



2013 Stream Survey Report

Emmons Creek ROTATION (WBIC 261300)

Waupaca County

Prepared by Top Moon Lee and Al Niebur

Introduction and Objectives

Emmons Creek is a Class I trout stream and consists of 7.74 miles of trout water. It originates in Portage County and flows east into Waupaca County and eventually into the Waupaca Chain of Lakes. Fishing access is very good with multiple DNR managed properties within the Emmons Creek Fishery Area. Extensive habitat development projects have been completed in several areas throughout the stream. The Emmons Creek also serves as an important spawning tributary for lake resident brown trout in the Waupaca Chain. Objectives of the rotation surveys are to determine species composition, relative abundance, and size structure for trout and other gamefish.

Regulations: Entire Stream - Category 2 Size Limit: All Trout - 7 inches Daily Bag Limit: 5 (in total)

WISCONSIN DNR CONTACT INFO.

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Survey Method

All streams are sampled according to WDNR wadeable streams monitoring protocols. The Emmons Creek is on a 6 year rotation schedule with one site identified for the segment of stream in Waupaca County. All sampling sites are electrofished with either a towed barge or backpack shocker. Sampling distance is at least 35 times the mean stream width or a minimum of 100 meters. All gamefish are identified to species, measured for length, and examined for fin-clips. All fish species are collected and counted for calculation of an Index of Biotic Integrity (IBI) in at least one stream segment.



Survey Information

| Station | Survey Date | Station Length | MSW | GPS (Start/Finish) | Gear | Dippers | IBI |
|----------|-------------|----------------|---------|------------------------------------------|---------------------|---------|-----|
| Rural Rd | 07/30/2013 | 609 ft | 17.4 ft | 44.31535,-89.19266 44.31469,-89.19387 | Towed Barge Shocker | 3 | YES |

Metric Descriptions

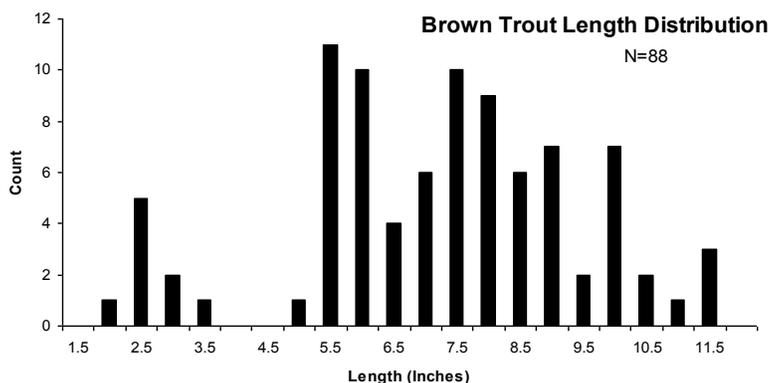
- Catch per effort (CPE) is an indirect method of measuring fish population relative abundance. For all trout surveys we typically quantify CPE by the number and size of trout captured per mile of stream. CPE indexes are compared to statewide streams by percentile (PCTL). For example, if a CPE is in the 90th percentile, it is higher than 90% of the other CPEs in the state. CPE percentiles can also be used to categorize trout abundance by 33rd (low density), 66th (moderate), 90th (high), and 95th (very high) benchmarks.
- The Index of Biotic Integrity (IBI) is a rating of environmental quality based on fish assemblage. Scores of 90-100 would indicate excellent quality while scores less than 30 would indicate poor quality. Our analysis utilizes the IBI for Wisconsin coldwater streams (max. daily mean water temp. usually <22°C).

Results and Discussion

- Overall, brown trout density was at moderate to high levels with 8+ inch trout at the 90th percentile.
- Young of year (YOY) density was at moderately low levels. Some spawning habitat was observed but most spawning likely occurs upstream of this site.
- The fish assemblage sampled in the lower Emmons Creek indicated fair overall environmental quality. This score is likely influenced by close proximity to confluence of Emmons Creek with Waupaca Chain and predominance of brown trout in our sample. Habitat condition appeared to be in relatively good quality.
- The Emmons Creek Fishery Area is managed out of the West District and all management recommendations will be deferred to the local biologist for that district.

Catch per Effort

| Station | Species | Average Length and (Range) | Total (PCTL) | YOY | >6" (PCTL) | >7" | >9" | >12" (PCTL) | >15" (PCTL) |
|----------|---------|----------------------------|--------------|-----|------------|-----|-----|-------------|-------------|
| Rural Rd | Brown | 7.5 (2.4-11.9) | 765 (80th) | 78 | 687 (90th) | 461 | 191 | 0 | 0 |



Species Community and IBI

| Species Sampled | Total | IBI Score | Integrity Rating |
|-----------------|-------|-----------|------------------|
| Bluegill | 8 | 50 | Fair |
| Brown Trout | 88 | | |
| Green Sunfish | 1 | | |
| Mottled Sculpin | 21 | | |
| White Sucker | 14 | | |