The world is filled with many different living things. There are plants and animals in practically every corner of the planet, no matter how harsh their environment might be.

It is easy to see the larger animals that live at Guadalupe River. What animals have you seen today? Did you know that there are smaller animals that live here, too? They are called macroinvertebrates and usually live at the bottom of the river. Macroinvertebrates are animals that can be seen without a microscope (macro) but, unlike fish or birds, they have no backbone (invertebrate). Instead, they have an exoskeleton to protect them. Can you think of a crawly critter that has a shell?

Some macroinvertebrates, like a crawdad, have their own shell and like to roam freely along the bottom of the river. Others, like a caddisfly larvae, build cases from small stones or pieces of wood. Where in the river do you think a caddisfly larvae lives?

Although different animals like to live in different places, they are all affected by the physical and chemical conditions of the river. Each animal has specific needs in order to live. Because of this, the kinds and number of critters we find can tell us something about the health of our river.

Some macroinvertebrates are very tolerant of pollution, while others are very sensitive (meaning that they cannot live with pollution). If we find a lot of critters, and if most of them are sensitive to pollution, then we know that our river is healthy. On the other hand, if we only find tolerant critters, then we know our water quality has been impaired. Since macroinvertebrates spend most of their life in water, they are a great way to learn about the water quality of the river!