



Minnesota Department of Natural Resources
 Section of Fisheries
 Stream Population Assessment

FILE COPY

Region 5	Area Lake City	Stream Name Trout Brook	Tributary No. M - 48 - 7	Length (mi) 3.0
County Dakota, Goodhue		Watershed Name, No. Cannon River, 34	Source (T-R-S) 113 - 17 - 27	Mouth (T-R-S) 113 - 17 - 36

Date(s) of Assessment: 04/25/00, 09/01/00
Assessment Purpose: Reconnaissance to assess current stream conditions and trout populations.

Station	Similar Reach	Stream Mile	Length (ft)	Mean Width (ft)	Acres
0.2 (1)*	1	0.2	450	12.0	0.12
1.3 (2)*	1	1.3	715	12.0	0.20

* Station numbers have been changed to reflect location (miles from mouth). Historical station number is in parentheses.

Summary:

Fishery status: Brown and brook trout were sampled in both stations. No adult brook trout were sampled in Station 1.3. Abundance of adult brook trout varies widely year to year (see Table 1).

Physical characteristics: Overall habitat is poor to fair, with a few scattered reaches with good habitat. Much of the stream is in public ownership (Dakota County Parks). A high sand bedload and lack of deep pools limits trout potential.

Recommendations: Continue Reconnaissance Surveys every three years. Investigate the possibility of a brook trout special regulation to produce a high quality fishery. Consider a habitat improvement project utilizing woody debris for fish cover and to promote scouring to increase pool depth.

Stream Trout BrookTributary Number M - 48 - 7

Fishery Characteristics - Population Estimates

Station	0.2 (1)	1.3 (2)		
Date	090100	090100		
Gear	1 BP	1 BP		
Method	2 run depletion	2 run depletion		
Length sampled	450 feet	715 feet		

Population Estimate, Age 1+

*SS = stream shocker, BP = backpack shocker, MB = mini-boom shocker

Species	Number	Wt. (Lb)	Number	Wt. (Lb)	Number	Wt. (Lb)	Number	Wt. (Lb)
Brown trout	4	1.5	3	3.7				
Brook trout	11	3.3	0					
Total	15	4.8	3	3.7				

Population Estimate, Young-of-Year

Species	Number	Wt. (Lb)	Number	Wt. (Lb)	Number	Wt. (Lb)	Number	Wt. (Lb)
Brown trout	9	0.4	30	1.4				
Brook trout	9	0.6	57	3.2				
Total	18	1.0	87	4.6				

Population Estimate, Total

Species	Number	Wt. (Lb)	Number	Wt. (Lb)	Number	Wt. (Lb)	Number	Wt. (Lb)
Brown trout	13	1.9	33	5.1				
Brook trout	20	3.9	57	3.2				
Total	33	5.8	90	8.3				

Population Estimate Summary

Species	No./mi.	Lb/acre	No./mi.	Lb/acre	No./mi.	Lb/acre	No./mi.	Lb/acre
BROWN TROUT								
Age 1+	47	11.9	22	18.6				
≥12 inches			22					
Fingerlings (YOY)	100	3.1	223	7.2				
BROOK TROUT								
Age 1+	129	26.6	0					
≥10 inches	12							
Fingerlings (YOY)	106	4.6	418	16.3				
RAINBOW TROUT								
Age 1+								
≥12 inches								
Fingerlings								
ALL SPECIES								
Age 1+	176	38.5	22	18.6				
Fingerlings (YOY)	206	7.7	641	23.5				
Total	382	46.2	663	42.1				

Age and Growth

Stream Trout BrookTributary Number M - 48 - 7

a) Length Frequency Distributions

Species Station Date	Brown trout	Brook trout	Brown trout	Brook trout		
	0.2 (1)	0.2 (1)	1.3 (2)	1.3 (2)		
	090100	090100	090100	090100		
Length Class						
0.0 - 2.4						
2.5 - 2.9						
3.0 - 3.4						
3.5 - 3.9			1	3		
4.0 - 4.4	2	1	3	7		
4.5 - 4.9	2	3	11	1		
5.0 - 5.4	3	3	11	12		
5.5 - 5.9	1	1	3	8		
6.0 - 6.4		1	1			
6.5 - 6.9						
7.0 - 7.4						
7.5 - 7.9		1				
8.0 - 8.4	1	2				
8.5 - 8.9		2				
9.0 - 9.4		1				
9.5 - 9.9	1	2				
10.0 - 10.4		1				
10.5 - 10.9	2					
11.0 - 11.4						
11.5 - 11.9						
12.0 - 12.4						
12.5 - 12.9						
13.0 - 13.4						
13.5 - 13.9			1			
14.0 - 14.9			1			
15.0 - 15.9						
16.0 - 16.9			1			
17.0 - 17.9						
18.0 - 18.9						
19.0 - 19.9						
20.0 - 20.9						
21.0 - 21.9						
22.0 - 22.9						
23.0 - 23.9						
24.0 - 24.9						
25.0 - 25.9						
26.0 - 26.9						
27.0 - 27.9						
28.0 +						
Estimated Total	13	20	33	57		
Sample Size	12	18	33	46		

Stream Trout BrookTributary Number M - 48 - 7**DISCUSSION OF FISHERY**

Fishery Status: Two stations were sampled by electro-fishing on Sept. 1, 2000. One backpack electro-fisher was used, utilizing a 2-run depletion method in each station. Station 0.3 begins at the lower bridge crossing and continues upstream for 450 feet. The adult and fingerling brown trout estimates for Station 0.3 were 47 and 100 per mile, respectively. No brown trout ≥ 12 inches were sampled. The estimates of adult and fingerling brook trout were 129 and 106 per mile, respectively. This is well above the long-term average of 48/mile for adult brook trout in this station (see Table 1). The adult and fingerling brook trout estimates in 1997 were 8 and 114 per mile, respectively. The estimate of larger (≥ 10 inches) brook trout was 12 per mile. This is considered a minimum estimate, as none ≥ 10 inches was captured on the second run. The estimates of adult and fingerling brown trout in the previous assessment (1997) were 41 and 16 per mile, respectively.

Station 1.3 begins at the furthest upstream point of the County Park trail system on the streams lower end. The beginning point is just upstream of a spring on the left ascending bank and continues upstream 715 feet to a steep riffle. The adult and fingerling brown trout estimates were 22 and 223 per mile, respectively. All adult brown trout sampled were ≥ 12 inches. The fingerling brook trout estimate was 418 per mile. No adult brook trout were sampled. Long-term average abundance for adult brook trout in this station is 102/mile (see Table 1). The 1997 estimates for adult brown and brook trout were 126 and 323 per mile, respectively.

Physical characteristics: A physical inspection of the stream corridor was completed on 042600 and included observations on land use and habitat quality. The source is from two spring tributaries. From the source, downstream to the upper road crossing, adult trout habitat is very limited. The stream is small, lacks depth and substrates are mostly sand. Bank heights range from 1 to 4 feet and erosion is minimal. The stream flows through wild wooded and retired pasture areas.

The upper crossing is a box culvert that is a barrier to fish movement. Most of the reach from this bridge to the lower bridge, near the mouth is within the Miesville Park Ravine, Dakota County Parks. However, there was a section within this reach that is posted against trespassing. Land use is a mix of wild wooded, wild grasses and retired pasture. Bank heights range from 1 to 4 feet, with several higher banks. Bank erosion is light to moderate. Pool depths range from 1 to 3 feet, and most lack fish cover. Riffle substrates were composed of mostly fine materials. Several tributaries enter the stream within this reach. Tributary substrates were coarser materials and trout were observed in the tributaries. The upper part of the reach flows through a wooded area and then opens into meadow or retired pasture. Numerous brook trout were observed in the larger pools. One active beaver dam with a 2 foot head impounded water for 100 yards. Numerous trout were observed in the beaver pool. A heavily used trail was present, with evidence of fishing pressure.

Another beaver dam was located in the meadow area. This was not impounding much water. A series of nice pools and riffles was present several hundred yards downstream of the beaver dam. One angler was encountered that had 3 brook trout about 7 inches long and had released numerous smaller ones. He indicated he had caught larger fish in the past, but "there were no big holes left". Downstream of the meadow the stream enters another wooded reach.


Overall, habitat through this reach is poor to fair, with several nice areas with more riffles and better pools with woody debris for fish cover. Brook trout were observed to be abundant, but a lack of cover limited the number of larger fish. Mayflies and caddis were common in riffles and log jams.

Credits and Signatures**Field Crew:**

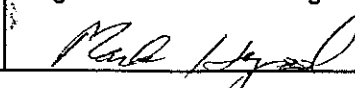
Pat Rivers, Dan Dieterman, Tim Schlagenhaft

Report Completed by:Name:
Randy BinderTitle:
Natural Resource Specialist, FisheriesDate
April 10, 2001**Approved by:**

Area Fisheries Supervisor


 4/30/01

Regional Fisheries Manager's Signature



Date

5/14/01

Stream Trout Brook

Tributary Number M - 48 - 7

DISCUSSION OF FISHERY (continued)

Physical characteristics (cont'd):

From the lower bridge to the mouth is a short distance. Substrates are mostly sand and habitat is poor. There was one good pool with woody debris for fish cover and two short reaches of rirapped bank provided some fish cover.

Note: The entire reach between bridges has been impacted through the years by beaver activity. Dams have been removed at times, but during periods when dams were new and active they provided excellent habitat. Large brook trout (10 to 14 inches) were present in good numbers in the mid-1980's (personal observation).

Stream Trout BrookTributary Number M - 48 - 7

Table 1. Adult brook trout abundance (#/mile) Stations 0.2 (1), 1.3 (2) and 2.7 (3), Trout Brook, 1983 - 2000. Historical Station numbers in parentheses.

Year	Station 0.2 (1)	Station 1.3 (2)	Station 2.7 (3)
1983	7	177	0
1984	0	0	ND
1985	158	158	241
1986	0	0	37
1987	72	50	42
1988	72	106	132
1989	28	ND	179
1990	6	ND	105
1997	8	323	21
2000	129	0	ND
Average	48	102	95