



Minnesota Department of Natural Resources  
 Division of Fisheries  
 Stream Population Assessment

Report Date: 12/07/06

<b>Region</b> 4	<b>Area</b> Lanesboro	<b>Stream Name</b> West Indian Creek	<b>Tributary No.</b> M-34-17	<b>Length</b> 7.2 miles
<b>County:</b> Wabasha		<b>Watershed Name, No.</b> Zumbro River, 41	<b>Source (T.R.S.)</b> T109N, R11W, S21	<b>Mouth (T.R.S)</b> T110N, R11W, S31

**Date(s) of Assessment:** 10/03/06

**Assessment Purpose:** Long-term monitoring and natural reproduction check.

Station	Similar Reach	Stream Mile	Length (ft)	Mean Width (ft)	Acres	Downstream UTM	
5.4	2	5.40	975	20.0	0.448	568328	4898689

**Summary:**

This station is in the Long-Term Monitoring Program. These stations are sampled annually to examine temporal variation in trout population metrics.

The total number of adult brown trout (Age 1+) decreased from 2005 observations; however, the number of brown trout > 12 inches and the number of young-of-year (YOY) brown trout increased. Brook trout numbers have also increased. Zero brook trout were collected during 2005 relative to the 11 adult brook trout and 11 YOY (22 brook trout/mile) during 2006. The overall status of the West Indian Creek trout population is considered average.

Complementary habitat data were collected within most LTM stations during 2005 to provide additional descriptors of possible sources of variability in trout populations. Compared to other LTM streams sampled, West Indian Creek has habitat conducive to brown trout production (Thorn and Anderson 2001).

Stream West Indian CreekTributary Number M-34-17

## Fishery Characteristics - Population Estimates

Date 12/07/06

<b>Station</b>	5.4			
<b>Date</b>	10/03/06			
<b>Gear</b>	T & J			
<b>Method</b>	Depletion - 2 pass			
<b>Effort (minutes)</b>	N.A.			

## Population Estimate, Age 1+

Species	Number	Wt (Lbs)	Number	Wt (Lbs)	Number	Wt (Lbs)	Number	Wt (Lbs)
Brown trout	101	44.5						
Brook trout	2	0.5						
Rainbow trout								
<b>Total</b>	<b>103</b>	<b>45.0</b>						

## Population Estimate, Young-of-Year (YOY)

Species	Number	Wt (Lbs)	Number	Wt (Lbs)	Number	Wt (Lbs)	Number	Wt (Lbs)
Brown trout	163	3.9						
Brook trout	2	0.03						
Rainbow trout								

## Population Estimate, Total

Species	Number	Wt (Lbs)	Number	Wt (Lbs)	Number	Wt (Lbs)	Number	Wt (Lbs)
Brown trout	264	48.4						
Brook trout	4	0.5						
Rainbow trout								
<b>Total</b>	<b>268</b>	<b>48.9</b>						

## Population Estimate Summary

Species	No/Mi	Lb/Acre	No/Mi	Lb/Acre	No/Mi	Lb/Acre	No/Mi	Lb/Acre
<b>Brown Trout</b>								
Age 1+	545	99.4						
>12 inches	92							
Fingerlings (YOY)	884	8.8						
<b>Brook Trout</b>								
Age 1+	11	1.1						
>10 inches	0							
Fingerlings (YOY)	11	0.1						
<b>Rainbow Trout</b>								
Age 1+								
>12 inches								
Fingerlings (YOY)								
<b>All Species</b>								
Age 1+	556	100.5						
Fingerlings	895	8.9						
<b>Total</b>	<b>1,451</b>	<b>109.4</b>						

Stream West Indian Creek

Tributary Number M-34-17

Date 12/07/06

**Fishery Characteristics**

Station	5.4							
Date	10/03/06							
Gear	T & J							
Effort (minutes)	N.A.							
Length Sampled (ft)	975							
Species	Number	Wt (Lbs)	Number	Wt (Lbs)	Number	Wt (Lbs)	Number	Wt (Lbs)
IBI Score	90/120							
Brook Stickleback	1							
sculpin	236							
White sucker	5							

**Gamefish young-of-year**  
**Species:**


Age and Growth

Stream West Indian Creek

Tributary Number M-34-17

Date 12/07/06

a) Age Class Distributions

Species	Sample Size	Scale Sample Size	Number of fish in age group (percent)									
			0	I	II	III	IV	V	VI	VII	VIII+	
No aging done.												

b) Growth of gamefish

Species	Calculated mean total length at time of last annulus formation (N)								

Remarks

## Length-Frequency Distribution

Stream West Indian CreekTributary Number M-34-17Date 12/07/06

Species	Brown trout	Brook trout				
Station	5.4	5.4				
Date	10/03/06	10/03/06				
Length Class						
<b>0 - 2.4</b>						
<b>2.5 - 2.9</b>	1					
<b>3.0 - 3.4</b>	22	1				
<b>3.5 - 3.9</b>	37	1				
<b>4.0 - 4.4</b>	56					
<b>4.5 - 4.9</b>	29					
<b>5.0 - 5.4</b>	8					
<b>5.5 - 5.9</b>	1					
<b>6.0 - 6.4</b>						
<b>6.5 - 6.9</b>						
<b>7.0 - 7.4</b>	5					
<b>7.5 - 7.9</b>	6					
<b>8.0 - 8.4</b>	4	1				
<b>8.5 - 8.9</b>	4					
<b>9.0 - 9.4</b>	10	1				
<b>9.5 - 9.9</b>	12					
<b>10.0 - 10.4</b>	13					
<b>10.5 - 10.9</b>	11					
<b>11.0 - 11.4</b>	10					
<b>11.5 - 11.9</b>	6					
<b>12.0 - 12.4</b>	5					
<b>12.5 - 12.9</b>	4					
<b>13.0 - 13.4</b>	4					
<b>13.5 - 13.9</b>	2					
<b>14.0 - 14.9</b>	2					
<b>15.0 - 15.9</b>						
<b>16.0 - 16.9</b>						
<b>17.0 - 17.9</b>						
<b>18.0 - 18.9</b>						
<b>19.0 - 19.9</b>						
<b>20.0 - 20.9</b>						
<b>21.0 - 21.9</b>						
<b>22.0 - 22.9</b>						
<b>23.0 - 23.9</b>						
<b>24.0 - 24.9</b>						
<b>25.0 - 25.9</b>						
<b>26.0 - 26.9</b>						
<b>27.0 - 27.9</b>						
<b>28.0 +</b>						
<b>Sample Size</b>	252	4				

Stream West Indian CreekTributary Number M-34-17Date 12/07/06**DISCUSSION OF FISHERY**

As a station in the Long-Term Monitoring Program this section is electro-fished every fall to assess brown trout and fish community trends.

Adult brown trout estimates in 2006 (545 fish/mile) decreased from those in 2005 (766 fish/mile). However, the number of brown trout >12 inches (92 fish/mile) and the number of young-of-year (YOY) brown trout (884 fish/mile) increased from 2005 observations (32 and 92 fish/mile, respectively). Brook trout estimates have increased from 0 fish/mile (all sizes) during 2005 to 22 fish/mile (11 adults and 11 YOY) during 2006. The overall status of the West Indian Creek trout population is considered average.

Though sculpin are common in this stream, West Indian Creek is not in the sculpin reintroduction program as a donor stream.

Complementary habitat data were collected within most LTM stations during 2005 to provide additional descriptors of possible sources of variability in trout populations. Compared to other LTM streams sampled, West Indian Creek has habitat conducive to brown trout production (Thorn and Anderson 2001). The coldwater IBI (Mundahl) score of 90 (max. 120) indicates West Indian Creek provides suitable conditions for coldwater fish communities.

This stream was part of a large regional creel in 2005 that included 33 trout streams. Mean angler trip length was calculated as 3.77 hours with a catch rate of 1.10 trout/hour. An estimated 214,307 trout were caught in 52,687 angler trips totaling 190,859 angler-hours. Angler harvest rates were 17.3% for brown trout and 34.4% for rainbow trout.

A section of West Indian Creek is currently being managed using a protected 12"-16" slot limit allowing bait. The stream is currently closed to winter trout angling.

**Credits and Signatures**

<b>Field Crew:</b> Jacquelyn Bacigalupi, Larry Gates, Jim Melander, Vaughn Snook.		
<b>Report Completed by:</b>		
<b>Name</b> Doug Schultz/Jim Melander	<b>Title</b> Fisheries Specialist/Technician	<b>Date</b> 7-Dec-06
<b>Approved by:</b>		
<b>Area Fisheries Supervisor's Signature</b>	<b>Regional Fisheries Manager's Signature</b>	<b>Date</b>

