

Willapa National Wildlife Refuge

Adventure Booklet

Presented by:

Junior
Wildlife
Ranger



Upgrade your digital badge!

This Book Belongs To:

A white rounded rectangular box with a green border, intended for a name or signature.

Refuge Rules & Safety

Refuge rules protect you and the refuge. Stay safe and help keep the refuge healthy by following these rules!

Hiking

Hiking is permitted on refuge trails. Please stay on trail to avoid disturbing animals and their habitat.

Camping

Camping is allowed in designated campsites on Long Island only.

Wildlife Safety

Don't get too close to wildlife, or their nests! Parents may abandon their nest if humans disturb them. Follow this rule of thumb: hold your arm straight out and make a thumbs up. If you can cover the entire animal with your thumb, you're at a safe distance; if you can still see the animal, please move farther away. This will keep wildlife (and you!) happy and safe.

Leave No Trace

This means you leave nature how you found it. It's important to not disturb natural spaces since they exist in a very delicate balance. To leave no trace make sure you do the following:

- » Observe, but do not interact with wildlife.
- » Pack it in. Pack it out. Do not leave trash behind.
- » If you pick up something in nature to have a closer look, place it back where you found it.

I do hereby promise to follow the refuge rules:

(sign here)

Meet Marty!

Hello! Welcome to Willapa National Wildlife Refuge. I'm Marty the **Marbled Murrelet**! Willapa National Wildlife Refuge was created in 1937 to protect migratory birds and their habitats. Here, tidelands, streams, beaches, and forests provide either a permanent home or a rest stop for all kinds of wildlife! The Refuge supports thousands of migrating shorebirds, ducks and geese, and some special birds nest here, such as the Western Snowy Plover and myself, the Marbled Murrelet.



How to Become a Junior Wildlife Ranger

Complete at least 3 of the 5 activities, sign your name on the Certificate at the end of this book, and visit juniorwildliferanger.org to earn your digital badge. Visit multiple times to upgrade your digital badge in your digital passport!

Take a picture of you doing one of the activities and send it to resources@juniorwildliferanger.org

Optional:

- Have an adult post the picture to Instagram—tag [@juniorwildliferanger](https://www.instagram.com/juniorwildliferanger).
- Show your booklet to a refuge staff member to receive a physical badge.

Collect them all!



Become the ultimate Junior Wildlife Ranger by participating in programs at other National Wildlife Refuges, or our Neighborhood and Stewardship programs.

Meet Marty!

About Me!

I may be small, but I can dive and swim and fly very fast! My name comes from my beautiful marbled plumage. All winter long my feathers are black and white, but in the spring they turn to brown. Can you guess why?



I am a mysterious bird, indeed! During the day you might see me diving in the ocean for fish and plankton; my favorite foods! But you won't find my nest near the ocean, because **I have a secret...**

Follow me and learn all about my **great mystery** and how you can become a Junior Wildlife Ranger!

Exploring with My Senses

Choose a Trail to Explore!

Before you set out, prepare for your nature walk: dress for the weather, put on some good walking shoes, and bring plenty of water!

Now decide where you'd like to go. Pick-up the Refuge Trails Brochure (or download at www.fws.gov/refuge/willapa) to view the map and read trail descriptions.

As you set out on your adventure, use all of your senses to explore your surroundings.

Close your eyes

Take a deep breath in... and out...

What do you smell?

Listen to the sounds all around you...

What do you hear?



Open your eyes

Look up, down, and all around...

What do you see?

Carefully explore the various textures...

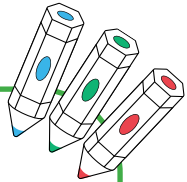
What do you feel?



Exploring with My Senses

Take a moment to reflect on your experiences...

- What did you discover?
- Was there anything that surprised you?
- How would this be different on a rainy day? or a sunny day?



Bird Bingo

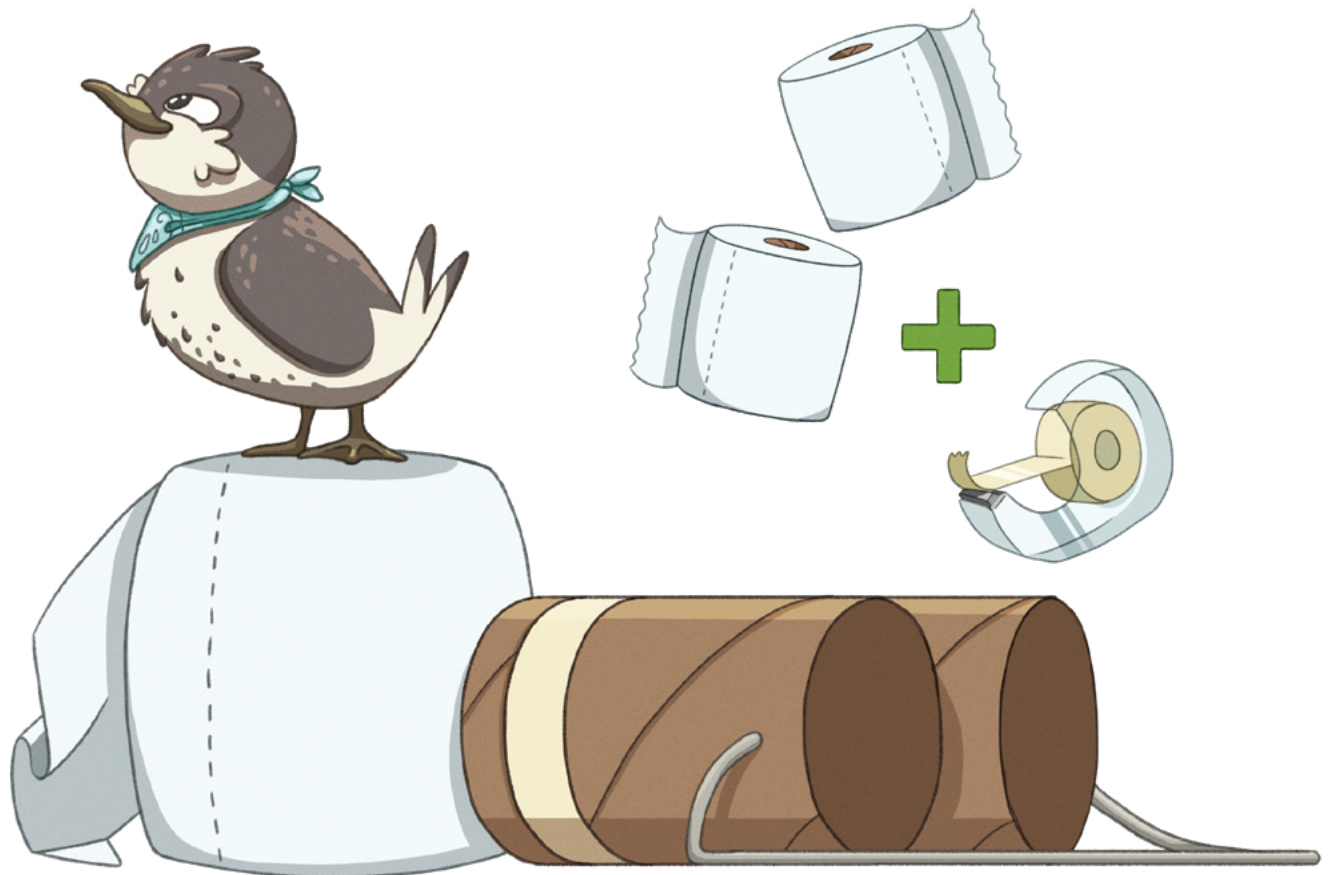
What is Migration?

Migration is the seasonal movement of an animal. Birds migrate twice a year in order to find warmer weather, food, and to hatch babies. Birds typically fly north in the spring and south for the winter. Willapa National Wildlife Refuge is along the Pacific Flyway, a migratory highway for birds from Alaska all the way down to Argentina.

Practice Observing Nature!

There are over 200 bird species that live at Willapa National Wildlife Refuge or visit during their annual migration! How many will you see today? Use the Bingo Card on the next page to mark the birds you see. Check three in a row, across, down, or diagonally, to get **BINGO!**

Don't have binoculars? Make some from toilet paper rolls! TP Roll Binoculars can't magnify like the real thing, but they can help you focus on things that might otherwise get missed.



Bird Bingo



Canada Goose



American Wigeon



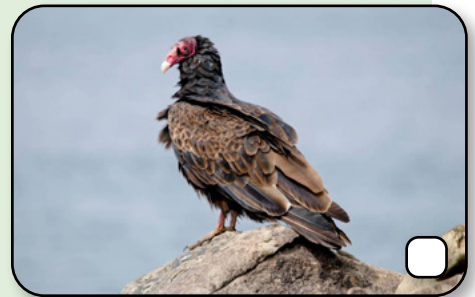
Bald Eagle



Brown Pelican



Great Blue Heron



Turkey Vulture



Barn Swallow



Western Sandpiper



Western Gull

© USFWS

Were you able to get Bingo?

- If not, why? Hint: think about the season, weather, tide and time of day
- What were the birds doing?
- Were they alone or in groups?
- Did you see any other birds or animals during your hike?

Tree of Life

The Hidden Life of Trees

Some of the Western Red Cedars you see on Willapa National Wildlife Refuge are up to 1,000 years old. These ancient trees can grow up to 19 feet wide and 200 feet tall! Red Cedars have dense branches where vulnerable birds build their nests. Insects and small mammals find shelter under their cover. Old Growth Forests are also home to other wildlife, including elk, bear, and flying squirrel.

Marbled Murrelet Mystery



Now I will share my secret with you! For a long time, humans could not figure out where I nested. Even though I'm a seabird, I don't build my nest on the beach, rocky islands, or cliffs, like others do.

Each year I lay a **SINGLE** egg, so I must find a place that is very, very safe. To make my nest, I travel inland to the Old Growth Forests, even if it is many miles away, and there I lay my egg on the wide branches of old and tall trees.

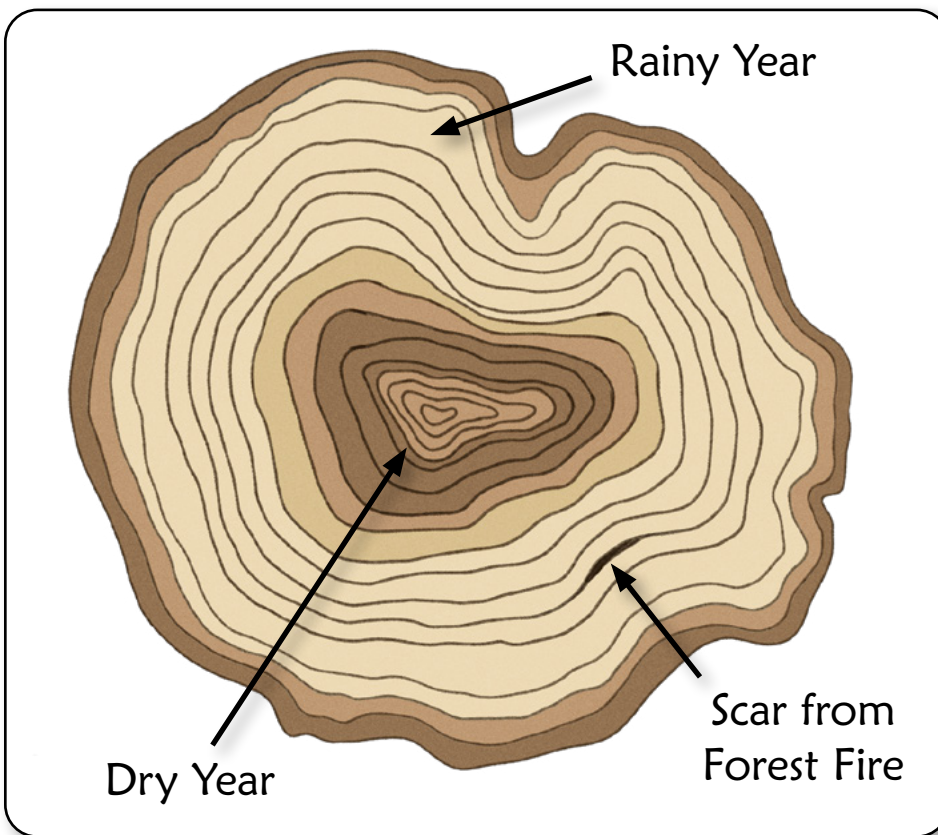


Tree of Life

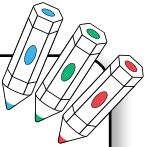
A Slice in Time

One way to find out how long a tree has been alive is to count Tree Rings. Each ring marks a complete cycle of seasons, or years, that a tree has been alive. Irregular rings and other markings can reveal environmental and historical changes that occurred during the life of the tree.

Here's an example of a Tree Ring that shows how tree age and health can be determined by examining the rings:



Look for a tree stump along the trail or use this illustration. Make some observations.



What do you see when you look at the rings?

- Can you count how many rings there are?
- Are there any unusual markings?
- What did you discover about the tree's life?

Habitats are Homes

What is a Habitat?

Take a moment and look around. What do you see? Habitats!

All living organisms need a place that provides the resources they need to survive and reproduce. A habitat is the natural home to plants, animals, and other organisms. This is where they live together, search for food, and find shelter from predators and bad weather. Plants and animals are adapted to their surroundings, and to each other, helping keep their habitat in balance.

Willapa National Wildlife refuge has many different types of habitats. We are going to focus on four: estuary, streams, forest, and beach.

Freshwater streams are home to frolicking river otters. Estuaries, where fresh and saltwater mix, serve as a nursery for young salmon before they head out to sea. Elk, bear and deer hide in the forest and shorebirds like the Western Snowy Plover make their nests on the beach!

Some animals move between habitats. For example, salmon swim from freshwater streams to the ocean and back to spawn in their natal streams. Bears make their den in the forest, but can be seen in other areas foraging for berries or hunting for salmon.



Habitats are Homes

Match the Wildlife to their Homes!

Hint: Some may have more than one!



Coho Salmon



Western Snowy Plover



River Otter



Black Bear



Beach



Stream



Forest



Estuary

Coho Salmon; Stream & Estuary Snowy Plover; Beach River Otter; Estuary & Stream Black Bear; Forest & Stream

Answers:

Let's Eat!

Who Eats What?

In the last activity we learned how different habitats support different wildlife species. One thing that habitats provide that all animals need to survive is FOOD! Here are some important food relationships at Willapa National Wildlife Refuge.

Complete the Food Chains:

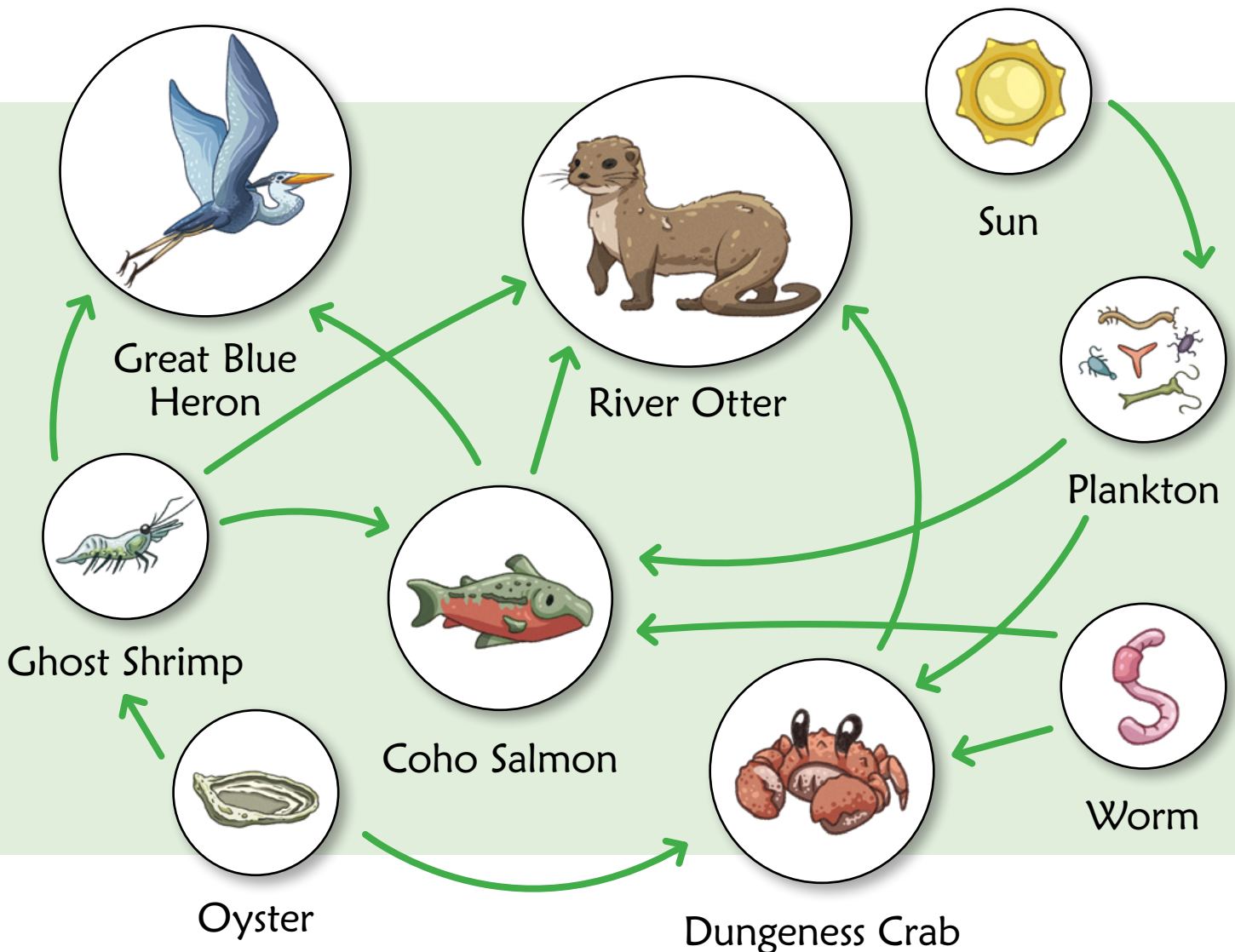
 Sun		 Black Bear	 Raven  Minnow  Huckleberries
 Polychaete	 Snowy Plover		
	 Coho Salmon	 River Otter	

Answers:
 1. Sun -> Huckleberries -> Black Bear
 2. Polychaete -> Snowy Plover -> Raven
 3. Minnow -> Coho Salmon -> River Otter

Let's Eat!

Nature's Food Web

A **predator** is an animal that survives by killing and consuming other animals. **Prey** are animals that are caught and killed by another animal for food. Some are both! Although each of the food chains in this activity have only one correct answer, it's not always that simple. Just like you, animals can eat more than one type of food.



- What would happen if you removed the Coho salmon from the food web?
- Do you have a place in the food web?

Become an Estuary Hero

We hope you enjoyed your visit to Willapa National Wildlife Refuge

Now that you are a Junior Wildlife Ranger we hope that you will visit the refuge often and use what you learned to make a difference in your community. Habitats provide homes for many different plants and animals, and you can help keep these habitats healthy!

At Home or School:

- Start a pollinator garden for bees and butterflies
- Use native plants in gardens and landscaping
- Choose nectar and pollen rich flowers
- Conserve water

In the Community:

- Pick up trash and join beach clean-ups
- Pick up your pet's waste and dispose of it properly
- Plant bird-friendly trees
- Volunteer at your local park and wildlife refuge!





Congratulations!!

What is one thing you learned today
that you're excited to share with others?

You are now a Junior Wildlife Ranger!

A **Junior Wildlife Ranger** is a protector of the environment, a keen observer, and a sharer of your knowledge with others.

Junior Wildlife Ranger Pledge

As a Junior Refuge Ranger, I, promise to learn as much as I can about nature and the National Wildlife Refuge System. I promise to protect and preserve the wildlife and plants and to help keep the water, land, and air clean. I will share what I have learned with my friends and family so they can help protect the refuge and our natural resources too.



This certificate hereby certifies that

Print your name here

Has successfully complete the Junior Wildlife Ranger Program at
Willapa National Wildlife Refuge

Date

For more fun activities and to fill your passport with more badges, visit

[Junior Wildlife Ranger.org](https://www.juniorwildliferanger.org)