Macroinvertebrate Identification Key

GROUP 1 – Very Intolerant of Pollution

Stonfly Nymph
- 2 tails
- long antennae

Mayfly Nymph
- 3 tails
- fluttering gills

Riffle Beetle Adult & Larva
- very small
- hard shell
- makes a case from twigs, rocks, leaves

Caddisfly Larva

Dobsonfly Larva
- large head & 2 pinchers

Water Penny Larva
- top
- bottom
- looks like a suction cup

GROUP 2 – Moderately Intolerant of Pollution

Damselfly Nymph
- 3 paddle-like (feathery) tails

Dragonfly Nymph
- flattened side-ways
- & swims on side

Crayfish
- looks like a mini-lobster

Scud
- no tails
- large eyes

Sowbug
- flattened top to bottom (looks like a pill bug)

Cranefly
- caterpillar-shaped, ringed

Clam/Mussel
- must be alive to count

GROUP 3 – Fairly Tolerant of Pollution

Midge Larva
- small, but visible head
- intense wiggler

Planaria
- 2 eye spots
- & very small

Black Fly Larva
- one end is swollen

Leech
- flattened & segmented

GROUP 4 – Very Tolerant of Pollution

Aquatic Worms
- segmented “earthwormy”

Left-Handed Snail
- must be alive to count

Rat-tailed Maggot

Blood Midge Larva
- bright red

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# Pollution Tolerance Index (PTI)

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### Weighting Factors:
- 23 or More: Excellent
- 17 - 22: Good
- 11 - 16: Fair
- 10 or Less: Poor

### Pollutant Tolerance Index Rating

(Add the final index values for each group.)

### Other Biological Indicators

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

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