

ROZZY READERS

**FISHERIES BIOLOGIST:
OLYMPIC NATIONAL PARK
6-8**

Section 1:

Fisheries Biologist

Fisheries Biologist



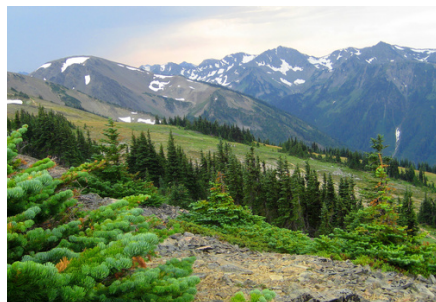
A scientist who restores, improves, and protects fish habitats.

National Parks



National parks are parks in the United States that have been created by the government. The government created national parks so that it could keep the plants and animals that live there safe.

Olympic National Park



A national park located in the state of Washington. It was made a national park to protect some of Washington's quickly disappearing forests and the unique wildlife that lives there.

Career Highlight:

Fisheries Biologist

Fisheries biologists are scientists who restore, improve, and protect fish habitats.

Responsibilities include:

- Improve and restore fish habitats that have been damaged.
- Create and implement a plan to protect fish habitats as well as the animals and plants that live there.
- Ensure that fishing and other recreational activities do not harm the fish population.

Education required:

Fisheries biologists need a bachelor's degree and need to major in a science field such as Biology, Environmental Science, or Wildlife Management. A master's degree may be needed for some positions.



Content Check:

Fisheries Biologist

Answer the questions below about fisheries biologists using complete sentences.

1. What do fisheries biologists do?

2. What kind of education is recommended to become a fisheries biologist?

3. Would you enjoy being a fisheries biologist? Why or why not?

Section 2:

Olympic National Park

Imagine that you just got a job as a fisheries biologist at Olympic National Park. Learn about Olympic National Park and the animals and plants who live there to prepare yourself for your new role!

Learn: Olympic National Park

LOCATION:

Olympic National Park is located in the state of Washington on the Olympic Peninsula. The park is 922,651 acres, and 95% of the park is designated wilderness. It also has 73 miles of wilderness coast.



QUICK FACTS:

Olympic National Park became a national park in 1938. The park was created to protect some of Washington's quickly disappearing old-growth forests and the unique wildlife that lives there. Old-growth forests are forests that have been preserved and humans have not destroyed for development.

Olympic National Park has a variety of beautiful features. The park has 73 miles of wilderness coastline, more than 3,000 miles of rivers and streams, and 60 named glaciers!



Ozette Boardwalk Trail



Olympic Park Coastline

HISTORY

- American Indians lived in this area long before European exploration. Europeans eventually came to the area in search of free land and farming opportunities. By the 1850s, they began to make settlements in the coastal area and lowlands. This resulted in the establishment of four Indian reservations at the mouths of coastal rivers. Those reservations are the Makah, Quillayute, Hoh, and Quinault.
- The area was made a Forest Reserve in 1897 to protect the forests. This caused many of the settlers to move away from the area. In 1909, President Roosevelt made part of the reserve a national monument to protect the habitat of Roosevelt Elk, who lived there. In 1938, it was officially made a national park by President Roosevelt.
- There are eight Olympic Peninsula tribes who continue to have a relationship with the park. The ancestors of these tribes were the people who lived throughout the Olympic Peninsula, but ceded their lands and waters to the federal government. The eight tribes are the Lower Elwha Klallam, Jamestown S'Klallam, Port Gamble S'Klallam, Skokomish, Quinault, Hoh, Quileute, and Makah



Antone and Joshepha Kestner were among some of the first Euro-American homesteaders in the area..

ECOSYSTEMS:

There are three different ecosystems within Olympic National Park. The park has a coastline, mountains, and rain forests. Many diverse plant species grow in the three ecosystems. Read below about the diverse plants that grow in the different ecosystems located in Olympic National Park!



Coastline



Mountains



Rainforest

COASTLINE:

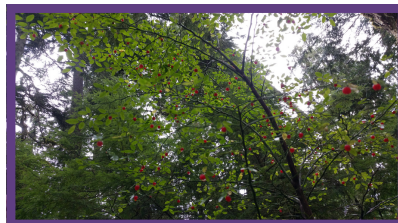
Along the 73-mile-long coastline there are dense tree populations.



Some of the common trees that grow in this area are the sitka spruce, western hemlock, and the western redcedar. A few examples of other common plants that can be found on the coast are evergreen huckleberry, black twinberry, deer fern, and sword fern.



Sitka Spruce



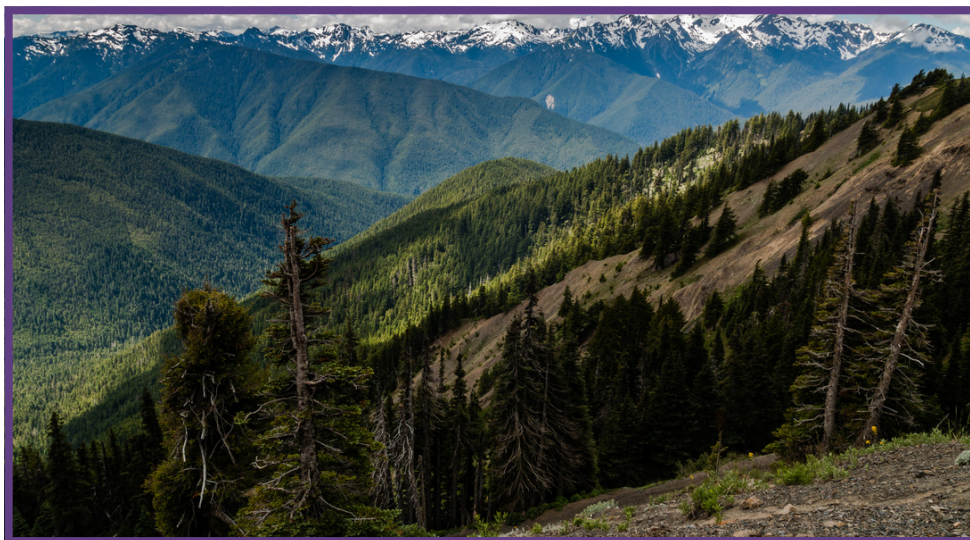
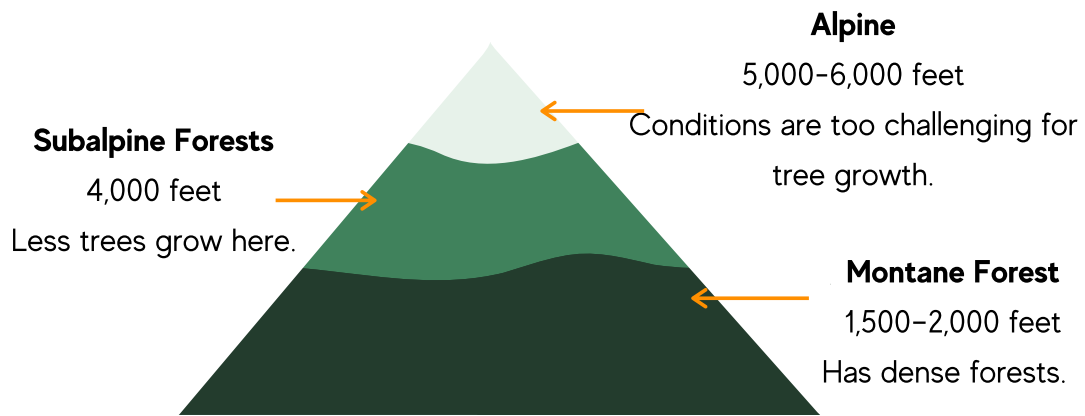
Evergreen Huckleberry



Deer Fern

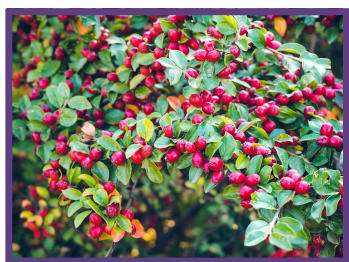
MOUNTAINS:

The mountains at Olympic National Park have three zones. Look at the picture showing the three zones below. Then learn about the different plants that live in each zone on the next slide!



Montane Forest

This zone is found between 1,500–2,000 feet and is covered with trees and other plants. In this zone you may see trees such as the Alaska yellow-cedar or the Douglas-fir. There are also plants such as bearberry, oregon grap, coralroot, or bead lily.



Bearberry



Alaska Yellow-Cedar

Subalpine Forests

This zone begins around 4,000 feet. This zone still has trees and other plants, but they are more spread out compare to the montane zone. In this zone you may also see trees such as the Alaska yellow-cedar or the Douglas-fir. Other plants such as avalanche lily and common juniper can also be found in the subalpine zone.



Douglas Fir



Avalanche Lilly

Alpine Zone

The alpine zone begins between 5,000-6,000 feet. The conditions are too challenging for tree growth, but wildflowers such as Flett's violet and spreading phlox are able to grow.



Flett's Violet



Spreading Phlox

TEMPERATE RAIN FORESTS:

Preserving the temperate rain forests was one of the main reasons that Olympic was made a national park. These rain forests once covered the land from southern Oregon to southeast Alaska. Today, much of it is gone except for small areas that have been protected.

In the rain forests of Olympic National Park you will find large, old trees. Most common are the Sitka spruce and western hemlock. Many of these trees are hundreds of years old and can grow up to 250 feet in height!

Epiphytes are also common in the park. Epiphytes are plants that grow on other plants such as licorice fern and cat-tail moss.

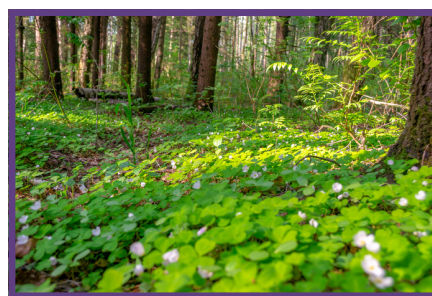
Oregon oxalis, lady fern, and sword fern are a few of the other plants that you may see in this part of the park.



Temperate Rain Forest in Olympic National Park



Licorice Fern



Oregon Oxalis

ANIMALS:

Having three different ecosystems also allows many types of animals to live in Olympic National Park. Read below about a few animals you can find in the park.

Coastline

Animals such as dolphins, sea lions, and seals can be found off the coast of the park. On the shore there are many tide pools where you can see animals such as the Common Periwinkles, Blue Mussels, or Ochre Seastars.



Ochre Seastar



Blue Mussels

Mountain

In the mountains you will see animals such as owls, elk, deer, bobcats and mountain lions.



Great Horned Owl



Mountain Lion

Rain Forest

In the mountains you will see animals such as American Black Bears, Roosevelt (Olympic) Elk, and Blacktail Deer



Blacktail Deer



Roosevelt (Olympic) Elk

TODAY:

Today, people visit Olympic National Park to view the beautiful scenery and the diverse plants and animals that live in the park

In addition to viewing the scenery, many visitors come to Olympic National Park to do outdoor activities such as hiking, camping, and fishing.



Content Check:

Olympic National Park

Answer the questions below in complete sentences.

1. Why was Olympic made a national park?

2. List the three different ecosystems that can be found in Olympic National Park. Then, write at least one plant and one animal that you could find in each one.

3. What area in Olympic National Park would you most like to explore? Why?

Section 3:

Math Practice-

MATH: Ratios, Rates, and Word Problems

Fisheries Biologists help improve and protect fish habitats. Imagine that you are a fisheries biologist at Olympic National Park and are watching the Elwha River to see if salmon are returning to the river. Fisheries biologists can use snorkel surveys to estimate how many salmon are in the river.

Answer the questions below. Round your final answers to the nearest whole number.

1. Yesterday, you saw 36 salmon in 3 minutes of snorkeling. Today, you have 10 minutes to snorkel. If you saw fish at the same rate as yesterday, how many salmon would you see today?

2. On Monday you saw 50 salmon in 10 minutes of snorkeling. On Thursday you have 6 minutes to snorkel. If you saw salmon at the same rate on Thursday as you did on Tuesday, how many salmon would you see Thursday?

3. On Wednesday you saw 37 salmon in 2 minutes of snorkeling. On Friday you have 12 minutes to snorkel. If you saw salmon at the same rate on Thursday as you did on Tuesday, how many salmon would you see Thursday?

4. Yesterday, your coworker Kelly saw 54 salmon in 30 minutes of snorkeling. Today, she has 17 minutes to snorkel. If Kelly saw fish at the same rate as yesterday, how many salmon would you see today?

5. On Monday Kelly saw 40 salmon in 1.5 hours of snorkeling. On Thursday you have 45 minutes to snorkel. If you saw salmon at the same rate on Thursday as you did on Tuesday, how many salmon would you see Thursday?

6. On Wednesday Kelly saw 132 salmon in 20 minutes of snorkeling. On Friday you have 58 minutes to snorkel. If you saw salmon at the same rate on Thursday as you did on Tuesday, how many salmon would you see Thursday?

Section 4:

ELA Practice-Writing About and Supporting Your Opinion

Fisheries biologists are scientists that restore, improve, and protect fish habitats.

Imagine that you are a fisheries biologist at Olympic National Park. You will begin by learning about the positive and negative impact that dams had on the Elwha River that is located in Olympic National Park. You will also learn about how the dams impacted the fish that lived in the Elwha River. Once you have reviewed the information, you will think like a fisheries biologist and write a report on if you think it was the right decision to remove the dams.

Read below about the positive and negative impact that dams had on the Elwha River and the fish who lived there.

The Elwha river in Olympic National Park was an ideal habitat for sea-run fish. It was home to eleven different kinds of salmon and trout who thrived in the river. The Elwha and Glines Canyon dams were built on the Elwha River in the early 1900s. These two dams were able to generate hydropower in order to supply electricity for Port Angeles and surrounding areas. Unfortunately, the construction of the dams also created many problems. The construction of the dams blocked the migration of salmon upstream and disrupted the flow of sediment downstream. In addition, historic homelands and cultural sites of the Lower Elwha Klallam Tribe were flooded. Many argued for removal of the dams saying that removing the dams would bring tourism and media attention to the park, create new jobs, restore the river ecosystem for the salmon, and take away obstructions to make it easier for river sports such as kayaking and fishing. It was also hoped that they may be able to find artifacts and restore flooded areas that are important to the Lower Elwha Klallam Tribe. Others believed that removing the dams would bring more harm than good. They argued that the demolition of the dams will be messy and leave bare slopes, the river will be silty and muddy, electricity made from the dams will be lost, and some animals may lose their homes. The Elwha River Ecosystem and Fisheries Restoration Act was passed and allowed for the dams to be removed. The Elwha Dam was removed in 2011 and the Glines Canyon Dam was removed in 2014. The Elwha River now flows freely and The National Parks Service is working to restore the Elwha River back to what it once was.

Write your opinion on if you think it was the right decision to remove the dams in the box below. Your writing must contain the following:

- Be at least six sentences long
- State your opinion on the decision to remove the dams
- Give at least three reasons to support your opinion