

Valley of the Butterflies

Evelyn Carter, D’Lisa Pinkham, Jackie Taylor
Nez Perce Indian Reservation, Lapwai, Idaho

Summary

By examining historical and contemporary images and maps, students will explore why butterfly populations in the Lapwai Valley have decreased.

Grade level

First

Time required

Two 45-minute class periods, plus a field trip

Materials

Butterfly icon

Map of the Nez Perce Reservation

[Satellite image of the Nez Perce Reservation](#) – see Resources

[Satellite image of the Lapwai Valley](#) – see Resources

Historical and contemporary photos of the Lapwai Valley

The Very Hungry Caterpillar or *The Caterpillar and the Polliwog*

Chart paper and marker

Goals

By completing this lesson, students will

- 1) gain experience in using and interpreting maps and Landsat images,
- 2) gain awareness of the effects of human activities on the environment,
- 3) be able to apply their knowledge of the butterfly’s life cycle to hypothesize how environmental changes may affect their population and,
- 4) gain experience in using inquiry process skills.

Science standards addressed

National Science Standards

- Abilities necessary to do scientific inquiry
- Organisms and environments
- Changes in environments

American Indian Science Standards

- An awareness that observations and understandings of nature and ecological relationships traditionally formed an essential base of knowledge among American Indian cultures

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

Teacher tips

If your students are not familiar with the Nez Perce culture, introduce them to the people, their home territory, their history and culture. Invite an elder to speak to the class about these topics and about the Lapwai Valley and how it got its Nez Perce name. Several resources with valuable information are listed on the page called “The Nez Perce People” that is part of this web site.

Please remember that if butterflies are raised in your room, they should not be released outdoors unless they are an species indigenous to your area.

Background information

In the past, many butterflies could be found in the Lapwai Valley. The Nez Perce people called this area the Valley of the Butterflies or, in the Nez Perce language, Pflap pflap. In 1860, gold was discovered on the Nez Perce Indian Reservation, bringing a number of prospectors to the area. In order to maintain order on the reservation, the military built a fort in the Lapwai Valley. These events helped lead to an influx of non-native people to the area.

Bright and sunny are two of many words that can describe the Lapwai Valley. Flowery fields, meadows and hillsides were once common in this area, making it attractive to butterflies who require nectar from flowers for food, and a sunny climate.

Currently, the Lapwai Valley is largely an agricultural area. Area farmers cultivate wheat, lentils, etc., from the land. Today, the butterflies in this area are less abundant than they have been in the past. It is speculated that the loss of open land due to human development in the area has contributed to the decline in butterfly numbers.

Procedure

Engagement

- 1) Show the satellite image and map of the Nez Perce Reservation. Ask students to interpret the image, locating familiar landmarks. Ask them to predict the type of habitat found in each area of the image.
- 2) Invite an elder to visit your classroom to discuss the history of the Lapwai Valley and the Nez Perce people, and specifically, the butterflies in the valley and how the valley got its name.
- 3) Ask students to locate the Lapwai Valley on the image and to identify the type of habitat that exists there. Place a small icon of a butterfly on the Lapwai area.
- 4) Read *The Very Hungry Caterpillar*, *The Caterpillar and the Polliwog* or another book about butterflies. Facilitate a class discussion about the needs of butterflies and record ideas on a chart.

Exploration

- 1) Allow student pairs to examine historical and contemporary photos of the Lapwai

Valley. Ask students to compare the photos and find changes that have occurred there with time.

- 2) Ask students to work with a partner to develop a hypothesis about how changes in the valley may have caused a decrease in the butterfly populations there.

Explanation

- 1) Ask student pairs to report their hypotheses to the class. Record them on a chart.
- 2) Using both charts for reference, facilitate a discussion about how human developments have affected the environment of the Lapwai Valley and may be affecting the butterfly populations.

Elaboration

- 1) Ask students to think of other ways that humans affect the environment and other species whose populations may have been affected by human activity.
- 2) Take a field trip with a tribal natural resources professional to view and talk about human activity and how it affects species on the Nez Perce Reservation.

Evaluation

- 1) Ask students to draw a picture of the reservation with the various types of habitats and the species that live there. Ask them to write a sentence about how human activity can affect other species.
- 2) Ask students to locate the Lapwai Valley on a map and image and explain how the habitat and butterfly population has changed throughout history.

Follow up activity

“Journey North” is an excellent educational web site focusing on animal migration. It includes extensive information and activities on the Monarch butterfly, which would be useful in enriching this lesson.

Resources

Books

Carle, E. (1986). The very hungry caterpillar. New York: Putnam Publishing.

Kent, J. (1985). The caterpillar and the polliwog. Canada: Simon and Schuster Intl.

Web sites

Satellite image of the Nez Perce Reservation

http://yoda.cec.umt.edu/sid/bin/show_newjava.plx?image=nezperce.sid&client=Native_Lands§ion=Nez%20Perce%20Reservation&title=Native%20Lands

TerraServer - Satellite image of the Lapwai Valley

<http://terraserver-usa.com/image.aspx?t=1&s=15&x=80&y=803&z=11&w=1>

Journey North – Interactive site focusing on the migration of species, including the monarch butterfly www.learner.org/jnorth