



Meghan Fife	Habitat Model
Long Beach Unified/ Mary Butter School	
Long Beach, CA	Science
2004	Grades 6-8
Restoring Wild Salmon	2-3 class periods

After discussing the importance of habitat in the survival of a species, students will learn how simple changes to habitat can adversely affect an entire species, much like the salmon.

Making a model of a river or channel, we will have model fish to represent real fish in the water. We will use the model to show how easily the fish are able to move about to find shelter, food and of course space to survive (as habitat involves the availability of food, water, shelter and space). We will then add different variables to the model to “change” the habitat and see how this affects how the fish can live, such as closing off certain areas of the channel with debris which may prevent the fish from reaching their nests or the fish that hatch from those nests from being able to leave and survive, or adding things to the channel which could affect the food supply or changing the shape of the channel which could limit the space and make it difficult for salmon to make their journey to the ocean or to survive, or taking away natural parts of the channel (such as rocks etc.) which provide natural shelter for the salmon from predators or adding and changing parts of the channel which could result in overcrowding of the fish and therefore not enough available food, oxygen, shelter and space to survive. In other words, this project will show how even small changes to habitat could have harmful affects on a salmon species due to a change in the supply of food, oxygen, water, space and shelter. Without those important variables the habitat is no longer viable for the species to survive.

CA Standards:

Investigation and Experimentation

7d) Construct scale models, maps, and appropriately labeled diagrams to communicate scientific knowledge.

7e) Communicate the steps and results from an investigation in written reports and oral presentations.

Goal: Students will use a hands-on model to physically see the effects of habitat changes of a body of water to a fish species

Performance Indicators: Students will work in teams and write down observations that they see for each pre-selected change that they make to the habitat model and how this affects the fish in the model

Background Information: This lesson will be conducted after a unit study on habitat so students will already have knowledge of the variables of habitat (food, water, shelter, space etc.)

Materials: For the habitat model, we will use a waterproofed shoebox filled with water and plastic/foam “fish”. Items such as sand, rocks, “pollution”, debris will be available to add to the river/channel habitat model for the research findings.

Instruction: Students will work in groups to make their habitat model. (Shoeboxes will already be waterproofed) by adding water, sand and rocks to their model, and of course, the fish. They will then be given a list of roles (writer, illustrator, presenter) and tasks to complete which will cause different changes to their habitat model (such as removing certain items and adding certain items, closing off parts of the channel, etc.). For each task, they will each write in an observation journal what changes they see and what they see happening to the fish that are in their model. Questions they will answer may include: Are any fish trapped and cannot get out? Are there fish without any shelter for protection? Are there too many fish in one area and not enough food? Are fish being blocked/prevented from swimming freely and therefore unable to make their trip to the ocean, etc? For each task they must answer if the habitat change was natural or man made or both, and how this habitat change can adversely affect the fish in both the short term and the long term, and what could be done to restore the habitat model to its original design or to prevent this change from happening in the first place. They will also be given a poster board to draw sketches of what they saw happening to their model for each completed task, and will be required to include a written description of the sketch. Finally, they will share their findings in front of the class using their poster board.

Assessment: Students will be graded using a rubric for completion and content of their journal entries, poster board and group participation in the project.

Extensions: Students could explore how this same idea affects larger bodies of water, such as the ocean, and discuss different variables that affect ocean habitat and its marine life.

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