

# How to Complete the Biological Monitoring Data Sheet

The first portion of the Biological Monitoring Data Sheet is the information section.

## Sampling Procedures

Equipment: Check one or both of the nets used to collect macroinvertebrate sample.  
 Habitat: Check each type of habitat sampled during this survey.

## Pollution Tolerance Index

The macroinvertebrate index is divided into Pollution Tolerance Groups (PT Group) 1,2,3 and 4. These PT groups represent the different levels of pollution tolerance. The higher the group number, the higher the pollution tolerance level. Record the number of macroinvertebrates you find here.

PT GROUP 1 <i>Intolerant</i>		PT GROUP 2 <i>Moderately Intolerant</i>		PT GROUP 3 <i>Fairly Tolerant</i>		PT GROUP 4 <i>Very Tolerant</i>	
Stonefly Nymph	<u>6</u>	Damselfly Nymph	_____	Midge Larvae	<u>&gt;100</u>	Left-Handed Snail	<u>1</u>
Mayfly Nymph	<u>5</u>	Dragonfly Nymph	<u>15</u>	Black Fly Larvae	_____	Aquatic Worms	<u>25</u>
Caddis Fly Larvae	<u>10</u>	Sowbug	_____	Planaria	<u>16</u>	Blood Midge	_____
Dobsonfly Larvae	_____	Scud	_____	Leech	_____	Rat-tailed Maggot	_____
Riffle Beetle	_____	Crane Fly Larvae	_____				
Water Penny	<u>30</u>	Clams/Mussels	_____				
Right-Handed Snail	_____	Crayfish	<u>2</u>				

The next row is the # of Taxa. Insects that have the same body shape all belong to the same taxa. To find the total number of taxa for each PT Group you need to add the number of types of organisms. It is possible to have a particular PT group without any numbers, therefore it will score a zero.

**Do not make the mistake of adding the numbers of organisms together.**

# of TAXA	<u>4</u>	# of TAXA	<u>2</u>	# of TAXA	<u>2</u>	# of TAXA	<u>2</u>
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The next row is the group scores. Multiply each # of taxa by its weighting factor.

# of TAXA	<u>4</u>	# of TAXA	<u>2</u>	# of TAXA	<u>2</u>	# of TAXA	<u>2</u>
Weighting Factors:	(x 4) <u>16</u>	(x 3) <u>6</u>	(x 2) <u>4</u>	(x 1) <u>2</u>			

Note: The Volunteer Stream Monitoring Internet Database (described in Chapter 7) will perform these calculations for you when you submit data.

## Other Biological Indicators





















Check the appropriate box if you find native mussels, zebra mussels, rusty crayfish or submerged aquatic plants at your site. Estimate the percentage of rocks or the stream bottom covered by algae at your site. Write your Diversity Index score if you perform the procedures described on pages 97 and 98.

# Hoosier Riverwatch Biological Monitoring Data Sheet

Date \_\_\_/\_\_\_/\_\_\_ Volunteer ID \_\_\_\_\_ Site ID \_\_\_\_\_  
 Stream Name \_\_\_\_\_ Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Time \_\_\_:\_\_\_ AM / PM \_\_\_\_\_ hrs Air Temp \_\_\_\_\_ C  
 Current Weather:  Clear/Sunny  Overcast  Showers  Rain (steady)  Storm (heavy)  
 Worst Weather (past 48 hours):  Clear/Sunny  Overcast  Showers  Rain (steady)  Storm (heavy)  
 Check Methods Used:  Kick Seine Net (3 times)  Dip Net (20 jabs or scoops)  
 Check Habitats Sampled:  Undercut Banks  Riffles  Leaf Packs  Snags/Vegetation  Sediment

## Pollution Tolerance Index (PTI)

Record the taxa (group) represented in your sampling by either entering the number of organisms you counted or by a

<b>Group 1 - Intolerant</b>	<b>Group 2 - Moderately Intolerant</b>	<b>Group 3 - Fairly Tolerant</b>	<b>Group 4 - Very Tolerant</b>
 <input type="checkbox"/> Stonefly Nymph	 <input type="checkbox"/> Damselfly Nymph	 <input type="checkbox"/> Leech	 <input type="checkbox"/> Aquatic Worms
 <input type="checkbox"/> Mayfly Nymph	 <input type="checkbox"/> Dragonfly Nymph	 <input type="checkbox"/> Midge Larva	 <input type="checkbox"/> Blood Midge Larva (red)
 <input type="checkbox"/> Caddis Fly Larva	 <input type="checkbox"/> Scud	 <input type="checkbox"/> Planaria/Flatworm	 <input type="checkbox"/> Rat-tailed Maggot
 <input type="checkbox"/> Riffle Beetle	 <input type="checkbox"/> Sowbug	<input type="checkbox"/> Black Fly Larvae	<input type="checkbox"/> Left - Handed or Pouch Snail
 <input type="checkbox"/> Dobsonfly Larva	 <input type="checkbox"/> Crane Fly Larva		
 <input type="checkbox"/> Right-Handed Snail	 <input type="checkbox"/> Clam/Mussels		
 <input type="checkbox"/> Water Penny	 <input type="checkbox"/> Crayfish		
<input type="checkbox"/> # of TAXA	<input type="checkbox"/> # of TAXA	<input type="checkbox"/> # of TAXA	<input type="checkbox"/> # of TAXA
<input type="checkbox"/> Weighting Factor (x4)	<input type="checkbox"/> Weighting Factor (x3)	<input type="checkbox"/> Weighting Factor (x2)	<input type="checkbox"/> Weighting Factor (x1)

<b>PTI Ratings</b>	
Excellent	23 or More
Good	17 - 22
Fair	11 - 16
Bad	10 or Less

### Pollution Tolerance Index Rating

*(Add the final index values for each group)*

**Please check other Biological Indicators you observed:**

Native Mussels  
  Zebra Mussels  
  Rusty Crayfish  
  Aquatic Plants  
 \_\_\_\_\_ %Algae Cover  
 \_\_\_\_\_ Diversity Index