



# WISCONSIN DEPARTMENT OF NATURAL RESOURCES

## 2021 Stream Survey Report Little Wolf River, Waupaca County 272400

### Introduction And Objectives

The Little Wolf River consists of roughly 23.0 miles of trout water in Waupaca and Marathon Counties above Big Falls. Roughly 12.41 miles of river are Class I, while the other 10.68 miles are Class II trout water. The Little Wolf River is a tributary to the Wolf River which provides spawning and nursery habitat for trout populations. Lower reaches of the Little Wolf River provide cool and warm water fisheries as well. Fishing access consists of fifteen road crossings along with large tracts of public land. Objectives of the rotation surveys are to determine species composition, relative abundance, and size structure for trout and other game species.

### DNR Contact

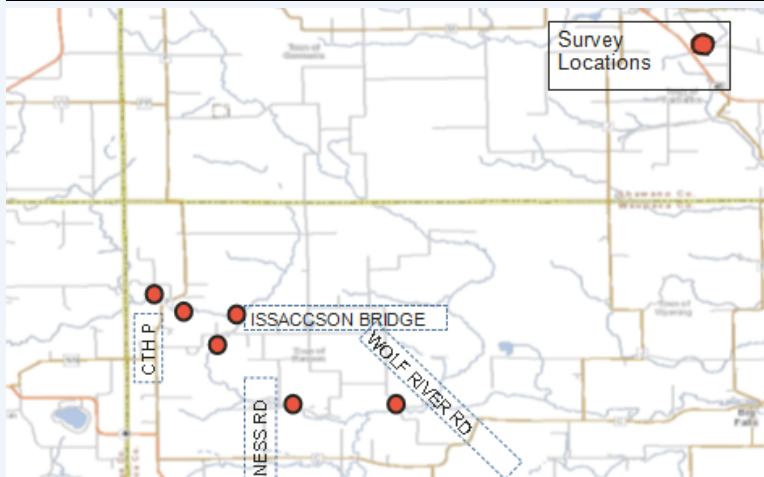
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### Regulations

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

### SURVEY INFORMATION

| Station                        | Survey Date | Station Length | Temperature (° F) | Mean Stream Width | GPS (Start/Finish)                         | Gear          | Dippers | IBI |
|--------------------------------|-------------|----------------|-------------------|-------------------|--|---------------|---------|-----|
| CTH P - Upstream               | 7/26/2021   | 903 ft         | 68                | 25.8 ft           | 44.65182, -89.21033<br>44.65223, -89.21268 | Barge Shocker | 3       | YES |
| CTH P - Downstream             | 7/20/2021   | 945 ft         | 65                | 27.0 ft           | 44.65001, -89.20953<br>44.65128, -89.21001 | Barge Shocker | 3       | NO  |
| Issacson Bridge - Upstream     | 7/26/2021   | 1169 ft        | 64                | 33.5 ft           | 44.64299, -89.18835<br>44.6457, -89.1868   | Barge Shocker | 3       | NO  |
| Issacson Bridge - Downstream   | 7/20/2021   | 1099 ft        | 65                | 31.5 ft           | 44.64243, -89.19123<br>44.64278, -89.18867 | Barge Shocker | 3       | YES |
| Ness Road                      | 8/4/2021    | 3000 ft        | 64                | -                 | 44.61770, -89.16375<br>44.62130, -89.17292 | Barge Shocker | 3       | NO  |
| Wolf River Road - Habitat Work | 7/26/2021   | 1470 ft        | 64                | 42.0 ft           | 44.62041, -89.13361<br>44.61918, -89.13828 | Barge Shocker | 3       | NO  |



### 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.

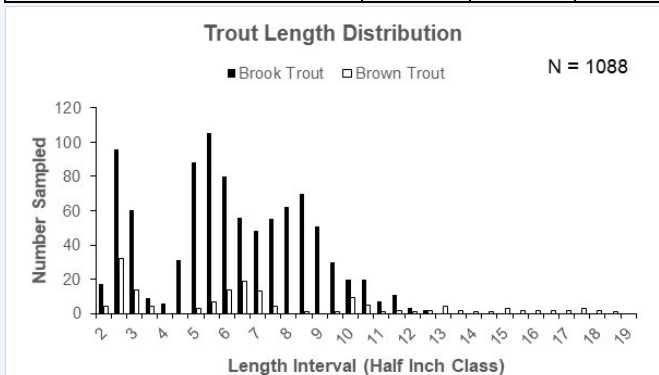


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| BROOK TROUT SIZE AND ABUNDANCE (CPUE) METRICS |                      |                         |                       |   |          |                 |                 |                  |                  |
|---|----------------------|-------------------------|-----------------------|---|----------|-----------------|-----------------|------------------|------------------|
| 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) |
| CTH P - Upstream                              | 145                  | 6.8                     | 2.2 - 12.4            | 848 (83rd)  | 94       | 702 (93rd)      | 275 (97th)      | 53 (99th)        | 6 (93rd)         |
| CTH P - Downstream                            | 107                  | 7.2                     | 2.2 - 12.4            | 598 (76th)  | 45       | 520 (90th)      | 212 (96th)      | 67 (99th)        | 11 (95th)        |
| Issacson Bridge - Upstream                    | 154                  | 6.0                     | 2.3 - 11.8            | 696 (79th)  | 203      | 465 (88th)      | 194 (95th)      | 41 (99th)        | -                |
| Issacson Bridge - Downstream                  | 117                  | 5.9                     | 2.4 - 10.9            | 562 (74th)  | 125      | 408 (85th)      | 130 (91st)      | 14 (96th)        | -                |
| Ness Road                                     | 317                  | 6.0                     | 2.2 - 12.8            | 558 (74th)  | 148      | 392 (85th)      | 132 (91st)      | 28 (99th)        | 2 (89th)         |
| Wolf River Road - Habitat Work                | 87                   | 8.1                     | 2.6 - 12.6            | 313 (60th)  | 11       | 302 (79th)      | 165 (94th)      | 50 (99th)        | 4 (90th)         |

| BROWN 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 | >6" CPUE (PCTL) | >8" CPUE (PCTL) | >10" CPUE (PCTL) | >12" CPUE (PCTL) | >15" CPUE (PCTL) |
| CTH P - Upstream                              | 4                    | 7.7                     | 6.6 - 10.3            | 23 (20th)   | -        | 23 (27th)       | 6 (19th)        | 6 (31st)         | -                | -                |
| Issacson Bridge - Upstream                    | 37                   | 5.1                     | 2.5 - 17.5            | 167 (52nd)  | 86       | 68 (48th)       | 9 (23rd)        | 5 (28th)         | 5 (42nd)         | 5 (69th)         |
| Issacson Bridge - Downstream                  | 32                   | 6.9                     | 2.2 - 18.6            | 154 (51st)  | 62       | 91 (54th)       | 38 (47th)       | 34 (58th)        | 24 (66th)        | 19 (91st)        |
| Ness Road                                     | 69                   | 7.6                     | 2.5 - 18.4            | 121 (47th)  | 37       | 74 (50th)       | 40 (48th)       | 40 (60th)        | 23 (65th)        | 11 (83rd)        |
| Wolf River Road - Habitat Work                | 19                   | 11.7                    | 3.1 - 17.6            | 68 (38th)   | 4        | 61 (46th)       | 47 (50th)       | 47 (62nd)        | 32 (71st)        | 22 (93rd)        |



| SPECIES COMMUNITY AND IBI FOR CTH P |       |           |                  |
|-------------------------------------|-------|-----------|------------------|
| Species Sampled                     | Total | IBI Score | Integrity Rating |
| Brook Trout                         | 145   | <b>80</b> | <b>Good</b>      |
| Brown Trout                         | 4     |           |                  |
| Largemouth Bass                     | 3     |           |                  |
| Mottled Sculpin                     | 12    |           |                  |
| White Sucker                        | 24    |           |                  |
| Johnny Darter                       | 4     |           |                  |
| Creek Chub                          | 6     |           |                  |
| Central Mudminnow                   | 1     |           |                  |

| SPECIES COMMUNITY AND IBI FOR ISSACSON BRIDGE - DOWNSTREAM |       |           |                  |
|--|-------|-----------|------------------|
| Species Sampled  | Total | IBI Score | Integrity Rating |
| Brook Trout  | 117   | <b>70</b> | <b>Good</b>      |
| Brown Trout  | 32    |           |                  |
| Black Crappie  | 1     |           |                  |
| Mottled Sculpin  | 12    |           |                  |
| White Sucker   | 32    |           |                  |
| Johnny Darter  | 6     |           |                  |
| Creek Chub   | 2     |           |                  |
| Northern Hogsucker   | 2     |           |                  |
| Black Bullhead   | 1     |           |                  |

### Summary

- Brook trout were found in moderate to high densities at all six of the stations with the total brook trout CPUE ranking out in the 60th thru 83rd percentiles when compared to trout streams throughout Wisconsin. Brook trout 10+ inches ranked above the 90th percentile at every station. YOY brook trout were captured at all stations.
- The Wolf River Road Habitat station has drastically improved in number of brook trout and brown trout since the last survey in 2018.
- Brook and brown trout populations are doing well throughout the Little Wolf River system and provide both opportunities to catch quantity and quality sizes of both species of trout.
- The IBI scores suggests this stream is a good coldwater stream and the WI Streams Natural Community Model considers this a cool - cold headwater stream. Habitat should be protected and should be able to do so with the large tracts of state owned land.
- This past year kiosk creels were set up at different locations on the river to gauge catch rates, and angler opinions on regulations. The results of this work was mixed, but provided some insight into stream use. The highest effort was recorded during May, with subsequent effort significantly lower.