NATIVE EXPEDITIONS

Habitat Walk Activity

In-stream Characteristics: Describe all 8 Characteristics of a neighborhood stream near your school or home.

1. *Pools, riffles, and runs*. A mixture of flows and depth and provide a variety of habitats to support fish and invertebrate life. Pools are deep with slow water. Riffles are shallow with fast, turbulent water running over rocks. Runs are deep with fast water and little or no turbulence.

2. *Stream bottom (substrate)* is the material on the stream bottom. Identify what substrate types are present. Substrate types include:

- ❍ *Silt/clay/mud*. This substrate has a sticky, cohesive feeling. The particles are fine. The spaces between the particles hold a lot of water, making the sediments behave like ooze.

- ❍ *Sand (up to 0.1 inch)*. A sandy bottom is made up of tiny, gritty particles of rock that are smaller than gravel but coarser than silt (gritty, up to ladybug size).

- ❍ *Gravel (0.1-2 inches)*. A gravel bottom is made up of stones ranging from tiny quarter-inch pebbles to rocks of about 2 inches (fine gravel - pea size to marble size; coarse gravel - marble to tennis ball size).

- ❍ *Cobbles (2-10 inches)*. Most rocks on this type of stream bottom are between 2 and 10 inches (between a tennis ball and a basketball).

- ❍ *Boulders (greater than 10 inches)*. Most of the rocks on the bottom are greater than 10 inches (between a basketball and a car in size).

- ❍ *Bedrock*. This kind of stream bottom is solid rock (or rocks bigger than a car).

3. *Presence of logs or woody debris (not twigs and leaves) in stream* can slow or divert water to provide important fish habitat such as pools and hiding places. Mark the box that describes the general amount of woody debris in the stream.

4. *Naturally occurring organic material in stream.* This material includes leaves and twigs. Mark the box that describes the general amount of organic matter in the stream.

5. *Water appearance* can be a physical indicator of water pollution.

- ❍ *Clear* - colorless, transparent
- ❍ *Milky* - cloudy-white or grey, not transparent; might be natural or due to pollution
- ❍ *Foamy* - might be natural or due to pollution, generally detergents or nutrients (foam that is several inches high and does not brush apart easily is generally due to some sort of pollution)
- ❍ *Dark brown* - might indicate that acids are being released into the stream due to decaying plants
- ❍ *Oily sheen* - multicolored reflection might indicate oil floating in the stream, although some sheens are natural
- ❍ *Orange* - might indicate acid drainage
- ❍ *Green* - might indicate excess nutrients being

7. *Water odor* can be a physical indicator of water pollution

- ❍ No smell or a natural odor
- ❍ *Sewage* - might indicate the release of human waste material
- ❍ *Chlorine* - might indicate over-chlorinated sewage treatment/ water treatment plant or swimming pool discharges

- ❍ *Fishy* - might indicate excessive algal growth or dead fish

- ❍ *Rotten eggs* - might indicate sewage pollution (the presence of methane from anaerobic conditions)

8. *Water temperature* can be particularly important for determining the suitability of the stream as aquatic habitat for some species of fish and macroinvertebrates that have distinct temperature requirements. Temperature also has a direct effe ct on the amount of dissolved oxygen available to the aquatic organisms. Measure temperature by submerging a thermometer for at least 2 minutes in a typical stream run. Repeat once and average the results.