

What Is the Health of Your Pond?

From the flowers and trees outside, to butterflies, and even you – everything needs water to survive. Water is all around us. It can be found in oceans, rivers, lakes, clouds, and even underground! However, only about 3% of all the water on earth is freshwater – the kind of water that is needed to support life.



Because freshwater is a precious and limited resource, it is important that we protect it from **pollution**. Pollution is something that is put into the environment that is harmful. **Water pollution** leads to the harm and break-down of aquatic habitats like Louisiana’s wetlands. We can take actions to clean up and protect aquatic habitats by identifying if they are polluted or not.

Bugs to the Rescue!

The first step in determining if your local water bodies are polluted is to determine what types of aquatic animals live in them. All plants and animals need certain things to be able to survive. Some animals may prefer to eat worms, while other animals prefer to eat flies. Similarly, some animals may be able to tolerate conditions that others cannot. For example, the penguin prefers to swim in the ice-cold waters of the Antarctic, while alligators prefer the warm coastal waters of Louisiana. **Macroinvertebrates** are no exception! Macroinvertebrates are very small invertebrates (organisms that do not have a backbone) that are still large enough to see without a microscope. Some of these animals can tolerate polluted waters, whereas others cannot. Because only certain types of animals can survive in polluted waters, these animals are sampled by scientists and used as **bioindicators**.

To sample your pond’s health, you will need:

- Dip net (instructions for how to build your own can be found here)
- Small container to collect macroinvertebrates in
- Macroinvertebrates guide (included at end of activity sheet)

Optional

- Spoon
- Magnifying glass

Procedure

1. Scoop some pond water into your container so your macroinvertebrates can still swim around while you are identifying them.
2. Gently sweep your dip-net through the water in a figure-eight motion. You want your net to almost be at the bottom of the pond, but don’t stir up too much mud as it will clog up your net and make it harder to see what you’ve captured. Places where there are plants growing in the water are excellent spots to try as well.

What Is the Health of Your Pond?

- Carefully lift your net out of the water and turn it inside out over your container, so that anything you've caught drops into your container. If you want to take a closer look, use a spoon to gently scoop them up – your hands could hurt whatever creatures you've captured!
- Use the ID guide to try and identify your macroinvertebrates. HINT: Counting the legs you see can help narrow down those tricky-to-identify creatures! Count the amounts of each type of you find and tally them in the table below.

Not Tolerant to Pollution	Semi-Tolerant to Pollution	Tolerant to Pollution

- When you're finished collecting and ID'ing, carefully pour the container back into the pond and make sure all of the creatures are safely returned. Afterward, complete the Pond Health Assessment below

Pond Health Assessment

- What is the name and location of your pond?

- Would you say your pond is healthy or not?

- How did you determine this?

Next Week

Discover sources of pollution at your pond and develop a plan of action to help make it cleaner!



Program Sponsored By:



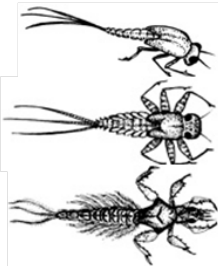







Revised 3/2020






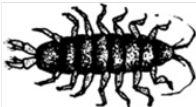

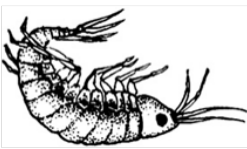
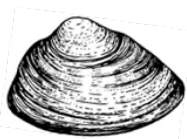
What Is the Health of Your Pond?

POLLUTION TOLERANCE LEVELS OF MACROINVERTEBRATES






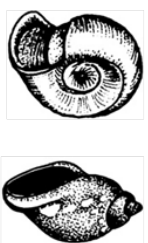
Group 1: Not Tolerant to Pollution

 Water penny Larva	 Dobsonfly Larva	 Mayfly Nymph	 Stonely Nymph	 Caddisfly Larva	 Whirligig Beetle	 Riffle Beetle	 Gilled Snail (opens to right)
---	---	---	---	---	--	--	---

Group 2: Semi-Tolerant to Pollution

 Dragonfly Larva	 Crane fly Larva	 Damselfly Nymph	 Alder fly Larva	 Water snipe Fly	 Sowbug	 Crayfish	 Scud	 Mussels & Clams
---	---	---	--	--	---	---	--	---

Group 3: Tolerant to Pollution

 Blackfly Larva	 Midge Larva	 Midge Larva	 Threadworm	 Leech	 Pouch Snails (open to left)
---	--	--	--	--	---

Program Sponsored By:



Revised 3/2020