

Saving Salmon

5thGrade Social Studies: You Decide CBA

Lesson 1: History and Heritage of salmon in the Pacific Northwest

	Subject Area(s): Science(Land and Water/Salmon) and Social Studies (Historical and cultural importance of salmon)	Duration: 50-60 minutes
	Descriptions: Students will investigate salmon habitat needs and their significance to the Pacific Northwest in regards to culture, economics, and the environment.	
	Key words: limiting factors, life stages, cultural significance, economic significance, and ecosystem significance.	
Materials:	Worksheet Computers with internet access	
State Standards: WA, OR, and ID	<p>WA: Science EALR 1: SYSTEMS. Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials and objects and how characteristics are used to categorize living things. GLE 1.1.5: Understand physical properties of Earth materials including rocks, soil, water, and air.</p> <p>WA: EALR 4: History. Component 4.2: Understands and analyzes the casual factors that have shaped their events in history. GLE 4.2.2: Analyze how people from various cultural groups have shaped U.S. history.</p> <p>OR: History. CCG: Historical skills. Understands relationships among events, issues, and developments in different spheres of human activity (i.e. economic, social, politics, and cultural).</p> <p>OR: Economics. CCG: Understand that resources are limited. SS.08.EC.01.</p> <p>ID: Standard 1: History. Goal 1.3: Identify the role of American Indians in the development of the U.S. Objective 1: Discuss that American Indians were the first inhabitants of the U.S.</p>	
Focus Questions:	What qualities or attributes do salmon have that influence culture, economics, and our environment? Why do historical number of salmon matter in comparison to contemporary times and our future? What role do humans have in the survival of this species?	
Learning Objectives:	At the end of this lesson students will be able to: <ul style="list-style-type: none"> • Describe the cultural, economic, and environmental significance of salmon in the Pacific Northwest. • Identify fresh water habitat needs in regards to riparian vegetation, substrate, channel, and stream banks. • Explain the limiting factors that influence the ability for salmon to survive and then be able to categorize which ones are natural and which ones are the results of human activity. 	
Engage and Encounter	Students will analyze salmon habitat, categorize characteristics of habitat needs and explore what salmon life stages are affected by these habitat needs.	
Explore and Investigate	Students will start their research on the cultural, economic, and environmental significances of salmon to the Pacific Northwest.	
Reflect and Explain Assessment:	Students will write a persuasive paper using the Washington State Classroom Based Assessment (CBA), You Decide http://www.k12.wa.us/assessment/WASL/SocialStudies/BridgingDocuments/Elem08/ElemCivics-YouDecide-CBA.pdf	
Apply and Extend	Is It Sustainable? Lesson plan from Facing the Futures http://www.facingthefuture.org/Portals/0/documents/GSRLibrary/6.Is.it.Sustainable.pdf Creating our Future http://www.facingthefuture.org/Portals/0/documents/GSRLibrary/40.Creating.our.Future.pdf	
Contact NOAA	For a guest speaker in lesson 5 email: nwr.education@noaa.gov	

Saving Salmon

Lesson 1: History and Heritage of salmon in the Pacific Northwest

Background: *Pacific salmon are the Northwest's biological and cultural icon. They are fish with a highly complex life-cycle that spans a variety of fresh and saltwater habitats. Salmon are born in inland streams and rivers, migrate to coastal estuaries, then disperse into ocean waters to grow. Once mature, they reverse their course, returning through the estuaries, fighting their way back upriver to the very streams where they were born, to reproduce, die and begin the cycle again. Most salmon stocks throughout the Northwest are at a fraction of their historic levels. Overfishing had been a major cause of decline. More recently the major cause is loss of freshwater habitat. Poor ocean conditions over the past two decades reduced populations already weakened by loss of freshwater and estuary habitat, fishing pressures, and hatchery practices. Students will explore the role that humans have in protecting salmon and their habitat.*

I. Whole Class: (20 minutes)

A. Hand out the worksheet and have a student read the directions. Model the first row and then have them finish. (10 minutes)

1. Riparian Vegetation: Emphasize that vegetation provides shade over the stream, keeping the water cooler. The colder the stream water is the more oxygen it can hold. The roots of vegetation can prevent erosion and stabilize the banks of the stream. How might this be important in areas that are prone to flooding? If there is vegetation, do leaves and branches fall? How is this good for the stream and salmon (provide organic matter, good for insects and other wildlife). Lastly emphasize that vegetation in estuaries provides shelter for smolt and other wildlife. Kelp forests on shorelines also provide safe habitats for adult salmon.

B. Have students continue either on their own or in partners. (10 minutes)

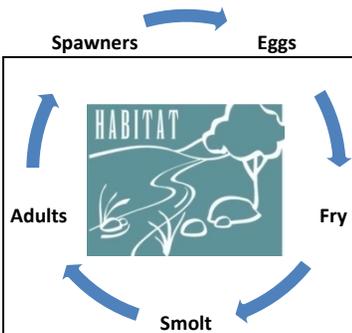
II. Research time, computer lab ideal: (35 minutes)

A. Ask students to turn over their worksheets and start their homework. Encourage students to write down the source they used in this research.

B. If the computer lab is available, this would be ideal.

III. Homework/ Assessment:

A. Worksheet provided: Have students finish their research and be prepared to share with the class the next time they meet. See rubric.



Salmon habitat needs

Define and categorize habitat needs according to different stages of the salmon life cycle. Be thinking about the limiting factors that influence the ability of an organism to survive at each life stage?

Define or quantify by size/shape:	Why is this important to salmon habitat?	At what salmon stage?
Riparian Vegetation <ul style="list-style-type: none"> * plants/grasses * shrubs * trees Estuary/Nearshore vegetation		Riparian vegetation: Estuary/ocean/nearshore vegetation:
Substrate in stream beds <ul style="list-style-type: none"> * silt * gravel/cobble * boulders 		
Channel characteristics: <ul style="list-style-type: none"> * meanders * riffles * pools * lateral habitats 		
Condition of stream banks: <ul style="list-style-type: none"> * stable * unstable * armored 		



HISTORY: Describe the history and heritage of salmon in the Pacific Northwest.

Explain these Native American Quotes:

<p>Cultural significance:</p>	<p>Which Native American tribes consider salmon significant or central to their culture?</p> <p>Explain other cultural salmon connections.</p>	<p>“Treat the earth well: it was not given to you by your parents; it was loaned to you by your children. We do not inherit the Earth from our Ancestors; we borrow it from our Children.” - <i>Tribe Unknown</i></p>
<p>Economic Significance:</p>	<p>Whose livelihoods benefit from salmon? Categorize please.</p>	<p>“The Great Spirit, when He made earth, never intended that it should be made merchandise.” - <i>Tribe Unknown</i></p>
<p>Environmental significance:</p>	<p>What does each life stage of salmon contribute to the larger ecosystem?</p> <ul style="list-style-type: none"> *eggs *fry *smolt *adult salmon *spawners/dead salmon 	<p>“Humankind has not woven the web of life. We are but one thread within it. Whatever we do to the web, we do to ourselves. All things are bound together. All things connect.” -<i>Chief Seattle, 1854</i></p>

Saving Salmon- Worksheets Rubric

Rate on a scale of 1-4 4=Above standard 3=Right at standard 2=Needs improvement 1=Does not meet standard	Lesson 1 Worksheet: Salmon habitat needs and History 20 points	Lesson 2 Worksheet: Geography and Do Salmon know borders? 20 points	Lesson 3 Worksheet: Management and Policy 20 points	Lesson 4 Worksheet: Economics and Government 20 points	Lesson 5 worksheet: Civics: Salmon Friendly Choices 20 points
Content Accuracy: Did students correctly answer the questions and complete their research?					
Ideas: Ideas were expressed in a clear and organized fashion. It was clear that you understood the concepts.					
Completeness: Did student answer all of the questions in full detail?					
Objectives from each lesson addressed					
Neatness: Did student take pride in this work? Was it clean, not wrinkled, and easy to read with no distracting error corrections?					
Add up the total point for each worksheet					

Total score:

Comments: