

**Minnesota Department of Natural Resources  
Division of Fish and Wildlife  
Section of Fisheries**

**Stream Survey Report**

**Trout Creek**

**2015**

**Mark Pelham**

**Sauk Rapids Area Fisheries Office**

## **Study Area**

Trout Creek (M-73-3) is a small, cold water stream located near Luxemburg in southeastern Stearns County (Figure 1). Trout Creek is a protected tributary to Johnson Creek, a designated trout stream that flows to the Mississippi River. The stream is narrow and mostly shallow, with limited pool habitat, and flows approximately 0.5 miles from the headwater to Johnson Creek. The riparian area is a mix of forest and grassy fields and the upper portion is overgrown with reed canary grass. The substrate was a mix of gravel, cobble, and silt.

No stocking records are available for Trout Creek, but local landowners indicated that Brown Trout have been caught there in the past. Nearby Luxemburg Creek has a self-sustaining population of Brown Trout and also is a tributary to Johnson Creek, which has a limited population of Brown Trout. Electrofishing was conducted in 2003 and 2004 as part of a survey of the Johnson Creek watershed and a temperature monitor was deployed in 2004 (MNDNR 2004, 2005).

## **Methods**

Water temperatures were recorded hourly using an Onset Tidbit logger at the downstream side of the County Road 141 culvert from March 24 to October 22, 2015 (Figure 2). Fish were sampled with a Halltech HT 2000 backpack electrofisher using pulsed DC current. All fish were identified, counted, and bulk-weighed by species.

## **Results**

Water temperatures were very favorable for trout in Trout Creek. A total of 5,088 hourly temperatures were recorded from March 24 to October 22, 2015 (Figure 3). The maximum temperature recorded was 19.6°C on September 6 and only four hours exceeded 19°C that day, the warmest of the season. The minimum temperature was 1.2°C on March 27.

Two stations were sampled by electrofishing (Table 1). EF 1 began approximately 350 feet above the mouth with Johnson Creek and extended upstream for 584 feet. EF 2 began at the end of EF 1 and ended 690 feet upstream at the County Road 141 culvert. Total on-time was 980 seconds for EF 1, but on-time for EF 2 was not recorded.

A total of eight fish species were captured, including two small Brown Trout in EF 1 (Table 1). Fish numbers were dominated by Brook Stickleback (43%) and Blacknose Dace (39%); total weight was dominated by Creek Chub (35%), Brook Stickleback (19%), Blacknose Dace (18%),

and Brown Trout (17%). Other species sampled included: Blacknose Shiner, Central Mudminnow, Fathead Minnow, and Mottled Sculpin. Intolerant species made up only 4% of the sample by number.

### **Discussion**

Little is known about the history of Trout Creek, although anecdotal evidence exists that Brown Trout were caught by anglers in the past. The thermal regime was favorable for both Brook Trout and Brown Trout in 2015, when the maximum temperature was under 20°C and nearly all temperatures were below 16°C. A temperature logger was also used in 2004 and the maximum temperature recorded that year was 16.9°C (MNDNR 2005). The temperature difference between 2004 and 2015 may represent annual variability or a warming trend over time; temperature loggers should be deployed in Trout Creek in future years to determine this.

Only four species were caught in the 2003 and 2004 surveys, including Brook Stickleback, Creek Chub, Fathead Minnow, and Mottled Sculpin (MNDNR 2004, 2005). No trout were caught and the number of fish sampled was very low (e.g. eight fish total in 2004). In contrast, a total of 129 fish representing eight species were caught in 2015, including two Brown Trout.

Thermal habitat is suitable for both Brook Trout and Brown Trout; however the small size of the stream and the lack of deeper pools would likely limit the size structure of any trout population. Also, no angling easements currently exist on the stream. The two Brown Trout captured in the current survey are probably strays from nearby Luxemburg Creek. For these reasons, trout stocking is not recommended for Trout Creek.

### **References**

Minnesota Department of Natural Resources. 2005. Johnson Creek Watershed 2004 Stream Survey Division of Fish and Wildlife, St. Paul, MN.

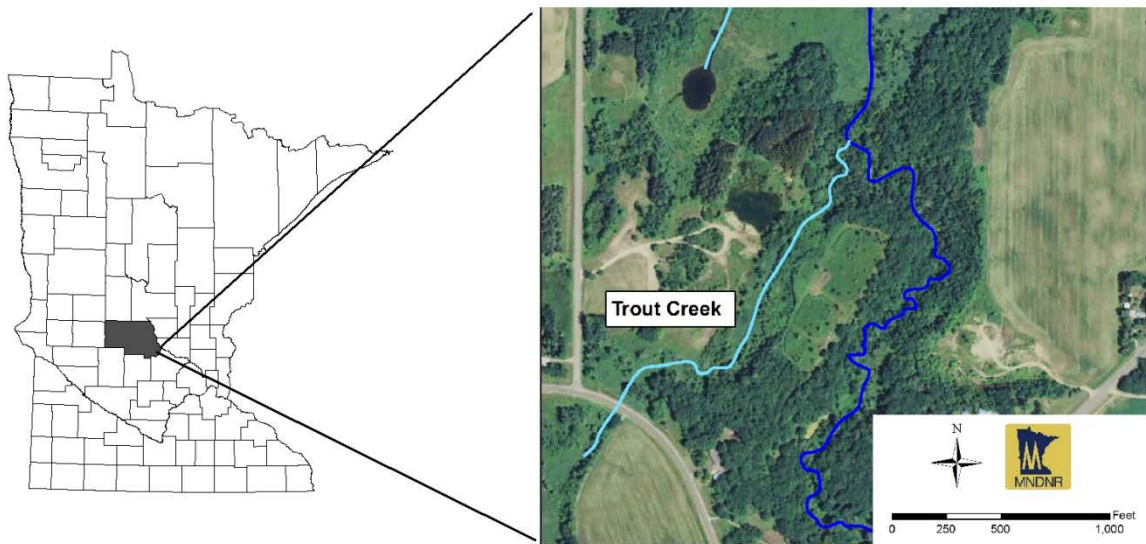
Minnesota Department of Natural Resources. 2004. Johnson Creek 2003 Stream Survey. Division of Fish and Wildlife, St. Paul, MN.

**Table 1.** Species sampled by backpack electrofishing on Trout Creek (M-73-3), October 22, 2015.

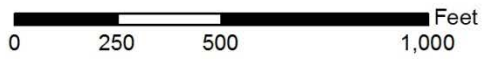
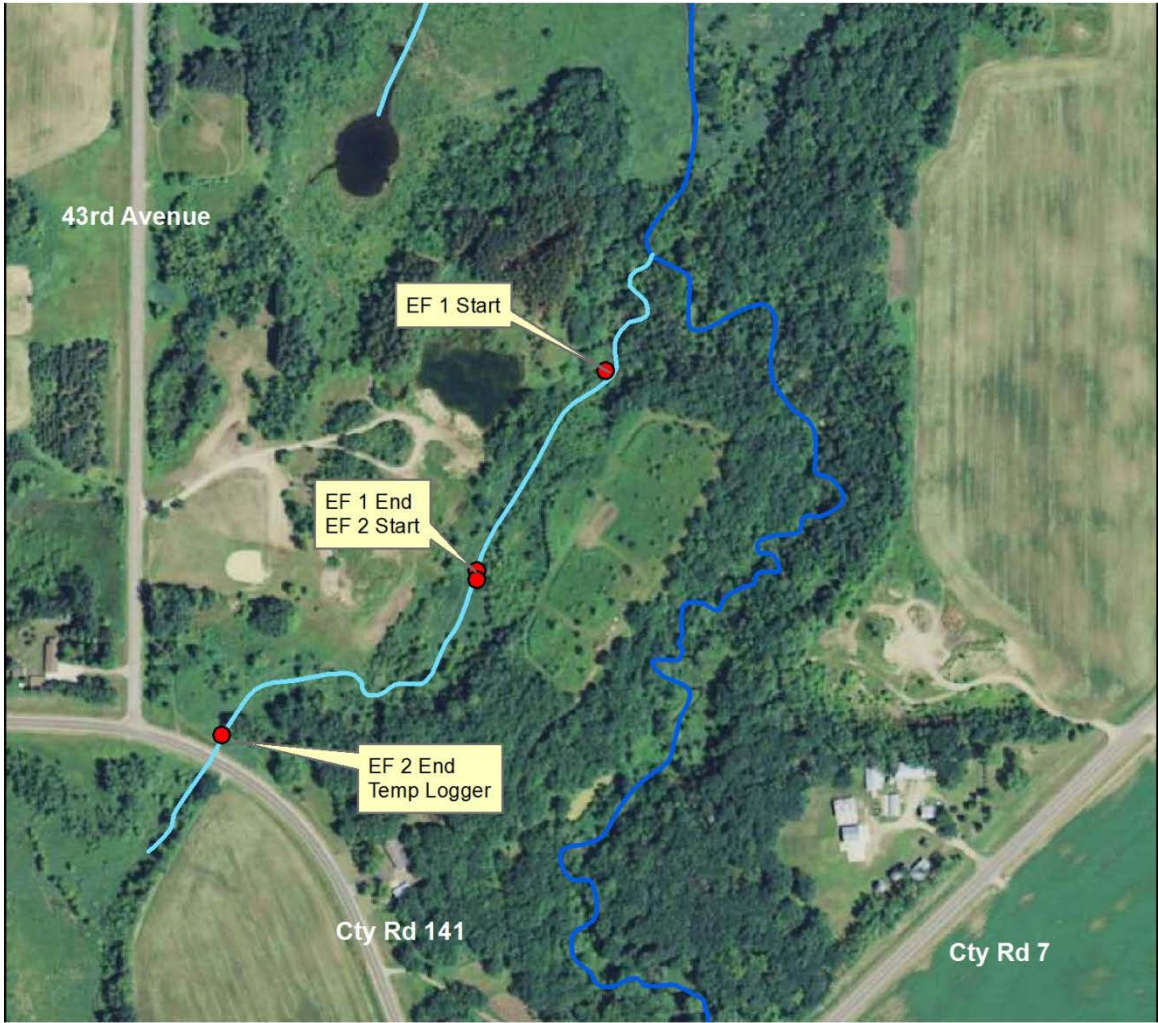
Species	EF 1	EF 2	Total	Bulk Weight (g)	Length Range (mm)
Blacknose Dace <sup>2</sup>	2	48	50	77	34 – 90
Blacknose Shiner <sup>1</sup>	2		2	2	35 – 59
Brook Stickleback <sup>2</sup>	9	47	56	80	39 – 68
Brown Trout <sup>1</sup>	2		2	70	146 – 151
Central Mudminnow <sup>2</sup>	1	4	5	22	57 – 84
Creek Chub <sup>2</sup>	6	5	11	149	65 – 161
Fathead Minnow <sup>2</sup>		2	2	2	60 – 61
Mottled Sculpin <sup>1</sup>	1		1	19	102
Total	23	106	129	421	

<sup>1</sup> Intolerant species

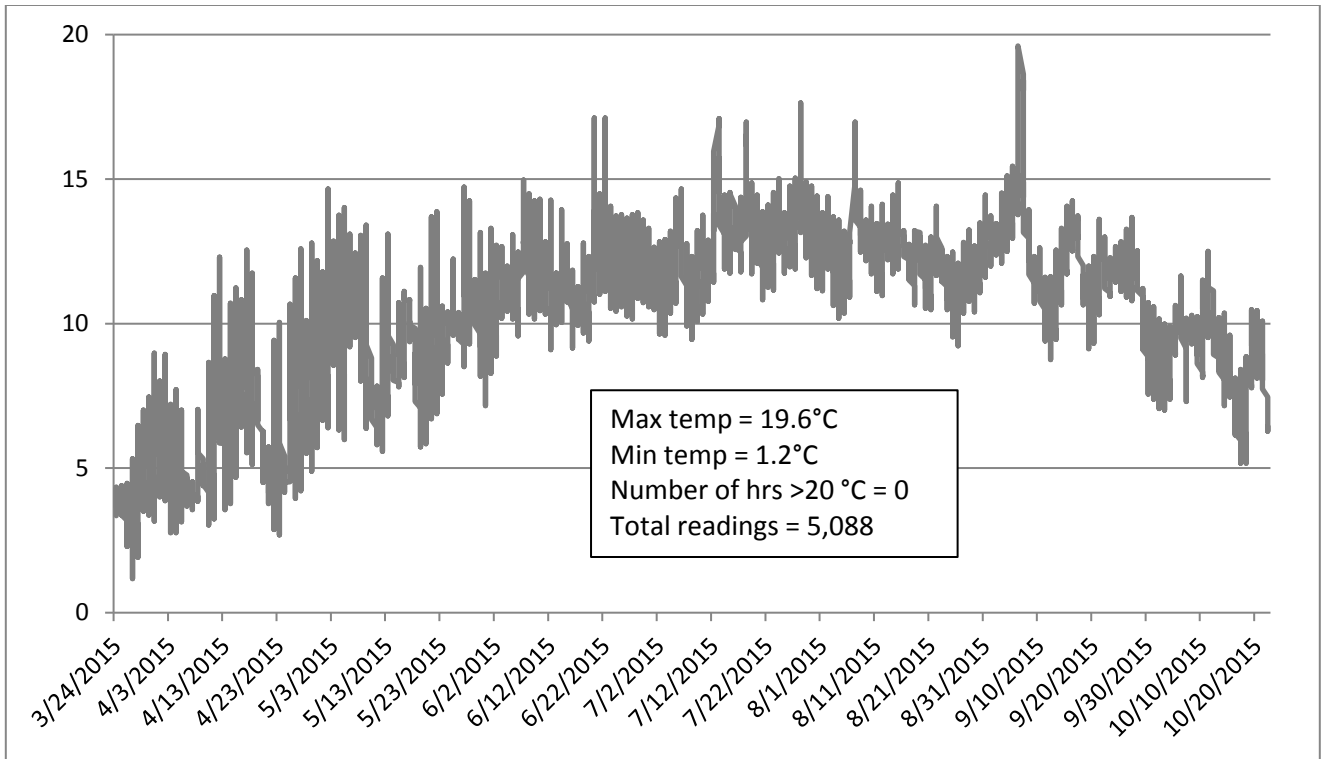
<sup>2</sup> Tolerant species



**Figure 1.** Location of Trout Creek (M-73-3), Stearns County, Minnesota.



**Figure 2.** Location of electrofishing and temp logger sites on Trout Creek (M-73-3), 2015.



**Figure 3.** Hourly temperatures (°C) from Trout Creek (M-73-3), March 24 to October 22, 2015.

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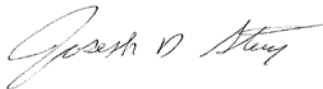


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Author

Date



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Area Fisheries Supervisor

Date

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Regional Fisheries Supervisor

Date