



Project Learning Targets

Students will increase their:

- understanding of the habitat and environmental needs of salmon
- understanding of how humans can impact the health and survival of salmon
- ability to evaluate their own learning and performance

Project Details

This is an at-home, required science project.

There are three pieces to this project:

1. The actual MODEL of a riparian ecosystem—please be frugal and creative! Our desire is that you and your student find/repurpose items you already have, NOT go out and spend a ton of money at a craft store! A great base for the project is a cardboard box. Think about materials from discarded packaging and the outdoors. Support your student with tools (like hot glue or sharp scissors), and try to resist the urge to take over for them.
2. A KEY that identifies and explains the importance of the different parts of a natural riparian ecosystem to salmon
3. The RUBRIC AND SELF ASSESSMENT, which is turned in with the model and key

Due date: Thursday, March 23rd 2017.

This gives you two weekends to complete the project. You may turn your project in early if you wish! You should plan for at least four hours to complete this project.

Mrs. Allen and Mrs. Roth

What is a Riparian Ecosystem?

A **riparian ecosystem** is a term used to define the green ribbon of trees and shrubs that borders either side of a stream, the stream itself, and includes all the abiotic (non-living) and biotic (living) things in the area surrounding the stream. Freshwater streams are habitat for spawning salmon, salmon eggs, alevin, fry, and smolt.

Glossary

Abiotic: the non-living parts of the ecosystem: air, sunlight, water (temperature, speed of water, pH, turbidity), rocks, gravel.

Biotic: the living parts of the ecosystem: all the plants and animals living in the ecosystem.

Ecosystem: all living and non-living things in an area of any size, all linked together by energy and nutrient flow. There are many types of ecosystems: salt water ecosystem, mountain ecosystem, desert ecosystem, **riparian ecosystem**.

Environment: everything surrounding a living thing that affects the way it grows or develops.

Erosion: movement of soil by rain and wind.

Habitat: a place where a living thing is naturally found and what that living thing needs in order to survive. The Pacific salmon habitats are freshwater streams, estuaries, and the ocean.

Macroinvertebrates: Animals, such as insects and worms, you can see with your naked eye. An invertebrate is an animal that **does not** have a backbone.

Riparian: means “river” or stream.

Water Quality: qualities of the water such as temperature, dissolved oxygen, pH (acidity)

Part One: Your Model

Check List

Your model should include the following parts:

Check Mark	Abiotic (non-living) parts	Check Mark	Biotic (living/once living) parts
	Stream		Plants (trees, shrubs, ferns)
	Stream bank		Animals what kinds of animals would be seen near a stream here in Washington? (animals include insects)
	Gravel		Salmon eggs in a redd
	Rocks		Adult "spawning" salmon
	Shade		Dead salmon
	Water you can represent water with foil, plastic, colored paper, clay, or actual water		
	Debris in the stream		
	Sun		

Choose at least five (5) parts from the check-list and make labels: A, B, C, D, and E.

You will explain the importance of each item in your KEY. Yes, you may label more than 5 items!

Part Two: Your KEY

Your KEY should explain how each part of the riparian ecosystem is important for salmon.

You may type up your key or create your key on paper using markers, crayons, or colored pencils. It is your choice!

Here's an example of a partially completed KEY:

Riparian Ecosystem KEY		
Letter	Part of Ecosystem	Why it is important for salmon
A	<i>Fallen tree over stream</i>	<i>Fallen trees increase shade over the stream. This helps to keep the water at just the right temperature for salmon eggs. Salmon eggs will only hatch in just the right water temperature.</i>
B		
C		
D		
E		

Part 3--Riparian Ecosystem Model and KEY
Scoring Rubric/SELF ASSESSMENT

COMPLETE THIS RUBRIC AND TURN THIS IN WITH YOUR PROJECT. IT IS DUE ON Thursday, March 23th 2017.

	3	2	1	My Score
My Model	<p>My model represents a balanced natural riparian ecosystem; five parts are labeled.</p> <p>I can use my model to explain why it is important for salmon to live in a natural riparian ecosystem.</p>	<p>My model represents a balanced natural riparian ecosystem; at least four parts are labeled.</p> <p>Some parts from check-list are missing or not labeled.</p>	<p>My model does not represent a balanced riparian ecosystem.</p> <p>Many parts from check-list are missing or not labeled.</p>	<p>I gave myself a score of : _____</p> <p>for my model</p>
My Key	<p>My key includes at least 5 parts from the check-list.</p> <p>The information on my key is accurate.</p> <p>My key is easy to see and use.</p>	<p>My key includes some parts from the check-list.</p> <p>The information on my key is accurate or may have a couple of errors.</p>	<p>My key is missing or has many errors.</p>	<p>I gave myself a score of : _____</p> <p>For my key</p>
My Self-evaluation	<p>Project turned in on time</p> <p>Model and key complete and neat</p> <p>My name is on my model</p> <p>Box is covered with construction paper (no logos showing)</p> <p>Spelling, punctuation, and capitalization are 100% correct.</p>	<p>Project turned in late.</p> <p>Some parts from score of "3" missing</p>	<p>Project turned in late</p> <p>Many parts from a score of a "3" missing</p>	<p>I gave myself a score of: _____</p> <p>For Quality of Work</p>

Here's what I liked best about this project:
