

# Mountain Stream Study

Names are given to certain sections of water where fish can be found. Look up these names and see if you can find out the sections of water they describe.

**Riffle:** \_\_\_\_\_

\_\_\_\_\_

**Run:** \_\_\_\_\_

\_\_\_\_\_

**Head:** \_\_\_\_\_

\_\_\_\_\_

**Tail:** \_\_\_\_\_

\_\_\_\_\_

**Pool:** \_\_\_\_\_

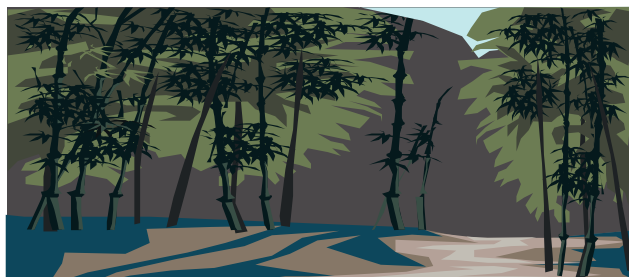
\_\_\_\_\_

**Flats:** \_\_\_\_\_

\_\_\_\_\_

**Eddy:** \_\_\_\_\_

\_\_\_\_\_



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## Fishes

Below, you'll find a list of the fish most commonly found in the Little River. Do a [Google](#) search to find descriptions and pictures. The name in parenthesis is the scientific name. They are provided for the purpose of locating the correct picture and description because many different fish are often called the wrong common name. Beside each name, write a description for the fish.

**Sunfish (*Centrarchidae*)** \_\_\_\_\_

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**Trout (*Salmonidae*)** \_\_\_\_\_

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**Telescope shiner (*Notropis telescopus*)** \_\_\_\_\_

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**Warpaint shiner (*Luxilus coccogenis*)** \_\_\_\_\_

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**Banded sculpin (*Cottus carolinae*)** \_\_\_\_\_

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**Northern hogsucker (*Hypentelium nigricans*)** \_\_\_\_\_

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**Sunnose darter (*Etheostoma simoterum*)** \_\_\_\_\_

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## Water Tests

Water tests are ways to determine the health of the river or stream. Certain fish are meant to live in certain types of water. Like the insects you will learn about while at camp, the type of fish that live in a river is determined by the health of the water. If these tests are performed, the results can be used to help guess what type of fish are there. Likewise, if you just simply go and look for fish, depending on what you find you can expect certain test results. The following are some of the tests you will perform at camp.

### pH

Potential for Hydrogen (pH) is a scale that shows if something is an acid or base (alkaline). pH has an effect on fish just like it does on any animal. Most animals must keep their pH at 7.0 (neutral). All terrestrial (land) animals regulate their pH by drinking water. However, fish have their pH regulated by the water around them. The pH of the water is almost identical to that of a fish; therefore, if the pH of the water moves too far from 7.0 most fish can't survive.

Go to <http://www.miamisci.org/ph/> to find out more about pH.

Is vinegar acid or basic? \_\_\_\_\_ What is the pH of vinegar? \_\_\_\_\_

Is baking soda acid or basic? \_\_\_\_\_ What is its pH? \_\_\_\_\_

### Dissolved Oxygen

Oxygen is an invisible gas in our atmosphere. It is also found in water. Dissolved Oxygen (DO) refers to the percent of oxygen found in a given volume of water. Generally, faster moving waters (rivers or streams) have more DO because as the water churns or ripples more oxygen is mixed into the water increasing the percent of DO. Lakes, which move slower or not at all, have much lower DO percents. Just like pH, DO will determine what fish live in a body of water. For example, trout need lots of oxygen kind of like a person who is running a marathon and bass need less oxygen like a person watching a movie.

Go to <http://edis.ifas.ufl.edu/fa002> to read some interesting information about dissolved oxygen and fish.

### Temperature

This is similar to people. Some fish can handle cold water and others are less able to. <http://www.lookd.com/fish/bodytemperature.html> tells more about fish temperature. Look at [http://www.fishdreams.com/freshwater.fish\\_temp\\_chart.html](http://www.fishdreams.com/freshwater.fish_temp_chart.html).

What temperatures do trout generally live in? \_\_\_\_\_

### Water Speed or Velocity

Knowing water speed is important because we know that faster water has more oxygen and slower water has less oxygen. So from water speed we can guess DO and what type of fish might be there. Some fish also have trouble hunting or feeding in faster water and require slower water to survive. For more information about water velocity, go to <http://www.thestyx.co.nz/WaterVelocityGlossary.html>

# Mountain Stream Study Teacher's Guide

Note to Teachers: Instructors teaching this course assume that no outside work has been done. These exercises are optional. They are given to you to further enrich your student's experience with the Mountain Stream Study.

## Definitions

The definitions provided are the names and descriptions of given sections of water where certain fish are found.

**Riffle**: Areas of fast current with broken water surface or white caps. Most often they have a rocky or uneven bottom. (Bottom also called substrate.) Most riffles are shallower than the rest of the river.

**Runs**: Usually found at the "head" or "tail" of a riffle. Consist of a more even bottom, moderate to fast moving water, and a flat unbroken water surface. In addition, they are deeper than riffles.

**Head**: beginning of a river or particular section of river.

**Tail**: End of a particular section of river.

**Pool**: Usually the deepest part of a river. Found at the tail end of a run. Water movement is minimal and often seems nonexistent.

**Flats**: At the tail of a pool where the pool shallows and begins to move more quickly, eventually turning into a riffle or run.

**Eddy**: A section of water occurring within a riffle or run in which the water at the tail of an obstruction (i.e., rock or log) is slowed or stopped.