

# Journey of the Salmon

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Nez Perce Indian Reservation, Lapwai, Idaho

## **Summary**

Students predict salmon migration routes and explore how dams affect salmon migration.

## **Grade level**

Third

## **Time required**

Two hours, plus fieldtrips

## **Materials**

[Handout of the map of the northwestern United States](#)

Overhead transparency of map handout

Butcher paper

Overhead projector

[Historic pictures of Nez Perce people fishing for salmon](#)

Relief map of the northwestern United States

[Map of the dams on the Columbia River](#)

## **Goals**

By completing this lesson, students will

- 1) gain awareness of the cultural significance of salmon to the Nez Perce people,
- 2) explore the salmon life cycle,
- 3) predict the migration routes of salmon in the Pacific Northwest,
- 4) observe how dams affect salmon migration,
- 5) design technology to aid salmon migration and
- 6) develop science inquiry process skills.

## **Science standards addressed**

### *National Science Standards*

- Abilities necessary to do scientific inquiry
- Life cycles of organisms
- Changes in environments
- Science and technology in local challenges

### *American Indian Science Standard*

- Elements of the pre-contact North American environment and how changes to them were brought on by the arrival of Europeans in North American, such as the effects of

- the fur trade on animal populations and its subsequent effect on Indian life
- Characteristics of various animals as exemplified in traditional American Indian stories, legends, songs and dances
- Observations and understandings of nature and ecological relationships traditionally formed an essential base of knowledge among American Indian cultures
- Various forms of scientific and technological work currently engaged in by American Indian men and woman and in what ways their fields require the process of problem identification, design and solution

### **Teacher tips**

Arrange a fieldtrip to the tribal fishery and ask fishery personnel to talk with students about salmon migration, management and life cycles.

The book *Salmon and His People* is a valuable resource on salmon and the Nez Perce people (see Resources for citation).

An excellent interactive map of the dams of the northwest can be found at the “Columbia and Snake Rivers” web site ([www.columbia-snake.org/interactive\\_map/](http://www.columbia-snake.org/interactive_map/)). The site also has information about salmon.

Use blue colored water on the relief map demonstration so students will be able to see the water’s flow route more easily.

Copy the northwest map handout onto overhead transparency material so that it can be projected onto the wall and traced onto butcher paper to make a large wall map.

### **Background Information**

Salmon have long been an important part of Nez Perce culture. A way to explain the importance of salmon to the Nez Perce is to read the following quote by Carla Higheagle:

The salmon is important to us because we depended on salmon for our very survival. The salmon was put here by the Creator for our use as part of the cycle of life. It gave to us, and we, in turn, gave back to it through our ceremonies in recognizing the first salmon feast. Their returning meant our continuance was assured because the salmon gave up their lives for us. In turn, when we die and go back to the earth, we are providing that nourishment and those nutrients back to the soil, back to the riverbeds, and back into the cycle of life.

As non-Indians began to move into the northwestern United States in the 1800’s, the lives of the indigenous people there were changed forever. The building of dams for hydroelectric power had a particularly large impact on the Nez Perce people. Water level fluctuations due to dams changed landscapes, and dams blocked the migration of salmon.

Celilo Falls, a series of falls and rapids on the Columbia River, was a culturally important site to the Nez Perce and many other tribes, who gathered there annually to fish, trade and socialize. The opening of The Dalles Dam in 1957, against the wishes of native people living in the northwest, destroyed Celilo forever. The book *Salmon and His People* is a very valuable reference for detailed information about the history and significance of

Celilo and salmon to the Nez Perce people. Refer to the Resources section for the book's citation.

## **Procedure**

### *Engagement*

- 1) Read the quote by Carla Higheagle. Facilitate a discussion about salmon with the class, including their cultural significance, migration, etc. Show historic pictures of traditional fishing equipment, Celilo Falls and Nez Perce people fishing for and preparing salmon.
- 2) Ask a tribal elder to visit the class to talk about the history and cultural significance of the salmon to the Nez Perce people.
- 3) Take students on a fieldtrip to the tribal fish hatchery, where the fishery personnel will teach students about salmon, including the salmon life cycle, migration and tribal management efforts.

### *Exploration*

Distribute maps of the northwestern United States to student groups. Ask groups to predict the migration routes of salmon from the ocean to the Nez Perce Reservation. They should trace their predicted routes on their maps.

### *Explanation*

- 1) Have student groups report to the class on their predicted routes, using the names of the rivers and streams. Trace a large map onto butcher paper, using an overhead projector and transparency of the map. Have students trace their predicted routes on the map in various colors.
- 2) Show students the relief map of the Northwest. Introduce the word *drainage*. Tell students that you will slowly drip water on the relief map at Lewiston, Idaho. Ask students to predict where the water will go (it should follow the Columbia River drainage from the Clearwater River to the Snake River to the Columbia River and finally to the Pacific Ocean.) Explain what a drainage is and that the Nez Perce Reservation is part of the Columbia River Drainage. Trace the Columbia Drainage onto the butcher paper map.

### *Elaboration*

- 1) Introduce the concept of dams and hydroelectric power. Ask students to predict how many dams are along the waterways of the Columbia River drainage, then show them a map of the dams of the northwest. Have students draw the dams onto the large wall map. Ask students to write a prediction in their journals about how dams might affect a salmon's life. Discuss.
- 2) Challenge students to design a means for salmon to circumvent dams. They should draw and label their designs. Have them share their ideas with the class.
- 3) Take students to view a dam, its hydroelectric plant and fish ladder, preferably during the salmon migration season.

### *Evaluation*

- 1) Assess students' ability to use the process skills by observing their group work.

- 2) Assess student understanding of the science content through their journal predictions of how dams would affect the salmon's life and through their design challenge products.

### **Vocabulary**

drainage                      hydroelectric

### **Follow up activities**

- 1) Have students write a short story told from the point of view of the salmon, including what it would be like to make the life journey of a salmon.
- 2) Discuss the important role fish play to the environment after they spawn and die. Salmon provide several important nutrients.
- 3) Choose one of several extension activities from the following books.
  - “Discovering Salmon” by Nancy Field and Sally Machlis
  - “The Pacific Salmon and Steelhead Coloring Book” from the U.S. Fish and Wildlife Service
- 4) Organize a field trip in which students are shown how to prepare different salmon foods (baked, smoked, dried, jerky). Taste test salmon as a food.
- 5) Learn more about the Nez Perce seasonal calendar, including the months of the salmon run. Invite a tribal representative to come in and talk about salmon and the yearly salmon feast.

### **Resources**

#### **Books**

Landeen, D. & Crow, J. (1996). I am of this land – Wetes pe m'e wes. Lapwai, ID: Nez Perce Tribe.

Landeen, D. & Pinkham, A. (1999). Salmon and his people - Fish and fishing in Nez Perce culture. Lewiston, ID: Confluence Press.

#### **Web sites**

Columbia and Snake Rivers Campaign – Provides an interactive map of the dams of the northwest and information about salmon  
[www.columbia-snake.org/interactive\\_map/](http://www.columbia-snake.org/interactive_map/)