

# OAKS to WETLANDS

## WILDLIFE TRAIL



149.44/2: R43/2

PAM FILL

**RIDGEFIELD NATIONAL WILDLIFE REFUGE**  
RIDGEFIELD, WASHINGTON

### 1 WHAT ARE THE WETLANDS?

These wetlands are a transition zone between the Columbia River and the uplands. They are constantly influenced by the water level of the river, which alters the flow of Gee Creek and, in turn, raises or lowers the water in the wetlands. Drought and flooding are part of the seasonal cycle.

### 2 RESTAURANT FOR WILDLIFE

Abundant water in the wetlands grows lush plant life that provides food and cover for many animals. They may live here permanently or only come here to feed and drink. Watch for these wetland inhabitants as you walk along:

**Turtles** — Painted turtles live in quiet waters of lakes. Using their sharp jaws, they eat aquatic plants, insects, fish and frogs. Look for groups of turtles basking on a log on sunny days.

**Beavers** — Ambitious beavers manipulate wetland vegetation by gnawing down willow and cottonwood trees for food and building materials. Look for beaver dams and lodges on wetland channels.

**Hérons** — Great blue herons are one of the most skilled fish-eating birds. Sometimes wading the shoreline, but more often waiting patiently for fish to swim by, herons spear their prey with long beaks.

Can you think of any other animals that use wetlands?



**3 EDGES, WHAT ARE THEY?  
WHICH ANIMALS USE THEM?**

Places where two plant communities, such as woodlands and grasslands, meet are particularly rich in wildlife. More animals live along edges since a greater diversity of food and cover is available. A rabbit can easily reach foods of the grasslands while staying close to sheltering woodlands. Watch the edges for signs of wildlife.



**4 FLOOD AND DROUGHT,  
WHERE DO THE ANIMALS GO?**

Wetlands have edges, too, but lines are blurred by changing water levels. Some plants and animals may move with the water, while others try to maintain moisture until the water returns. Bullfrogs stay close to the water's edge, moving with changing moisture conditions. Can you find examples of animals adapted to a wetland life?

**5 INSECT NURSERIES**

Female gall wasps sting oak trees, depositing their eggs in leaves or twigs. The tree swells around the egg, forming a gall, or "oak apple." The larva hatches in a secure home and grows to adulthood while eating its way out of the gall. This wasp-tree relationship is but one of the many ways living organisms interact with one another. Cut a gall open and see if you can find where the wasp larva lived.

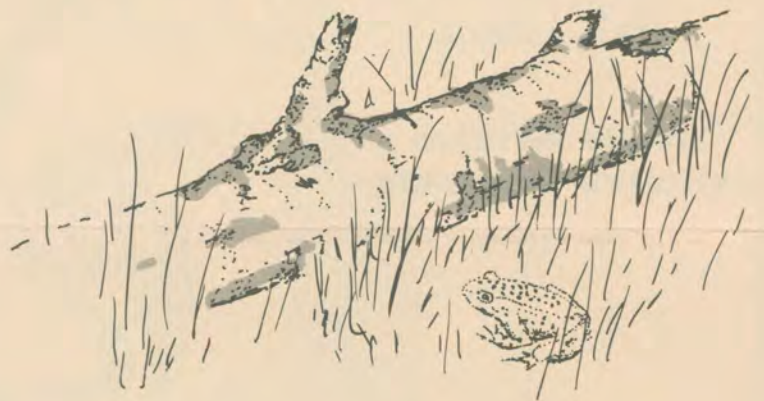


**7 LIVING EARTH,  
EVERYTHING SERVES A PURPOSE**

While billions of green cells convert the sun's energy to living plant tissue, hosts of insects, bacteria and fungi are transforming dead tissue into organic matter in soil. Look at decaying trees and leaf litter for molds, mushrooms, beetles and worms decomposing them into simpler substances. Carbon dioxide, nitrogen, water and minerals returned to the soil nourish new plants so the process can go on and on.

**6 PLANTS INDICATE SOIL MOISTURE**

Skunk cabbage is a good indicator of wet, boggy soil. It thrives in moist areas but is unable to survive in drier, well-drained soils or in flooded wetlands. Ash trees can tolerate flooding and drying. Oak trees, on the other hand, rot in overly wet soil. They always grow in areas above the high water level. Moisture content of soil, therefore, greatly influences the type of plants growing in an area. Watch for changes in vegetation that indicate small localized changes in the environment.



**8 SNAG APARTMENTS**

When trees die, they don't go to waste. Insects and fungus attack the weakened wood. Woodpeckers drill to feed on the insects and to create nest cavities. Other birds, such as nuthatches, chickadees and owls, nest in holes resulting from decay or take over abandoned woodpecker holes. After the snag falls, other animals move inside the hollow logs.



**9 DUCK SOUP**

Ducks like to use this wetland when they stop here during migration or come to spend the winter. They find aquatic plants and animals to eat, water for resting and protection from predators, and shelter among the willows from weather extremes. Look and listen carefully and quietly here, and wherever the trail takes you near water; can you find any ducks?



## 10 HOW DO SOILS INFLUENCE ENVIRONMENT?

The rates at which different types of soil absorb and release water determine what plants can grow in them. The clay in the wetland soil is slow to wet and dry, so it floods with winter rains and stays damp even in dry summer months. The knolls, on the other hand, have thin, stony soil overlying bedrock. This soil drains well, so once the moisture from winter and spring rains is depleted, it becomes quite dry.

## 11 NATURAL FLOOD CONTROL

Floodplains are wetlands along rivers, such as this one on the Columbia River. As the name implies, these wetlands store water during heavy rains and floods. Water flows into the marshes, which then overflow their margins onto wide areas of land. There the water is retained for slower release back into the Columbia River. Man mimics nature by building dams to artificially impound water.



## 12 HOW DID THE EARLY SETTLERS USE THIS WETLAND ENVIRONMENT?

Early settlers used the wetland environment for many economic reasons, including trapping, farming and cattle grazing. Between about 1880 and 1910, workmen also quarried rock from some of these knolls and barged it to Portland where it was used to pave the streets of that frontier city. By the time the quarries closed, the cobblestone paving may have covered 30 miles of streets! Look up the hill here and you will see one of the quarries.

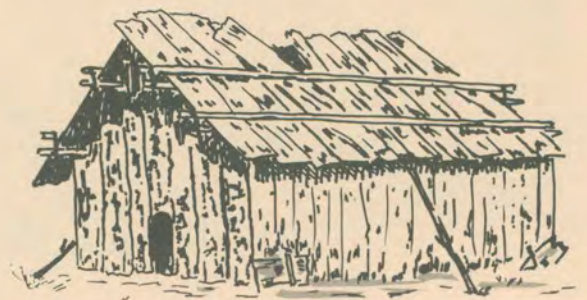


## 13 HOW DID NATIVE AMERICANS USE THIS WETLAND ENVIRONMENT?

Throughout history these wetlands have been important to people. When explorers Lewis and Clark visited here on their homeward journey in 1806, they found some 900 Native Americans living in a prosperous village of large wooden houses. They lived on salmon from the rivers, ducks and wapato from the marshes, and deer, elk and many kinds of plants from the forests. As you walk here, try to think of all the ways these people could have used wetlands and their plants and animals in their daily lives.

## 14 WETLANDS FILTER POLLUTION

Floodplain wetlands serve as living filters. The quiet backwaters here trap, retard or transform materials such as silt, pesticides, toxic metals and organic matter. Microorganisms break down air and water pollutants. At the same time, wetlands generate significant amounts of oxygen through their abundant plant life.



## 15 WILDLIFE HIGHWAYS

Stream banks like these serve as wildlife travel corridors between habitats. They provide cover, food and water for animals moving between the wetlands and the uplands. Check the stream banks for tracks of animals that have traveled this way.

## 16 WETLANDS TODAY AND TOMORROW

The Columbia River once had many acres of floodplain wetlands like the ones here. Most of those wetlands are gone now, diked off from the river and filled in to make airports, shopping centers, ports, industrial sites and agricultural lands. These wetlands on the refuge are protected from disturbance so wildlife can continue to live here and so you can enjoy them.

FOR MORE INFORMATION about the Ridgefield National Wildlife Refuge, contact:

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# OAKS TO WETLANDS WILDLIFE TRAIL

## WELCOME

We invite you to hike beside wetlands and through woodlands in a one mile loop on the Carty Unit of the Ridgefield National Wildlife Refuge. Allow one hour to walk the trail at a leisurely pace. Numbers in this guide correspond to numbered posts along the trail.



## WHERE IS THE WILDLIFE?

Birds and mammals are plentiful, but their presence can only be detected by a keen ear or eye. Walk quietly and pause often to look and listen. Animals are most active during early morning or evening hours.

Binoculars or a spotting scope will help you to better see wildlife, and field guide books will help you identify those animals that you see.



## Location Diagram

