Landing
 Russian Slough
 STH 29
 STH 25
 CTH Y

Regulations

Bass-14 inch minimum, 5 per day
 Walleye-15 inch minimum, 3 per day
 Northern Pike-5 per day

Survey Method

- All streams are sampled according to DNR non-wadeable streams monitoring protocols.
- Sampling equipment consisted of one mini-boom electro fishing boat using pulsed DC current and one dip netter.
- The right bank (as facing downstream) was primarily sampled.
- During the majority of the survey, only game fish, endangered or threatened species were collected.
- Captured fish were measured to the nearest tenth of an inch and weighed to the nearest ounce.
- All fish were collected in a 1 mile sub-section of each station within the all species station.
- All fish other than minnow species were measured to the nearest tenth of an inch. Additionally, all gamefish were weighed to the nearest ounce.
- Minnow species were counted and weighed as a group.



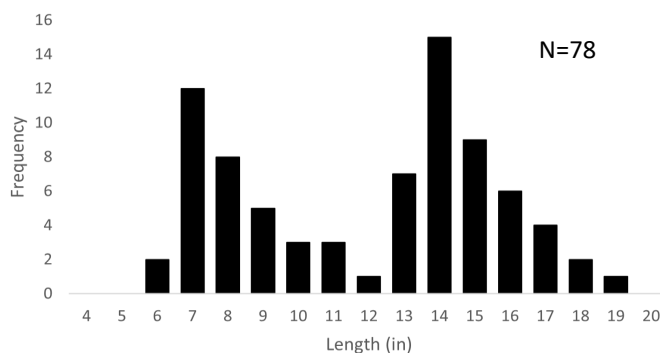
Smallmouth Bass

- Upper Red Cedar River
 - Smallmouth bass were the most common gamefish sampled. Catch rates were higher than during the 2020 survey (CPUE 10.7 fish per mile; Table 1). Smallmouth bass ranged in length from 6.5 to 19 inches and mean length was 12.4 inches. Smallmouth bass in the upper river exhibited excellent size structure with a PSD of 63 and RSD14 of 49. Estimates from 2020 were PSD of 43 and RSD14 of 37. Approximately 28% were larger than 15 inches and 4% were larger than 18 inches. Relative weight declined from the previous 2020 survey from 109 to 87.
- Lower Red Cedar River
 - Smallmouth bass were also the most common gamefish sampled. Total catch rates were similar to the previous survey (8.3 fish per mile; Table 2). Fish ranged in length from 3.2 to 18.7 inches with a mean length of 10.5 inches. Size structure was lower when compared to the upper river with a PSD value of 63 and RSD14 of 25. However, size structure has improved from the 2020 survey in which PSD was 37 and RSD14 was 19. Approximately 10% were larger than 15 inches and 2% were larger than 18 inches. Smallmouth bass were in similar condition to the upper river fish with a Wr value of 83.

TABLE 1. UPPER RED CEDAR CATCH METRICS

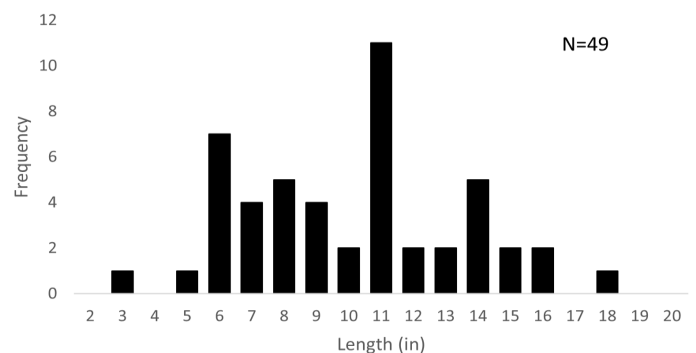
Species	Number Caught	Total Catch Rate (fish per mile)	Length Range (inches)	Average Length (inches)
Smallmouth Bass	78	17.7	6.5-19	12.4
Walleye	30	6.8	11.6-24.4	16.1
Northern Pike	20	4.5	8.5-29.3	17.8
Largemouth Bass	1	0.2	8.0	8.0
Rock Bass	1	1		
Muskellunge	1	0.2	21.1	21.1
Blackside Darter	10	10		
Bluntnose Minnow	2	2		
Brook Trout	1	0.2		
Central Stoneroller	23	23		
Common Shiner	2	2		
Chestnut Lamprey	6	6		
Creek Chub	3	3		
Emerald Shiner	7	7		
Golden Redhorse	15	15		
Hornyhead Chub	42	42		
Largescale Stoneroller	1	1		
Logperch	28	28		
Longnose Dace	6	6		
Northern Hog Sucker	49	49		
Rainbow Darter	1	1		
Shorthead Redhorse	10	10		
Silver Lamprey	2	2		
Silver Redhorse	1	1		
White Sucker	31	31		

Smallmouth Bass-Upper Red Cedar



Length frequency distribution of smallmouth bass collected from the Upper Red Cedar River.

Smallmouth Bass-Lower Red Cedar



Length frequency distribution of smallmouth bass collected from the Lower Red Cedar River.



Walleye

- Upper Red Cedar River
 - Walleye abundance was similar to the 2020 survey (CPUE=6.4 fish per mile) with a CPUE of 6.8 fish per mile. Average length of walleye was 16.1 inches which was also similar to the previous survey's estimate of 15 inches. Approximately 63% were larger than 15 inches and 17% were larger than 18 inches. Walleye were in poorer condition with a Wr of 77, whereas the 2020 Wr estimate was 96.
- Lower Red Cedar River
 - Walleye are present within the lower river station in low densities. CPUE in 2024 was 1.2 fish per mile which was similar to the 2020 estimate of 1.1 fish per mile. Size structure in terms of average length was slightly improved, with average length of walleye in 2024 at 17.8 inches and average length in 2020 at 15.9 inches. Approximately 71% of walleye collected were larger than 15 inches and 50% were larger than 18 inches. Relative weight of walleye was 82 which was similar to the previous survey.

TABLE 2. LOWER RED CEDAR CATCH METRICS

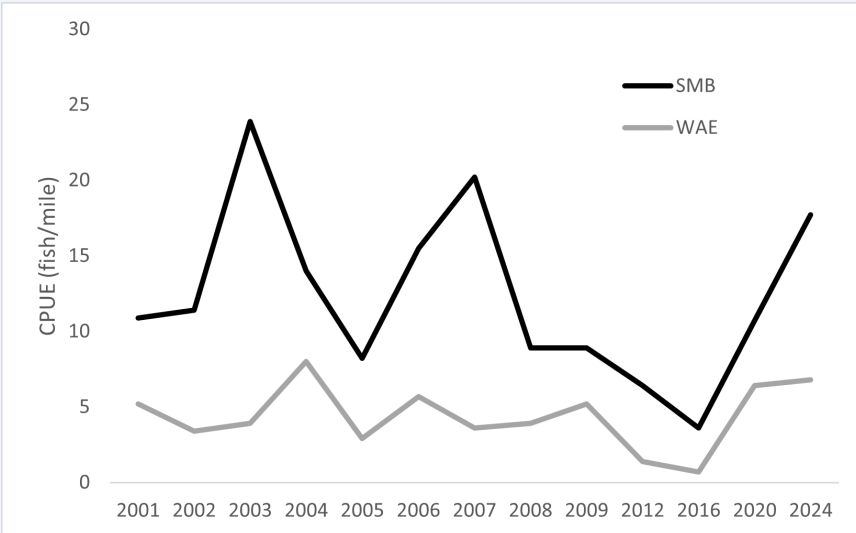
Species	Number Captured	Total Catch Rate (fish/mile)	Length Range	Average Length
Smallmouth Bass	49	7.5	3.2-18.7	10.5
Walleye	8	1.2	10.6-27.3	17.8
Northern Pike	1	0.2	29	29
Largemouth Bass	0	0		
White Bass	4	0.6	12.9-13.5	13.2
Muskellunge	1	0.2	19.7	19.7
Bigmouth Buffalo	3	3	27.3-30.1	28.3
Blackside Darter	1	1		
Blue Sucker	38	5.8	20.1-32.2	26.2
Bowfin	1	1		
Channel Catfish	7	1.1	15.2-22.8	20.2
Chestnut Lamprey	4	4		
Common Carp	2	2	17.2-19.7	18.5
Crystal Darter	3	0.5		
Freshwater Drum	19	19	9.5-14.3	12.1
Gizzard Shad	6	6	9.7-15.5	14.5
Golden Redhorse	15	15	15.9-21.1	18.1
Greater Redhorse	36	5.5	18.6-28.5	23.9
Mooneye	7	1.1	11-12.7	11.8
Northern Hog Sucker	25	25	6.7-16.7	11.8
Quillback	5	5	15-17.8	17.0
River Redhorse	12	1.8	17.4-24.3	19.0
Shorthead Redhorse	20	20	14.9-18.2	16.5
Silver Redhorse	6	6	18.3-22.1	19.8
Smallmouth Buffalo	1	1	23.7	23.7
Spotfin Shiner	2	2		



Walleye collected during 2024 surveys.

Other Species

- Muskellunge remain present in low densities within both the upper and lower river. Origin of musky within the upper river is unknown and could be a combination of natural reproduction or immigration from stocked sources in connected waterbodies up-river in Barron County. Lower river musky are likely the result of natural reproduction and/or immigration from the Chippewa River.
- Within the lower river, blue sucker catch rates (5.8 fish per mile) were considerably higher than the long-term average catch rate at this site of 2 fish per mile.
- Crystal darter have been present in low densities within the lower river. Previous surveys in 1999, 2000, 2002 and 2007 documented adult crystal darter within this station.
- Other non-game species populations appear to be stable within the upper and lower rivers.

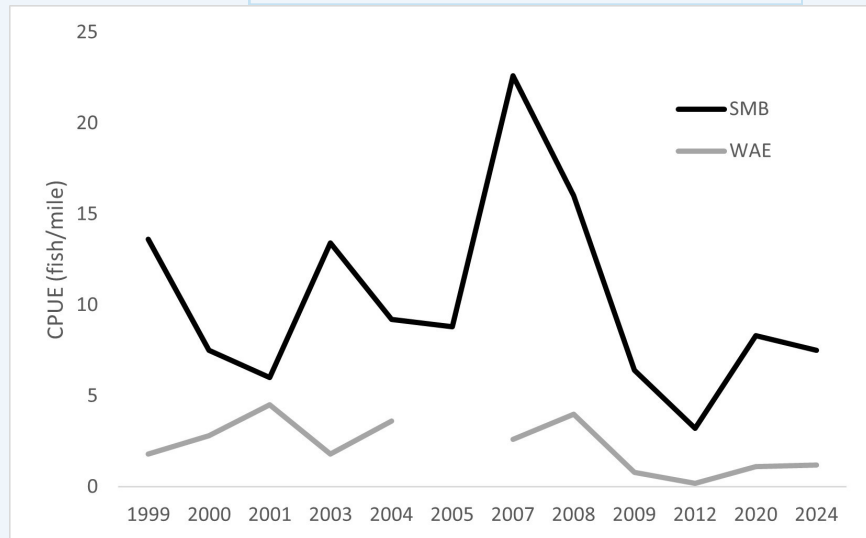


Endangered crystal darter collected during 2024 surveys.

Smallmouth bass and walleye catch rates (CPUE; fish per mile) in the Upper Red Cedar River from 2001 to 2024.



Smallmouth bass collected during 2024 surveys.



Smallmouth bass and walleye catch rates (CPUE; fish per mile) in the Lower Red Cedar River from 1999 to 2024.

Full Summary

- Consistent with previous surveys, the upper river contains a higher quality smallmouth bass fishery when compared to the lower river. Densities of smallmouth bass are consistently higher in the upper river as well and provide an excellent fishery. Abundance and size structure was higher in the upper river compared to the 2020 survey but abundance appears to fluctuate which is consistent with riverine systems that are driven by environmental variables including fluctuating flow rates, temperatures and habitats.
- The walleye population within the upper river is also in higher densities when compared to the lower river. The upper river walleye have access to Tainter Lake and utilize the river for spawning purposes. However, it appears that a proportion of fish likely utilize the river year round.
- The lower river continues to support a robust and diverse fishery that contains many large riverine fish species including bigmouth and smallmouth buffalo, mooneye, channel and flathead catfish, blue sucker and freshwater drum. Lake sturgeon are present in the lower red cedar and the number of lake sturgeon utilizing the Red Cedar River have increased in recent years, based on late spring dip net surveys conducted below the Lake Menomin dam. Overall, fish populations appear healthy and stable in spite of poor water quality conditions during summer months. Best management practices implemented within the upper river watershed can aid in improving conditions.