



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

**Report Date:** February 28, 2012

Region	Area	Stream Name	Tributary No.	Stream Length
3	Lake City	Hammond Creek	M-34-41	2.4
County		Watershed Name, No.	Source (T, R, S)	Mouth (T, R, S)
Wabasha		Zumbro River, 35	109-13-32	109-13-28

**Date(s) of Assessment:** October 17, 2011

**Assessment Purpose:** Scheduled assessment

Station	Similar Reach	Stream Mile	Length (ft)	Mean Width (ft)	Acres	Water Temp (°F)	Air Temp (°F)	Downstream UTM's	
								utm <sub>x</sub> (↔)	utm <sub>y</sub> (↓)
0.02	1	0.02	275	14	0.08			550156	4896449

**Summary:**

A scheduled assessment for fish populations on Hammond Creek was done in the fall of 2011. Brook and Brown trout populations were estimated and a fish IBI score was taken. A Minnesota Stream Habitat Assessment was also performed. Due to high capture efficiency in this portion of the stream, only one pass was done for a population estimate.

Five adult and 45 recruit brook trout were sampled in the station producing an estimate of 864 recruits and 96 adults per mile. There were no brook trout sampled  $\geq 10$  inches. Brown trout numbers were estimated at 58 recruits and 192 adults per mile. There were 38  $\geq 12$  inches 19  $\geq 14$  inches and 19  $\geq 16$  inches per mile.

Japanese Knotweed, an invasive exotic, can be found along the banks of this station and throughout the lower end of Hammond Creek. A local landowner, whom gave us permission to access Hammond Creek through his property, has tried to remove a large portion of the knotweed from his property.

Fishery Characteristics – Population Estimates

Station: 0.02 Date: 10/17/2011 Gear: Stream Shocking Barge Method: One Pass Estimate Station length (ft): 275

Brook Trout			
In Station			
	Recruits	Adults	Total
n	45	5	50
95% CI	0.00	0.00	
Per Mile			
	Recruits	Adults	Total
n	864	96	960
	≥ 10 inches		
n	--		
95% CI	--		
Per Acre			
	Recruits	Adults	Total
n	509	57	566
lbs	19.4	12.9	32.4

Brown Trout			
In Station			
	Recruits	Adults	Total
n	3	10	13
95% CI	0.00	0.00	
Per Mile			
	Recruits	Adults	Total
n	58	192	250
	≥ 12 inches	≥ 14 inches	≥ 16 inches
n	38	19	19
95% CI	0.00	0.00	0.00
Per Acre			
	Recruits	Adults	Total
n	34	113	147
lbs	1.2	63.6	64.8

Length (in)	Brook Trout	Brown Trout	White Sucker
1			
2			
3	5		
4	24	3	
5	16		
6	1		
7	1	1	
8	1	1	
9	2	1	
10		4	
11		1	
12		1	
13			
14			
15			
16			
17		1	
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30+			
<b>Total</b>	<b>50</b>	<b>13</b>	<b>0</b>

Common Name	Number Sampled
white sucker	20
creek chub	3
spotfin shiner	1
longnose dace	1
brook stickleback	1

**Coldwater Index of Biotic Integrity (Mundahl and Simon 1998)**

Station Name: 0.02  
 Stream Width (m): 4.3  
 Station Length (m): 83.8

<u>Metric (Max Score)</u>	<u>Value (Score)</u>
Total Captured	89
Number of Species (10)	7 (5)
Number of Coldwater Species (10)	3 (5)
Number of Minnow Species (10)	3 (5)
Number of Benthic Species (10)	2 (5)
Number of Tolerant Species (10)	2 (5)
Percent Salmonids as Brook Trout (10)	79.36 (5)
Percent Intolerant Individuals (10)	56.17 (10)
Percent Coldwater Individuals (10)	71.91 (5)
Percent White Suckers (10)	22.47 (0)
Percent Top Carnivores (10)	70.78 (5)
Number of Coldwater Individuals per 150m (10)	114.53 (10)
Number of Warmwater Individuals per 150m (10)	44.73 (5)
<b>TOTAL IBI SCORE (120 maximum)</b>	<b>65</b>
Percent of maximum score	54.17

<u>MSHA Metric</u>	<u>Component score maximum</u>	<u>Component score</u>
Surrounding Land Use	5	3.5
Riparian Zone	15	8
Instream Zone - Substrate	27	10.5
Instream Zone - Cover	17	14
Channel Morphology	36	19
	100	<b>MSHA Score</b> (Max = 100)
		<b>55</b>

### **Discussion of Fishery:**

Hammond Creek is a small stream that begins just outside and flows through the town of Hammond where it feeds the Zumbro River. There is very little historical information on Hammond Creek. No stocking records are readily available. The brook trout are genetically similar to fish found in Long and Middle Creeks (John Hoxmeier MNDNR). It is likely that fish moved into Hammond Creek via the Zumbro River.

Station 0.2 is located in the town of Hammond and is just below the Wabasha County Road 6 bridge. Five adult and 45 recruit brook trout were sampled in the station producing an estimate of 864 recruits and 96 adults per mile (Table 2). There were no brook trout sampled  $\geq 10$  inches. Brown trout numbers were estimated at 58 recruits and 192 adults per mile. There were 38  $\geq 12$  inches 19  $\geq 14$  inches and 19  $\geq 16$  inches (Table 1). The size structure of brown trout increased from the past survey in the year 2000.

Hammond had an IBI score of 65. White sucker, creek chub, spotfin shiner, longnose dace, and brook stickleback were present. Due to the proximity of this station to the Zumbro River, many species are present. The Minnesota Stream Habitat Assessment yielded a score of 55.4. The stream has very few deep pools and substrates are somewhat embedded. Instream cover such as boulders or woody debris causes scour holes due to the sandy stream bed.

Hammond Creek is under the current statewide regulation and has no special restrictions. Angling easement purchase may be worth exploring to provide more brook trout fishing opportunities.

Japanese Knotweed, an invasive exotic, can be found along the banks of this station and throughout the lower end of Hammond Creek. A local landowner, whom gave us permission to access Hammond Creek through his property, has tried to remove a large portion of the knotweed. Chemical treatment of this invasive should be done to stop its spread before it continues into the Zumbro River valley.

**Credits and Signatures:**


<b>Field Crew:</b>		
Dan Dieterman, Jeff Weiss, Dan Spence		
<b>Report completed by:</b>		
<b>Name:</b>	<b>Title:</b>	<b>Date:</b>
Dan Spence	Fisheries Specialist	28-Feb-12
<b>Approved by:</b>		
<b>Area Fisheries Supervisor's Signature</b>	<b>Regional Fisheries Manager's Signature</b>	<b>Date:</b>
		

Table 1. Trends in brown trout population metrics for Hammond Creek, 2000 and 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)
0.02	0.02	1	10/17/2011	192	58	38	19	19	64.8
0.02	0.02	1	9/11/2000	138	237	0	-	-	20.9

Table 2. Trends in brook trout population metrics for Hammond Creek 2000 and 2011.

Station	River Mile	Similar Reach	Date	No./mile (Adult)	No./mile (Recruits)	No./mile (≥10 in.)	lbs/acre (all sizes)
0.02	0.02	1	10/17/2011	96	864	0	32.4
0.02	0.02	1	9/11/2000	712	804	0	75.3

## 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.