



Water Canaries

Assessing Benthic Macroinvertebrates



Bridging the Watershed

An Outreach Program of the Alice Ferguson Foundation in Partnership
with the National Park Service and Area Schools



Macroinvertebrate Identification Worksheet

Specimen # _____

Characteristics

Body shape _____

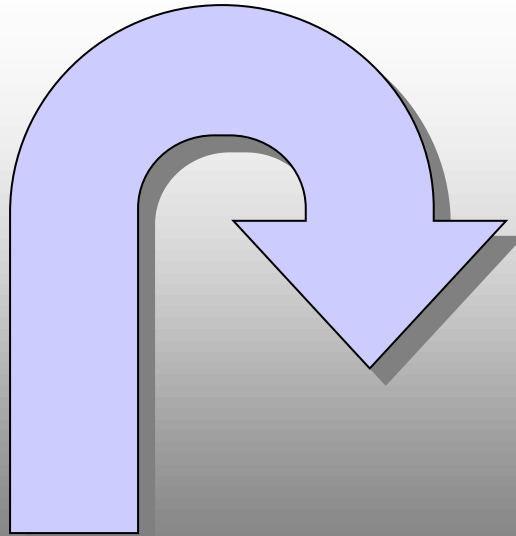
Legs _____

Tail _____

Other features _____

Sketch

Consider the following
when trying to identify
an organism



Macroinvertebrate Body Characteristics



Segments



Large and plump

Wormlike



Not

Wormlike



Is the abdomen fleshy or have armored plates?

Does it look easily squishable?

Tiny



Tiny—in nature, tiny generally means less than a centimeter—test to tell: do you have a hard time seeing anything more than a squiggly line?

Legs



Six segmented
legs



Lateral filaments
(fake legs)



More than six legs



Prolegs

Tails



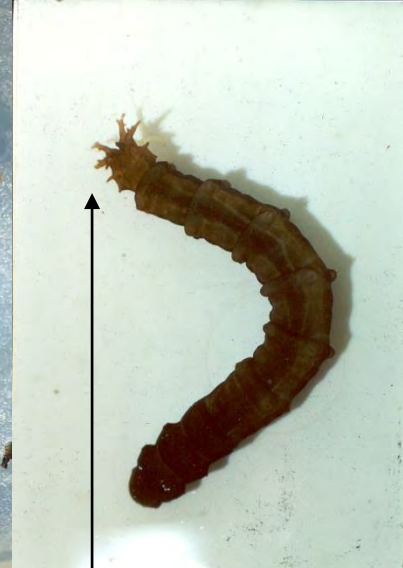
Two tails



Featherlike
tails

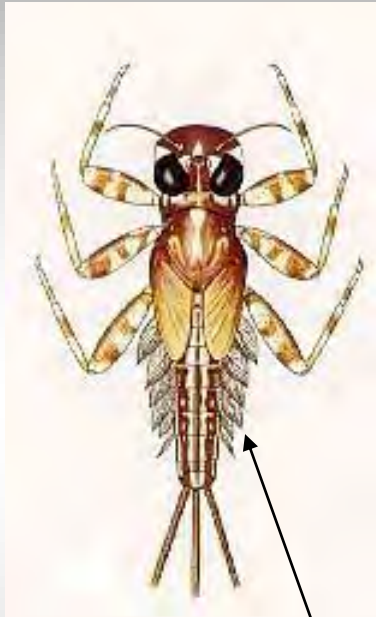


Tiny tails

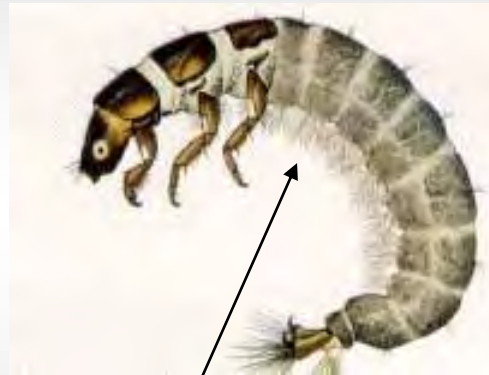


Tail-like
projection

Details to notice: gills



Abdominal
gills



Abdominal
filamentous
gills



Internal
gills

Practice ID



- ◇ Visible Gills?
- ◇ Legs? Number?
Length?
Placement?
- ◇ Details? Antennae?
Eyes? Wings? Tail?



Directions

- ◊ You will be shown pictures/drawings of 15 different types of organisms.
- ◊ Each slide will be visible for 2 minutes.
- ◊ Use your worksheet to draw each specimen.
- ◊ Begin with basic body shape and most important details.
- ◊ If there is more than one image on a slide, choose one to draw.
- ✚ Each organism or set of organisms represents one category that corresponds to the data sheet you will use in your field study.

Specimen 1



Specimen 2



Specimen 3



Specimen 4



Specimen 5



Specimen 6



Specimen 7



Specimen 8



Specimen 9



Specimen 10



Specimen 11



Specimen 12



Specimen 13



Specimen 14



Specimen 15

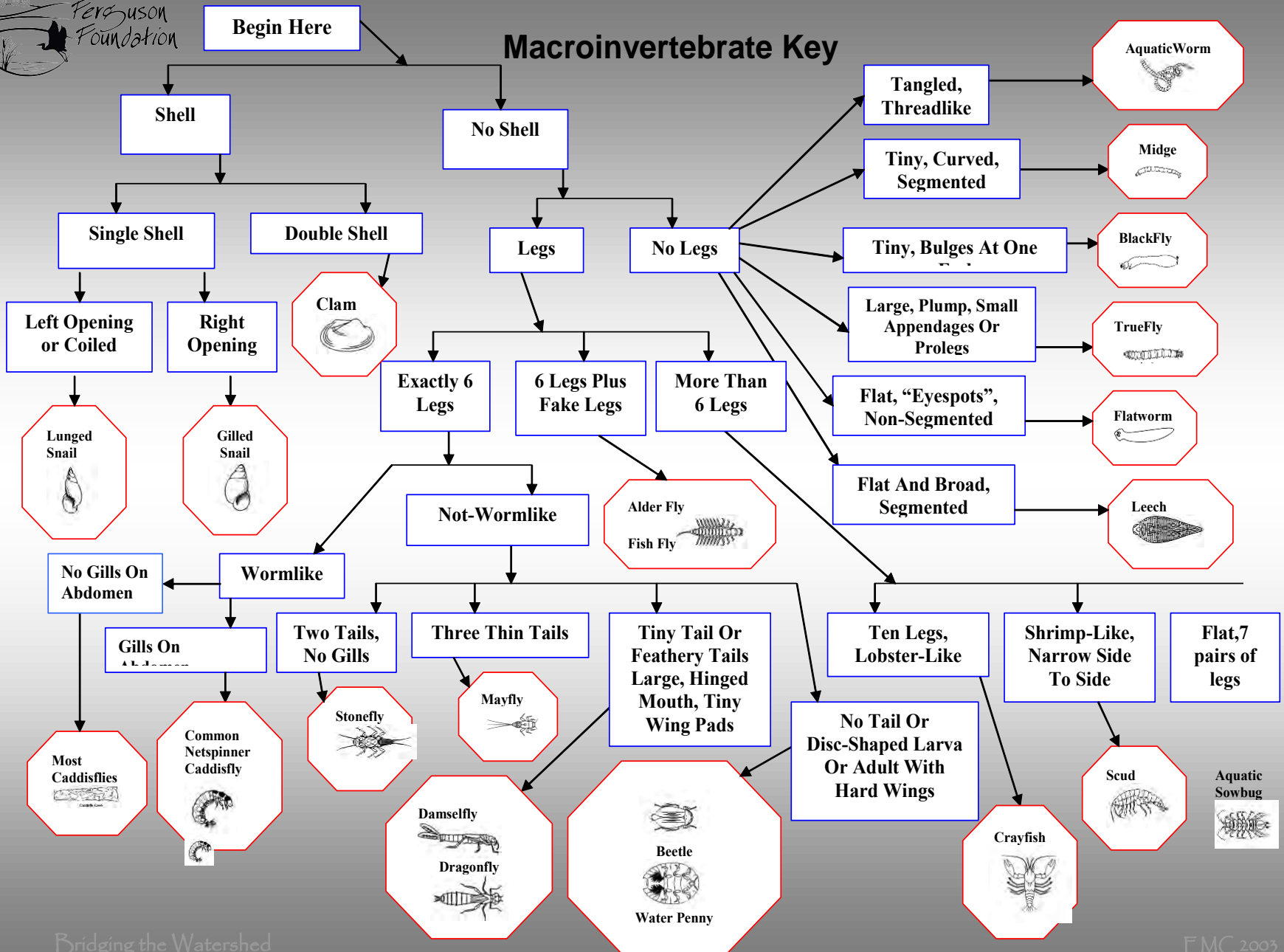




End of Drawing Activity

Use your drawings and reference material
to identify your organisms.

Macroinvertebrate Key

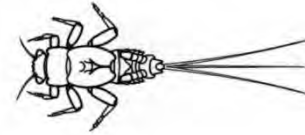




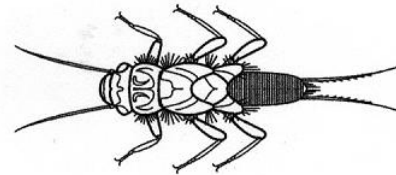
Benthic macroinvertebrates
can be classified
according to their
sensitivity to pollutants.

Sensitive

Mayfly larvae



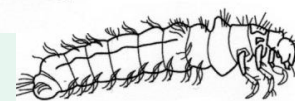
Stonefly larvae



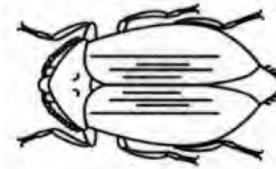
Most Caddisflies



Caddisfly Case

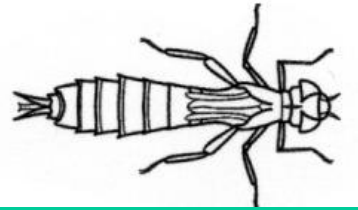


Beetles (adults and larvae)

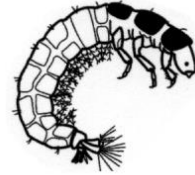


Somewhat Sensitive

Dragonfly and
Damselfly larvae



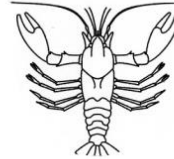
Netspinner
caddisfly larvae



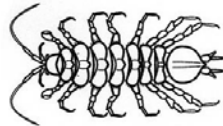
Gilled snail



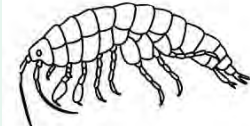
Crayfish



Aquatic sowbug



Scud



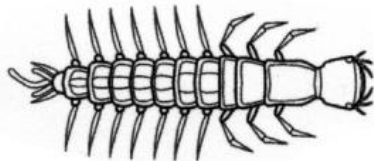
Clams



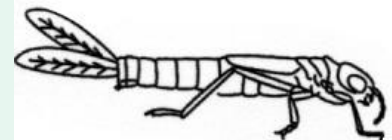
Cranefly larvae



Hellgrammite



Damselfly larvae

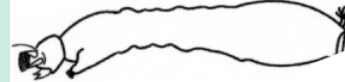


Tolerant

Lunged snails



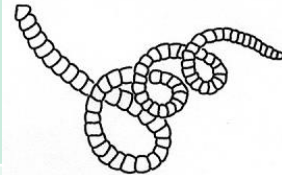
Blackfly larvae



Midge larvae



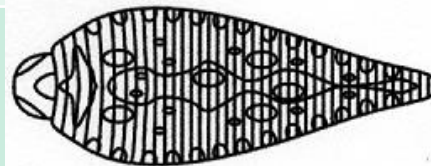
Aquatic worms



Flatworms



Leeches





THE END