

CLIMATE IMPACTS: SALMON

Overview:

In this lesson, students read two essays and complete reading comprehension worksheets to review basic salmon ecology and begin to investigate potential impacts of climate change on salmon populations. Students document and share the views and experiences of community members about salmon and climate change.

Objectives:

The student will:

- review the life cycle of salmon;
- describe salmon's connection to other parts of Alaska ecosystems;
- explore the potential impacts of climate change on salmon and their habitats; and
- interview community members about the importance of salmon in their lives and the changes they have observed in salmon populations over time.

Targeted Alaska Grade Level Expectations:

Science

- [11] SA1.1 The student develops an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, analyzing data, developing models, inferring, and communicating.
- [11] SA3.1 The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by conducting research and communicating results to solve a problem (e.g., fish and game management, building permits, mineral rights, land use policies)
- [11] SC3.2 The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by analyzing the potential impacts of changes (e.g., climate change, habitat loss/gain, cataclysms, human activities) within an ecosystem.

Alaska High School Graduation Qualifying Exam Performance Standards Addressed:

- R4.1 Apply knowledge of syntax, roots, and word origins, and use context clues and reference materials, to determine the meaning of new words and to comprehend text.
- R4.2 Summarize information or ideas from a text and make connections between summarized information or sets of ideas and related topics or information.
- R4.4 Read and follow multi-step directions to complete complex tasks.

Vocabulary:

alevin – the first stage of the lifecycle of a salmonid after emerging from the egg; the yolk sac is still attached to the young fish's abdomen

anadromous – a term describing fish that migrate to fresh water from the ocean to breed

escapement – the portion of a salmon run that is not harvested and survives to spawn sustainable harvest

fry – the stage of a salmon's lifecycle after it leaves the gravel nest and the yolk sac has been absorbed

keystone species – a species on which others in an ecosystem largely depend; if it were removed the ecosystem would change drastically

redd – gravel nest dug by a female salmon

riparian – relating to the land along a river or stream

smolt – the stage of a salmon's lifecycle when it loses its vertical markings and becomes silver; this is when its body adjusts to salt water and it migrates to the ocean

spawn – to lay eggs

