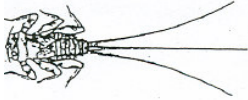

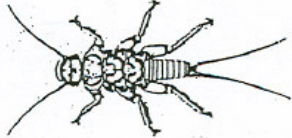

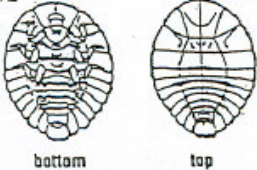
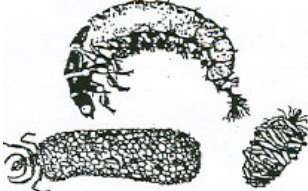






STREAM MACROINVERTEBRATE IDENTIFICATION CHART

SIZES ARE APPROXIMATE AS MOST COMMONLY FOUND

GROUP 1

Very sensitive to pollution.

	LARVA OR NYMPH	ADULT
<p>Mayfly - As adults, mayflies live only a few hours or days, living only long enough to mate and lay eggs. The nymphs live under water up to two years, move to land, and shed as adults. The legs have a single claw and there may be two to three tails.</p>	 1"	 1-2"
<p>Stonefly - As a nymph, the stonefly lives under water for one or more years. Nymphs live under rocks in the fast-moving water. Adult stoneflies live only a short time, then die. They possess two tails and each leg has a pair of hooks at the end. The gills are often visible on or behind each leg.</p>	 1 1/2-2"	 1-2"
<p>Water Penny - The adult lives on land, but the flat, round larva securely clings to the underside of rocks in cold-water streams. The segmented, plate-like covering protects the insect's head, legs, and gills on the underside. Their color is brown, black, or tan.</p>	 1/4-1/2"	
<p>Caddisfly - The unusual larva build cases of sand or plant debris, cemented together by silk. Cases built by different species are quite distinctive. Larva feed on small water plants and animals, and in turn are food for fish and other predators.</p>	 1/2-1"	 1-2"
<p>Dobsonfly (hellgrammite) - These insects spend up to three years as larva before turning into adults. Larva live under stones in the swiftest part of the stream and may grow to be 4 inches long. As their large jaws suggest, they are carnivorous and may bite.</p>	 1-2"	 1-3"
<p>Gilled snail - These snails have gills and rely on cold fast-moving water. With the opening facing you and the shell tip pointing up, the opening will be on the right side. The shells have an operculum (plate-like door), are black and are easily seen attached to rocks.</p>		 1/2-3/4"

GROUP 2

Somewhat sensitive to pollution.


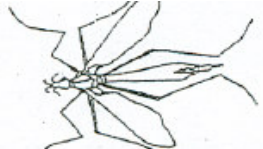

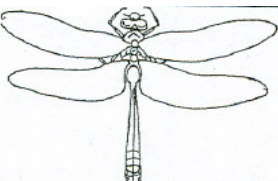
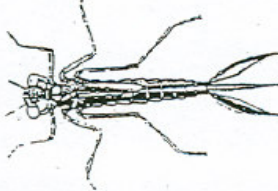
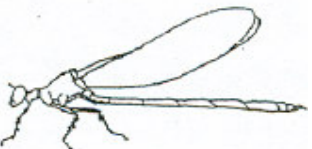

	LARVA OR NYMPH	ADULT
<p>Crayfish - Crayfish have five pair of legs, the first being armed with large claws. If a leg is lost, another will grow in its place. If threatened a crayfish will flip its fan-like tail down, propelling itself backwards to escape.</p>		 1-4"

GROUP 2

Somewhat sensitive to pollution.

LARVA OR NYMPH

ADULT





<p>Crane fly - Cranefly adults look like large mosquitoes but do not bite. They are long and slender, with long legs. Larva are plump, have a segmented body, and appear to be transparent.</p>	 <p>1-2"</p>	 <p>2"</p>
<p>Dragonfly - The commonly seen adult is slender and hold their large, clear wings out flat when at rest. The nymph has a wide abdomen and no gills. Nymphs may spend up to a year underwater before becoming adults. Adults and nymphs are carnivorous.</p>	 <p>1"</p>	 <p>2-4"</p>
<p>Damselfly - Adults hold their wings together and above the body when at rest. The nymph stage may range from several weeks or months to 4 years and are usually found in slower moving water. Like a dragonfly, damselflies are predators but the body is more slender. Three tail structures serve as gills.</p>	 <p>1-2"</p>	 <p>2-3"</p>
<p>Scud - Scuds resemble freshwater shrimp. They are lighter in color and 7 pairs of tiny segmented legs. Scuds swim rapidly on their sides and are scavengers of plant and animal matter.</p>		 <p>1/3"</p>

GROUP 3

Generally tolerant to pollution

LARVA OR NYMPH

ADULT

<p>Lunged snail - These snails obtain oxygen from air trapped in their shell. The shell has no operculum (plate-like door). With the shell opening facing you, and the tip pointing up, the opening will be on the left side. Lunged snails prefer slower moving waters.</p>		 <p>1/2"</p>
<p>Aquatic worms - Most are small and thread-like. Their color may be red, tan, black, or brown. Movement is done similar to earthworms, stretching and pulling its body slower moving waters.</p>		 <p>1-5"</p>
<p>Midge Fly - Can be found in all but the most polluted waters. Their length is up to 1/2 inch long. The body is slightly curved and segmented, often with a distinct dark head. One tiny pair of legs exist below the head and another pair is at the back end.</p>	 <p>1/2"</p>	
<p>Black Fly - The segmented body may be up to 1/3 inch long with a small sucker at the end of the widened abdomen. Tiny gills filter food from the water. These larva are often found attached to rocks and sticks.</p>	 <p>1/3"</p>	