

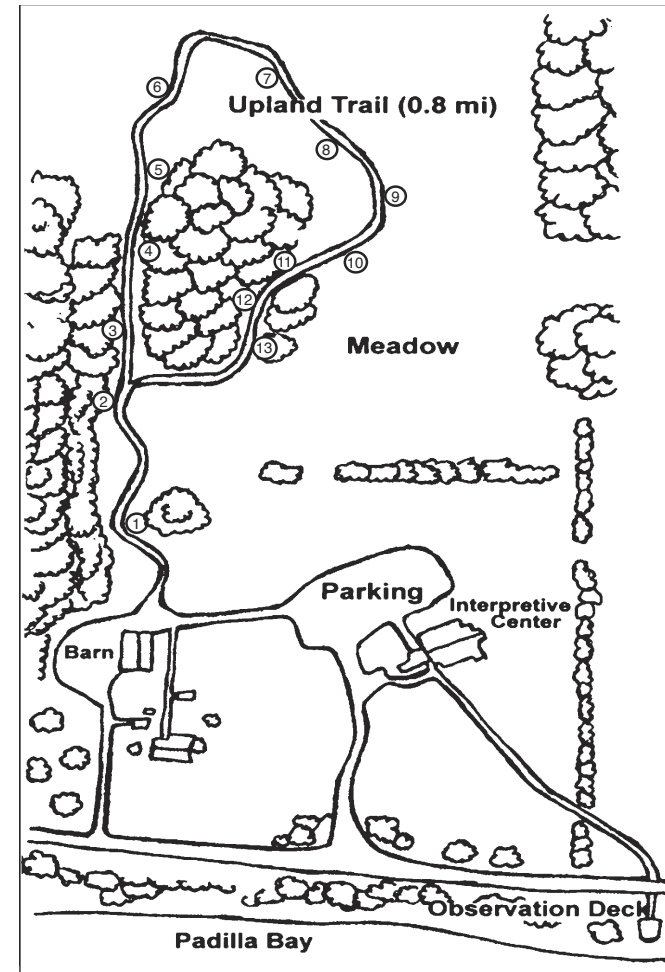
Activity Pack Guide



Padilla Bay

National Estuarine Research Reserve

Please Return to the Front Desk



The Padilla Bay National Estuarine Reserve was established in 1980 under Section 315 of the Coastal Zone Management Act of 1972. The Reserve is managed by the Washington State Department of Ecology, in cooperation with the National Oceanic and Atmospheric Administration. The upland trail, observation deck, and the Interpretive Center are located on 64 acres. Miss Edna Breazeale donated the land on behalf of the Breazeale family, following the family wish that the farm would be open for visitors of all ages.

Welcome to the Padilla Bay Upland Trail Guide. Throughout the course of this 0.8 mile walk we will be talking about the plants and animals you may see along the trail. There are also activities for all you energetic kids so get ready to have some fun. Remember that loud noises tend to scare away wildlife so if you want to see some critters keep your voices down. There are many sounds that are special to this environment—see if you can hear a new sound today.

You will be walking through cedar woods, past shrubs, and around fields. These are habitats or homes for many animals. Remember that we are just guests in *their* place, so be respectful please.



Who's homes are here?

- | | |
|---------------------|------------------|
| Coyote | Great-horned owl |
| Deer mouse | Barn owl |
| Rabbit | Short-eared owl |
| Shrew | Bald eagle |
| Raven | Robin |
| Tree frog | Great blue heron |
| Pileated woodpecker | Red-tailed hawk |
| Garter snake | Ruffed grouse |
| Black-tailed deer | Northern harrier |
| Red fox | Townsend's mole |
| Striped skunk | Cooper's hawk |
| Chickadee | Hummingbird |



This winter wren silhouette indicates a game. Directions for the leader are in italics. The remaining instructions should be read aloud.



1. Watersheds

Right now you are standing in a watershed. In fact you are *always* standing in a watershed. A **watershed** is all the land that drains water into one body of water. Look behind you at the water. That is the Padilla Bay **estuary** and all the land around you is in the Padilla Bay Watershed. Now imagine that you are a drop of water that just fell on the land—get low to the ground. On your way down to the bay will you soak into the grasses and fields first or will you quickly travel down the pavement towards the sea? Will you pick up things on your way down? What kinds of things would be good to bring? What would be bad? Drops of water are doing this all the time everywhere in the world!



2. The Forest

You are about to enter a different **ecosystem**, the forest. Close your eyes as you walk under the forest canopy and crank your senses way up. Feel the air against your skin as you step into this environment. Smell the forested land around you—is there a new scent here? Listen to the forest talk—what is it saying to you? The forest is quite a different **habitat** from the one we just left. Can you think of any animals that would like the forest better than the fields and shrubs? What does the forest provide for these animals?



3. Diversity

Over the fence to your left is an active farm with Scottish Highland cattle. What differences can you see between the plants on either side of the fence? There aren't as many plants in the pasture because they have been eaten by the cattle. On this side there are many different kinds of plants—more plant **diversity**. This encourages more kinds of animals to live here, too.



Giant Step— Take the footprint outlines from the backpack (front pocket) and give one to each person. So many of the plants and animals in the forest are tiny. Find a spot just off the trail to put your footprint—try not to step on anything green. Get down and look closely inside the footprint; you may want to poke around a bit. How many *different* things you can find?



4. Big Leaf Maple

This huge tree is a big leaf maple. One hint is all the moss growing on its bark. The big leaf maple can hold more moss on its trunk than any other tree around here. Can you see the ferns growing from the branches? That is another hint that you are looking at a big leaf maple. The moss can get so thick that it forms a soil that other plants, like the ferns, can hold onto and grow from. If you visit a big leaf maple in the summer you may see its “helicopter seeds” floating down from the canopy.



5. Changing Landscape

Can you guess why all these stones are here?

After all the trees were cleared from this area and sold as lumber the stumps were cleared so the land could be used for farming. But the farmers found that stones were in the soil all around them. The stones were dumped by a glacier during the last ice age. The farmers worked hard to clear these stones off the fields. This land has been through many changes, from a glacial pile to a forest to a farm to a place for people to learn about nature. What do you think this land will be like 50 years from now? 100 years? 1000 years?



6. Mountain Life

On a clear day you can see Mt. Baker in the distant east. It is an active volcano that erupted about 150 years ago. Sometimes you can see steam rising from its peak showing that it is still part of the ever changing earth. Scientists called Volcanologists study volcanos like Mt. Baker. It will erupt again, maybe even in your lifetime.



7. Food Webs

Have you noticed any evidence of animals on the trail? There may be mounds of freshly dug soil where moles have been looking for worms and insects to eat. Scat piles can be found here too, left by coyotes who are looking for the moles and other goodies to eat. The food chain at work in this example is: insects–moles–coyotes. Owls and hawks eat moles too and this sharing of food sources makes the food in the wild more like a web than a chain.



Find the food web game in the backpack and pass out one card to everyone (the blue set is an aquatic food web, the green set is terrestrial). Don't look at your cards yet! After everyone has a card the leader will signal "GO" and the card holders should join in a food web as fast as they can.



8. Sharing Space

Look towards the water, see the holding tanks and smoke stacks on the other side of the bay? Those are part of the oil refineries where crude oil is turned into gasoline and other petroleum products. It may seem like an odd place for a refinery, next to a valuable estuary, but its location makes it easy for tankers, trains, and trucks to transport the materials. Sharing the same land and water with plants and animals, people, and industries is sometimes a tough job. But with everyone working together towards understanding and compromise, a balance can be found.



9. Rainbow Chips

Not too long ago a girl was walking this trail and saw a beautiful rainbow arching across the sky here. Then suddenly, without warning it shattered, right before her eyes. When she rushed over to where the chips of the rainbow were tumbling out of the sky, she discovered that the colored pieces were falling onto objects that matched their color and were quickly absorbed by the object. Luckily, she managed to collect a few of these chips before they disappeared.



Take out the cloth Rainbow Bag from the backpack and hand one color chip out to each person. Can you find something nearby that matches the colors of these rainbow chips?



10. Old Doug Fir

Not too long ago in the great great woods there was a great great fire, as sometimes happens. All the mice in those great great woods ran from the fire to the greatest tree in the forest, the Douglas fir. They ran up its thick corky bark because they knew that it could survive the flames. They ran right up that bark and hid in the cones of the Douglas fir tree. To this day you can see their mice tails and mice feet poking out of the Douglas fir cones. Can you find any?





11. Tree of Life

You are now standing in a grove of cedar trees. The stringy bark and droopy branches tell you that these are cedar trees. People that lived in the Pacific Northwest a long time ago named this tree the “Tree of Life”. They used the cedar and her bark, branches, and roots for many things including canoes, houses, baskets, blankets, clothing, cooking, and ceremonial drum logs. It also has a pleasing fragrance. Smell the bark...imagine what the inside of their cedar long houses must have smelled like.



Upside Down Forest—Now that you are back in the forest try to imagine what it would look like to an insect or a bird or a tree frog. Different perspectives are sometimes hard to understand. *Take out the “Magic Mirror” box from the backpack and hand out one mirror to each person.* Hold the mirror facing up and use it to look at the forest around you. With these magic mirrors you can see the forest as other creatures might. Does the forest look bigger to you? Is it sunnier? Describe what you see. Would you like to see the forest this way all the time?



12. Stump Cycle

Did you know that even dead trees are important to the forest? When trees die they become food and habitat for other plants and animals. This stump was once the base of a tall, living tree but now it is food for other plants and animals. It has been providing nutrients for a long time as a stump and now it is starting to break down into soil. Pick up a handful of it. Smell it. There is a lot of food in that handful and billions of microscopic organisms eating it. It takes a long time to become soil, but then it can be used by the new creatures of the forest.



13. Shelter

This structure was built to give people a little shelter from the wind, rain and sunshine. But where do animals go for shelter? Well, the whole forest is a shelter for animals. If it were raining today you would notice what a good job the trees do at keeping you dry. Imagine how important the forest would be to birds on a stormy day. Many animals often take shelter under the forest canopy.



Take out the laminated animal cards in the middle pocket of the backpack. The adult leader should take the pictures and fasten them to the backs of the kids' shirts. Kids, it is your job to find out what animal you are by asking yes-or-no questions to a partner. Once you know what animal you are tell your partner where that animal finds shelter.



Vocabulary Words

watershed – all the land that drains water into one body of water

estuary – a semi-enclosed bay where freshwater from the land mixes with salt water from the sea

ecosystem – the interaction of plants and animals and their non-living environment

habitat – a place animals live

diversity – different; a variety of things that are unlike each other

We hope you enjoyed your walk. Moments spent in the serenity of nature feed the soul. Edna Breazeale wanted people to experience the beauty of this area as she did. With her help and the help of the community we were able to set aside this place for all of us to enjoy.

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