



What is a River Habitat?

Station 1

Marc Seifert

Time Frame:	Standards:
30-45 Minutes based on age and development level.	The educators implementing this activity will determine appropriate standards based on age and student activity. The Idaho standards are references as an example. http://www.sde.idaho.gov/site/content_standards/
Objectives:	
<p>Learn to recognize a River Habitat</p> <p>Looking at river/stream habitat, students can:</p> <ul style="list-style-type: none"> • Identify components of a river or stream habitats and • Analyze how these components meet wildlife and organism needs 	
Background Information:	
<p>River and stream habitats are complex systems that have many unique characteristics that differentiate them from other water habitats. One significant characteristic is that rivers and streams flow, they mix up the water and contain high levels of dissolved oxygen, are less clear, and the bottoms stay cleaner and are often rockier. River and stream habitats tend to be shaded by trees, interspersed with submerged logs, and their waters tend to be cooler. The zone between the water and the land that does not flood is known as the Riparian Zone and full of plants and animals. These unique habitats offer plenty of hiding and feeding areas for fish and other water-dwelling and riparian species.</p> <p>These habitats are fragile and natural species have grown and adapted to natural river and stream conditions and are sensitive to change. Because of watershed dynamics, excess quantities of silt can flow into streams and rivers and accumulates on the stream bottom, which can create an incompatible habitat for mussels, insects, mollusks, and other species that need rocky bottoms for reproduction, feeding, and protection. Many species of insects, mussels, fish and others have become extinct or endangered due to changes. In turn, animals that depend on mussels, insects or others as a food source are affected.</p> <p>Often human actions cause these changes. An example is adding dams to a river or stream to control flooding, then impacts on many species may cause a chain of consequences for all the organisms who depend on the unique characteristics of flowing waters in river or stream habitats. This station will offer students information to recognize the interdependence between habitats, living organisms, and consequences of human interaction.</p>	
Materials:	
<ul style="list-style-type: none"> • Guest Speaker: Local Fish and Game Officer, Water department scientist, or other 	



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Subject Matter Expert

- Informational handouts for each student (usually available from fish and game or the water resource department departments or the guest speaker)
- Science Journal for each student
- Pencil (s)
- Colored pencils or crayons
- Scissors, shoebox, construction paper

Procedure:

Invite the Guest Speaker to talk to the students and tell and show them about the river or stream habitat and the associated wildlife and their habitats. Potential informational subjects include;

- Discuss with students what they already know about river/stream animals and characteristics of their habitats.
- Discuss and guide students to understand that stream habitats consist of many inter-related physical and chemical components: substrate (bottom composition), water current, water temperature, water clarity, surrounding land use, stream shape, stream width and depth, overhead tree cover, bank conditions, etc.
- Discuss the concept of how organisms are adapted to a particular set of conditions that support their needs using examples.
- Discuss the sensitivity of change in the environment and the possibility that the habitat can no longer support these organisms or changes or adaptations needed.

The students could then take part in discovery and learning activities such as;

- Select a river/stream animal and research its habitat through observation at the river and in a field guide.
- Gain an understanding of how that habitat supports the animal's needs for food, water, air, and shelter.
- Design and create a model (drawing in their journal or making a shoebox diorama) that shows their animal's habitat and how the habitat meets the animal's needs.
- Discuss and address physical characteristics of the environment (such as water flow and temperature) as well as other habitat features (e.g. exposed roots, substrate) should be discussed and addressed.

The students in this station will prepare to share their new knowledge with the other teams of students later when they all assemble as part of the Jig-Saw learning process.

Assessment:

Students will share their knowledge of their animal habitats demonstrating knowledge of how the habitat supports the animal's needs for food, water, air, and shelter and discussing the sensitivity of the animals to change.



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Students will complete their Journal entries and document what they learned in preparation to sharing with the other students.

Additional Content:

<http://www.cdm.org/biosite/BioSITE-Curriculum/journal/River-Habitat-Intro.pdf>

<http://www.watersheds.tv/intheflow/rivers.asp>

<http://www.lessonplanspage.com/ScienceLACIHabitatsThroughPictures3.htm>

<http://www.riverpartners.org/?gclid=CMSqtbGn16UCFRiAgwod-y5YmQ>

References:

Idaho Fish and Game Office

The Watercourse 2000, 2002, and 2004. The Watercourse U.S.A. Bozeman Mt.

<http://projectwet.org/>

Project Wet, Bozeman Mt. <http://projectwet.org/>