



MINNESOTA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FISH AND WILDLIFE
STREAM ASSESSMENT REPORT

| Region | Area | Stream Name | Tributary No. | Stream Length |
|---------|-----------|-------------|------------------|-----------------|
| 3 | Lake City | Long Creek | M-34-22 | 11.5 miles |
| County | | | Source (T, R, S) | Mouth (T, R, S) |
| Wabasha | | | 108N12W8 | 109N12W3 |

Date(s) of Assessment: October 22, 2014.

Assessment Purpose: Scheduled stream assessment to monitor fish populations and habitat conditions.

| Station | Similar Reach | Stream Mile | Length (ft) | Mean Width (ft) | Acres | Water Temp (°F) | Air Temp (°F) | Downstream UTM's | |
|---------|---------------|-------------|-------------|-----------------|-------|-----------------|---------------|----------------------|----------------------|
| | | | | | | | | utm _x (↔) | utm _y (↓) |
| 4.8 | 2 | 4.8 | 633 | 12 | 0.17 | | | 560910 | 4896971 |

Summary:

A scheduled stream assessment was done on Long Creek in the fall of 2014. Long Creek is located in Wabasha County and is a tributary to the Zumbro River. Station 4.8 is within an angling easement and has a habitat improvement project that was completed in 2004. This is the first time this section has been sampled.

Using the two pass depletion method, there were an estimated 564 adult Brown Trout per mile and 1,175 recruit Brown Trout/mile. Four adult Brook Trout were sampled yielding an estimate of 33 adults/mile. No recruit Brook Trout were sampled.

One White Sucker was the only other species sampled in this station. Measurements were not taken on the White Sucker.

Fishery Characteristics – Population Estimates

Station: 4.8 Date: 10/22/2014 Gear: Stream Shocking Barge Method: Two Pass Depletion Station length (ft): 633

| Brook Trout | | | |
|--------------------|-------------|--------|-------|
| In Station | | | |
| | Recruits | Adults | Total |
| n | No Pop Est | 4 | -- |
| 95% CI | 0.00 | 6.93 | |
| Per Mile | | | |
| | Recruits | Adults | Total |
| n | -- | 33 | -- |
| | ≥ 10 inches | | |
| n | -- | | |
| 95% CI | -- | | |
| Per Acre | | | |
| | Recruits | Adults | Total |
| n | -- | 23 | -- |
| lbs | 0.0 | 6.3 | 6.3 |

| Brown Trout | | | |
|--------------------|-------------|-------------|-------------|
| In Station | | | |
| | Recruits | Adults | Total |
| n | 141 | 68 | 209 |
| 95% CI | 33.34 | 1.98 | |
| Per Mile | | | |
| | Recruits | Adults | Total |
| n | 1175 | 564 | 1739 |
| | ≥ 12 inches | ≥ 14 inches | ≥ 16 inches |
| n | 17 | -- | -- |
| 95% CI | 0.00 | -- | -- |
| Per Acre | | | |
| | Recruits | Adults | Total |
| n | 808 | 388 | 1196 |
| lbs | 36.5 | 142.4 | 178.9 |

| Length (in) | Brook Trout | Brown Trout | White Sucker |
|--------------|-------------|-------------|--------------|
| 1 | | | |
| 2 | | | |
| 3 | | 4 | |
| 4 | | 41 | |
| 5 | 1 | 57 | |
| 6 | | 10 | |
| 7 | | 1 | |
| 8 | 2 | 10 | |
| 9 | 1 | 21 | |
| 10 | | 22 | |
| 11 | | 9 | |
| 12 | | 2 | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |
| 21 | | | |
| 22 | | | |
| 23 | | | |
| 24 | | | |
| 25 | | | |
| 26 | | | |
| 27 | | | |
| 28 | | | |
| 29 | | | |
| 30+ | | | |
| Total | 4 | 178 | 0 |

Other Species Sampled:

| Common Name | Number Sampled |
|--------------|----------------|
| White Sucker | 1 |

Coldwater Index of Biotic Integrity (Mundahl and Simon 1998)

| | |
|---|-------------|
| Total Captured | 183 |
| Number of Species (10) | 3 (10) |
| Number of Coldwater Species (10) | 2 (5) |
| Number of Minnow Species (10) | 0 (10) |
| Number of Benthic Species (10) | 1 (5) |
| Number of Tolerant Species (10) | 1 (10) |
| Percent Salmonids as Brook Trout (10) | 2.19 (0) |
| Percent Intolerant Individuals (10) | 2.18 (0) |
| Percent Coldwater Individuals (10) | 99.45 (10) |
| Percent White Suckers (10) | 0.54 (5) |
| Percent Top Carnivores (10) | 99.45 (10) |
| Number of Coldwater Individuals per 150m (10) | 141.49 (10) |
| Number of Warmwater Individuals per 150m (10) | 0.77 (10) |
| TOTAL IBI SCORE (120 maximum) | 85 |
| Percent of maximum score: | 70.83% |

Stream Characteristics – Minnesota Stream Habitat Assessment (MSHA)

| MSHA Metric | Component score maximum | Component score |
|---------------------------|-------------------------|----------------------------------|
| Surrounding Land Use | 5 | 2.5 |
| Riparian Zone | 15 | 9 |
| Instream Zone - Substrate | 27 | 12.3 |
| Instream Zone - Cover | 17 | 14 |
| Channel Morphology | 36 | 28 |
| | 100 | MSHA Score (Max = 100) |
| | | 65.8 |

Discussion of Fishery:

One station at stream mile 4.8 was sampled on Long Creek in the fall of 2014 as part of a scheduled assessment. A stream shocking barge was used in a two pass depletion estimate. IBI scores were calculated, as well as the Minnesota Stream Habitat Assessment (MSHA).

Station 4.8 is just above the Wabasha County Road 8 bridge on a public angling easement. There were an estimated 564 adult Brown Trout per mile and 1,175 recruit Brown Trout per mile. Four adult Brook Trout were sampled yielding an estimate of 33 adults per mile. No recruit Brook Trout were sampled. One White Sucker was the only other species sampled. There was an estimated 17 Brown Trout/mile ≥ 12 inches. There were no Brown Trout over 13 inches sampled. The lack of large Brown Trout was also observed in nearby Station 4.2 in 2011 (Table 1).

A MSHA score of 65.8 and an IBI score of 85 indicate good habitat quality for trout. There is ample cover for large Brown Trout and good substrate for reproduction. The reasons for the lack of large Brown Trout is unknown. A creel has not been done on Long Creek to assess harvest. There are no special regulations for trout angling on Long Creek and no stocking is done. The low number of Brook Trout is typical for Long Creek assessments.

There is very little public access for Long Creek in proportion to its size. Pursuit of angling easements may be worthwhile. Although the numbers of large fish are lacking, overall numbers of adults are decent compared to other area streams. The estimated 1,175 recruit Brown Trout/mile was on the high end of recruit estimates for Wabasha County streams in 2014.

Credits and Signatures:


| | | |
|---|---|--------------|
| Field Crew: | | |
| Randy Binder, Daniel Spence, Jeff Weiss | | |
| Report completed by: | | |
| Name: | Title: | Date: |
| Daniel Spence | Fisheries Specialist | 1/6/2015 |
| Approved by: | | |
| Area Fisheries Supervisor's Signature | Regional Fisheries Manager's Signature | Date: |
|  | | |

Table 1. Trends in brown trout population metrics for Long Creek. Station 4.8 (2014) and 4.2 (2011).

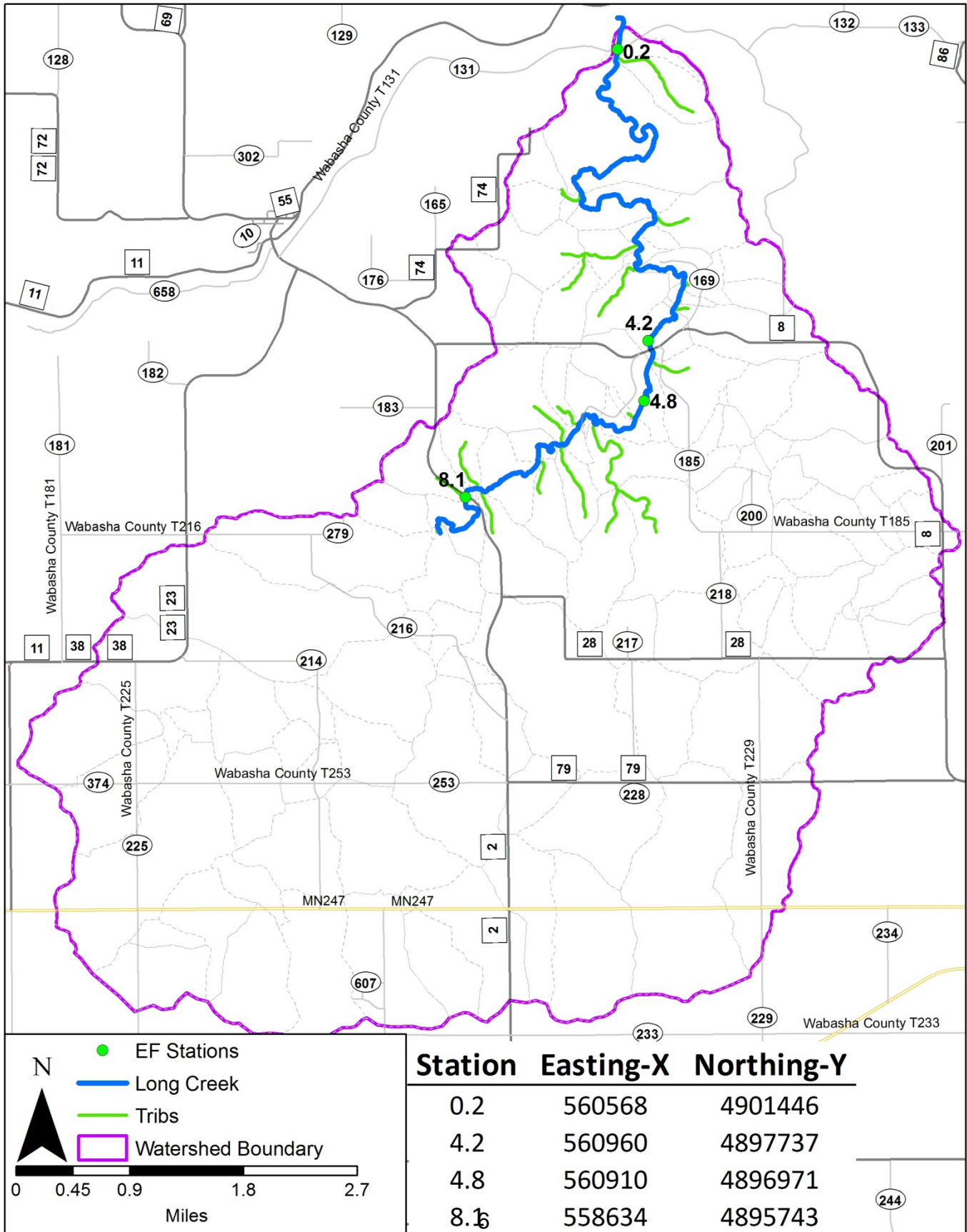
| Station | River Mile | Similar Reach | Date | No./mile (Adult) | No./mile (Recruits) | No./mile (≥12 in.) | No./mile (≥14 in.) | No./mile (≥16 in.) | lbs/acre (all sizes) |
|---------|------------|---------------|------------|------------------|---------------------|--------------------|--------------------|--------------------|----------------------|
| 4.8 | 4.8 | 2 | 10/22/2014 | 564 | 1175 | 17 | 0 | 0 | 178.9 |
| 4.2 | 4.2 | 2 | 9/15/2011 | 1300 | 743 | 32 | 0 | 0 | 220.6 |
| — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — |

References

Fisheries Stream Survey Manual. 2007. Special Publication No. 165. Minnesota Department of Natural Resources.

Mundahl, N.D., and T.P. Simon. 1998. Development and application of an index of biotic integrity for coldwater streams of the upper Midwestern United States. Pages 383-415 In Thomas P. Simon (ed.). Assessing the Sustainability and Biological Integrity of Water Resources Using Fish Communities. CRC Press, Boca Raton, Florida.

Long Creek M-034-022 Electrofishing Stations



Credits and Signatures:



| | | |
|---|--|--------------|
| Field Crew: | | |
| Randy Binder, Daniel Spence, Jeff Weiss | | |
| Report completed by: | | |
| Name: | Title: | Date: |
| Daniel Spence | Fisheries Specialist | 1/6/2015 |
| Approved by: | | |
| Area Fisheries Supervisor's Signature | Regional Fisheries Manager's Signature | Date: |
|  |  | 4-14-15 |

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| | | | | | | | | | |

References

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