



Field Data Sheet

CMC Macroinvertebrate Monitoring Program


Sampling Information

Record the information about today's sampling event in the boxes below.

Monitor Name(s)	Biology 131-A Field Natural History			
Date	September 22, 2017	Time	2:00 P.M	
Stream Name	Holtz Run	Site Name	Holtz Run #2	
Weather Conditions	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Partly Cloudy	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Fog/Haze
Precipitation	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Drizzle	<input type="checkbox"/> Rain	

Site Information

Draw a diagram of the 100-foot stream reach you have chosen to monitor. Record the latitude and longitude coordinates of the upstream and downstream endpoints.










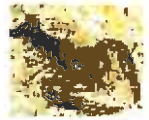













	100' of Holtz Run in which macro-invertebrate kick seine was accomplished. Location: Magaro Road and Holtz Run. East Pennsboro Twp. Enola, Pa 17025	
	Upstream	Lat:40° 16' 33.79" Long:76° 57' 11.47 W
Downstream	Lat:40° 16' 33.18" N Long:76° 57' 10.87 W	



Identification & Scoring Sheet

CMC Macroinvertebrate Monitoring Program

Rare (R) = 1 – 9 organisms
 Common (C) = 10 – 99 organisms
 Dominant (D) = ≥ 100 organisms

Group I Sensitive	Count	Group II Somewhat Sensitive	Count	Group III Tolerant	Count
Water Penny Larvae 	13	Beetle Larvae 	2	Aquatic Worms 	11
Hellgrammites 		Clams 		Blackfly Larvae 	
Mayfly Nymphs 		Crane-fly Larvae 		Leeches 	
		Crayfish 			
Gilled Snails 		Damselfly Nymphs 		Midge Larvae 	56
		Scuds 	28		
Riffle Beetles (adult) 		Sowbugs 		Snails 	
Stonefly Nymphs 	1	Fishflies 		Site Designation: Holtz Run #2	
		Alderflies 			
Non Net-Spinning Caddisfly Larvae 	11	Net-Spinning Caddisfly Larvae 	10	Team Members:	

Calculating the Water Quality Score

(From EPA Volunteer Monitoring Methods Manual)

To calculate the water quality score:

1. Record the number of R's, C's, and D's found for each Macroinvertebrate Group in box A.
2. Multiply each number (A) by the weight factor listed (B) and record the number in box C.
3. Add the three numbers in box C to get a total value for each Macroinvertebrate Group.
4. Add the totals for all three Groups to get the water quality score for the stream reach monitored.

Group I Sensitive			Group II Somewhat Sensitive			Group III Tolerant					
A	B	C	A	B	C	A	B	C			
# R's	1	x 5.0	5	# R's	1	x 3.2	3.2	# R's		x 1.2	
# C's	2	x 5.6	11.2	# C's	2	x 3.4	6.8	# C's	2	x 1.1	2.2
# D's		x 5.3		# D's		x 3.0		# D's		x 1.0	
Group I Total =			Group II Total =			Group III Total =					

Water Quality Score = $\frac{16.2}{\text{(Group I Total)}}$ + $\frac{10.2}{\text{(Group II Total)}}$ + $\frac{2.2}{\text{(Group III Total)}}$

Water Quality Score = 28.4

**Water
Quality**

Stream Physics and Chemistry

Water Temperature 20 C⁰ Conductivity 62.6 μS/cm pH 7.1

Total Hardness __200 mg/L Ca++ hardness __140 mg/L alkalinity__180.5 mg/L

Nitrates 0.2 mg/L NO₃-N_____ Orthophosphates 0.2 mg/L PO₄-P

Silica__6 ppm_____ CO₂__7 ppm_____ Dissolved Oxygen____5 mg/L_____

Macro data based on three kick seines in a 100' stretch of stream.

LaMotte test kits used for chemical data.

ALLARM readings verify Nitrate and Orthophosphate

Rocky bottom Stream This segment above the culvert had lower quality assessment than below the culvert. There were fewer large stones in the riffle section under which macro-invertebrates could find shelter. This is one hypothesis that may lead to the lower stream score. Over all the stream seems to be in good shape.

