



Minnesota Department of Natural Resources
 Section of Fisheries
 Stream Population Assessment

Region 5	Area Lake City	Stream Name Main Zumbro - Plunge Pool	Tributary No. M-34	Length (mi) 57.6
County Wabasha		Watershed Name, No. Zumbro, 41	Source (T-R-S) 109 - 14 - 27	Mouth (T-R-S) 110 - 9 - 31

Date(s) of Assessment: 5/23 and 5/26/2006.

Assessment Purpose: Special assessment of the plunge pool smallmouth bass population.

Station	Similar Reach	Stream Mile	Length (ft)	Mean Width (ft)	Acres
Plunge Pool	II	57.6	N/A	variable	8*

* Approximation

Summary:

Sampling was completed on 23 May and 26 May 2006. Estimated smallmouth bass population size using a Petersen mark and recapture estimate was 384 (CI=199-808). Water conditions were very good and pool elevation allowed sampling in the backwater pool connected to the SE corner of the plunge pool. The total estimate includes fish from this small pool.

Abundance and size structure

Estimated smallmouth bass abundance in the plunge pool was 48 fish/acre (estimated standing stock = 57 lbs/acre). Total CPE for the first and second electrofishing runs were 61 SMB/hour and 73 SMB/hour, respectively. PSD and RSD-P was 77 and 29 respectively. Over 50 percent of the sample was comprised of fish 10-13 inches long.

When compared to data collected in Klein's Station (riverine habitat downstream from plunge pool) smallmouth bass abundance (total estimate) is statistically similar. Size structure (length frequency) data however indicate a greater proportion of larger fish.

$$\frac{(M+1)(C+1)}{R+1} = \frac{37 \times 47}{8} = 217$$

$$217 / 8 \text{ acres} = 27.2$$

Stream Zumbro Plunge Pool
Tributary Number M-34

Fishery Characteristics

Station	Plunge Pool				
Date	Spring '06				
Gear	1 Pulsed DC Boats				
EFFORT (FEET)	2 runs				
Species	No.	Wt (lb)			
Smallmouth bass	75*	--			

* Actual number of SMB collected in two runs, minus recaps.

Plunge Pool 2006

Species	SMB								
Date	2006								
Length Class									
< 6.0	3								
6.0 - 6.9									
7.0 - 7.9	3								
8.0 - 8.9	1								
9.0 - 9.4	1								
10.0 - 10.9	9								
11.0 - 11.9	17								
12.0 - 12.9	12								
13.0 - 13.9	7								
14.0 - 14.9	6								
15.0 - 15.9	7								
16.0 - 16.9	5								
17.0 - 17.9	3								
18.0 - 18.9									
19.0 - 19.9	1								
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 - 28.9									
29.0 - 29.9									
30.0 - 34.9									
35.0 - 39.9									
40.0 - 44.9									
45.0 +									
Mean length	12.5								
Sample size	75								

Stream Zumbro Plunge Pool
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Credits and Signatures

Field Crew: Al Schmidt, Joe McGee		
Report Completed by:		
Name: Al Schmidt	Title: Fisheries Specialist	Date:
Approved by:		
Area Fisheries Supervisor <i>Al Schmidt</i> 4-19-07	Regional Fisheries Manager's Signature <i>Dick Peterson</i>	Date 04/15/07