

SALMON IN THE FOOD WEB

Details

Activity Length

10 mins.

Topics

Animals

Ecology and Evolution

Sustainability

Activity Type

Game

Language

English

This activity demonstrates how salmon play an important role in our coastal food web.

Salmon are considered keystone species on the B.C. Coast, meaning there are many species that rely on salmon. Because so many organisms rely on salmon as an essential food source, the salmon population is very important in maintaining biodiversity on the B.C. Coast. Salmon gain a lot of their mass while in the ocean. When they come back to their spawning grounds in thousands of numbers, they bring millions of pounds of nutrients from the ocean to the river ecosystem. Simply put, the salmon migration during spawning season helps replenish the entire ecosystem, from the animals that eat the salmon, to the decomposers who break down their dead bodies, to the trees that grow from their broken down nutrients. With a decline in salmon, many other coastal organisms suffer as well. This activity is a simple introduction to a deeper discussion about how salmon are important for the entire ecosystem.

The deck of card used in this activity come from a free ecological-based education card game called [Phylo](http://phylogame.org/) (<http://phylogame.org/>). The Phylo Game can be used as a tool for ecosystem

understanding, interactions within food webs or in any other creative ways.

The provided cards represent three food sources of salmon, zooplankton, earthworms and pacific krill (and other aquatic invertebrates.) As salmon get bigger they also eat smaller fish and fish eggs, but the three food sources given are major food sources for salmon.

Predator cards are the killer whale, the black bear, humans, river otters, ringed kingfishers, bald eagles and harbor seals. These predators eat salmon when the salmon are found in their ecosystem. Ocean predators of salmon are seals, and killer whales. Ocean/freshwater predators are eagles and humans. Freshwater predators of salmon are river otters, ringed kingfishers and black bears.

One trick card is the western red cedar. Although trees do not eat salmon, salmon do turn into food for trees. Shortly after salmon spawn and contribute to the next generation, they die. With such a large influx of dead fish, a large amount of decomposition occurs, turning the bodies into available nutrients for trees. These nutrients become incorporated into the soil around rivers, and all nearby trees benefit greatly from these salmon nutrients.

Objectives

- Identify each stage of the salmon life cycle.
- Identify factors (natural and human-made) that affect salmon survival.

Materials

- 1 set of specific [Phylo \(https://www.scienceworld.ca/wp-content/uploads/attachments/resources/SalmonPhyloCards.pdf\)](https://www.scienceworld.ca/wp-content/uploads/attachments/resources/SalmonPhyloCards.pdf) cards
- 1 [game board \(https://www.scienceworld.ca/wp-content/uploads/attachments/resources/Salmon_board_game.pdf\)](https://www.scienceworld.ca/wp-content/uploads/attachments/resources/Salmon_board_game.pdf)

Key Questions

- How do salmon help the trees in the forest?
- If salmon are removed from this food web, how are the other organisms affected?

What To Do

Set up

1. Place the salmon card in the center of the game board.
2. Place the other cards in a pile on the table.

Challenge

1. Try to construct a food web using all the cards. All cards are one step away from salmon and represent a salmon food source or possible predator.

Extensions

- Visit the [Phylo website \(http://phylogame.org/\)](http://phylogame.org/). Download the Beaty Biodiversity deck and play a game to learn about our ecosystem here in B.C.
- Think of creative ways to use Phylo cards, and send your thoughts to the Phylo team.

Other Resources

Science World | [Salmon Mix and Match Cards PDF \(https://www.scienceworld.ca/wp-content/uploads/20211013_2015_SalmonCards-1.pdf\)](https://www.scienceworld.ca/wp-content/uploads/20211013_2015_SalmonCards-1.pdf)

Department of Fisheries and Oceans Canada | [Salmon Lifecycle poster PDF \(https://www.pac.dfo-mpo.gc.ca/education/docs/salmon-species-life-cycle-eng.pdf\)](https://www.pac.dfo-mpo.gc.ca/education/docs/salmon-species-life-cycle-eng.pdf)

Great Bear Sea | [Elementary Resources \(http://greatbearssea.net/elementary-curriculum/\)](http://greatbearssea.net/elementary-curriculum/) | [Secondary Resources \(http://greatbearssea.net/secondary-curriculum/\)](http://greatbearssea.net/secondary-curriculum/)

