

Chapter 5

Gibbons Creek Wildlife Art Trail Nature Walk Talking Points

The following information about the stops along the Gibbons Creek Wildlife Art Trail is designed to help you provide your students with some of the natural and managed resources along the trail. Field Trip Leaders should be advised that at the end of Chapter 5 is a card 'Nature Trail Resource Card' that summarizes some of the facts contained within this chapter. Please review the 'Nature Trail Resource Card' prior to leading trips. A laminated copy of this card is available in each Refuge backpack filled with educational materials. These laminated cards should be used as a memory prompt for facts along the trail.

Introduction

- Introduce yourself and members of your leadership team. Let the students know that one of the goals of the walk is to teach them to be a Nature Guide so when they come back with their families, they can take them on the same hike and show them what they learned today.
- To get some interaction, you might ask them questions such as, "How many of you have been here before?" "What did they see?" If none had come before, ask what they think they might see?
- Start by talking about the history of the refuge. Refer to Chapter 3. History for information you can draw from. You shouldn't try and remember all of it; use your History Resource card with memory triggers to help you.
- Ask them what they think a refuge is....
 - What is the difference between a refuge and a park?.
 - Park priority – people and recreation vs. Refuge Priority – wildlife

Expected Behavior From Students

Certain rules are necessary to help protect the wildlife and facilities at the refuge. Please go over these rules with your group before you begin the field trip. Help them understand this is a protected area and a special place for plants and animals.

Emphasize they are visitors and should act as if they were in someone else's home. Then during your walk, if a student does behave in an inappropriate manner, you can refer them back to the rules, "Remember we discussed this _____".

Be sure to include these rules:

- **Take Away Only Memories:** All plants (including edible ones), animals, and artifacts are protected. Students can only take drawings, pictures, rubbings, and memories.

- **Replace What You Pick Up:** If you move any rocks, sticks, or logs, please put them back as you found them. Otherwise, you would be rearranging the “furniture” of many animals' and plants' homes.
- **Walk and Talk Quietly:** This will increase your chances to observe the wildlife.
- **Stay with the Group**
- **Be Aware of Trash:** Please do not litter. If you see any trash on the trail, if you are willing, pick up any trash you find.
- **Help Protect Wildlife:** Do not harass or scare the animals. Stay on the trails to avoid trampling vegetation.
- **Poisonous Plants:** Do not eat anything or handle any plants that they are not sure what they are. (poison oak and nettles)

Other Expectations

- What they might expect to see, depending on the season. Any unusual sightings.
- While walking along the trail, there will be stations we will stop at. If anyone sees anything between these stations, call a “See-Circle” and we will stop to look at what you see and talk about it.
- Keep your eyes and ears open. Many animals are hiding. Look for signs of animals living in the area.
- Hand out any activities for students to use along the trail if applicable. (nature bingo, etc)

Interesting Points along the Gibbons Creek Wildlife Art Trail

While on the trail and leading your group of students, don't try and remember all of the following information. Use your Nature Trail Resource card with memory triggers to help you.



Willow Tunnel

Fire - During October 2012, wildfire swept through approximately 150 acres of the refuge. Fire has different effects on different types of vegetation. Grass is not harmed; in fact, the nutrients released by the fire are good for the grass, and if you passed by the refuge shortly after the fire, you would see the bright green grass already growing. Canada

geese, in numbers up to 2,000, were seen feeding on this nutritious, tender grass all winter. . Different species of shrubs and trees are affected in varying ways. Refuge staff is waiting until spring 2013 to see what the effects will be on the willows and other plants through which the fire burned. Some may die, and some may do just fine. We may have to try to find funds to purchase additional plants depending on the fire's effects.

Most of the wildlife were able to deal with the fire, especially a relatively small fire like this one. Large animals like deer and coyote just ran away to areas which were not burned. Some of the smaller mammals like squirrels were able to climb up into trees and escape the fire, some others, if the whole tree or shrub burned, may have perished as well. Some animals like raccoons escaped into the waters of Gibbons Creek. Birds flew away, only to return shortly after it was burned. Canada geese returned in large numbers (up to several thousand) to feed on the new grass that grew, as it was tender and nutritious. Small animals like mice, snakes, and frogs, just disappeared into their holes and probably survived just fine.

Willow Values to Birds – Willows are valuable as a supplier of food to certain species of birds, such as Common Yellowthroat, Yellow Warbler, and hummingbirds. When catkins in bloom, the yellowthroat and warbler come to feed on the small insects feeding on the willow flowers, and the hummingbirds come to feed on flower nectar. Catkins are small, droopy, cylindrical clusters of willow flowers which develop in the spring. These same birds can use the dense vegetation for building nests. The dense willow thickets can also provide shelter for nesting birds.

Reed Canarygrass

This tall, slender grass is not native to North America, but has become widely established since the early 1900s in wetland areas. As you walk along the reed canarygrass, just past the willow tunnel, you can mention nesting by American Bitterns and Rails (Sora, Virginia). Virginia Rails are thin birds, from the saying “thin as a rail” comes from. Both of these are wetland birds that use the area for food, nesting, and cover.

Cattail

The cattail is a broad-leaved, dark green wetland plant. The fluff of the previous year's seedhead is used in nests by Red-winged Blackbirds. Yellow-headed Blackbirds only nest in cattails, and we hope that someday if the cattail stand expands they will begin using the area.

Reed Canarygrass - Early Columbia River Floods Steigerwald Lake

From the portion of the trail across the marsh you can explain that this was a Columbia River floodplain before the Columbia River Dike was built in 1964. When the River overflowed its banks, it would form a large lake that at times reached to the Burlington Northern railroad tracks and the Old Evergreen Highway.

Steigerwald Lake Overlook

Wheel of Choices - have the students spin the wheel and notice the relationship between human use and the affect it has on the wildlife. As you increase the value to wildlife, you decrease the value to humans, and vice versa.

This is an excellent location to discuss your food webs cards.

- Have the students come up with parts of the food web using what they see
- Can also discuss photosynthesis

Discuss the fact that reed canarygrass is a non-native grass in the Pacific Northwest, and is very difficult to manage without proper water management capabilities

- Ability to draw down water during the summer to low levels
 - The presence of three beaver dams on the outflow channel leading from our most downstream water control structure restricts our ability to drain water from the Steigerwald Lake wetlands as much as desired.
- Ability to flood water during the winter
 - The presence of an upstream landowner restricts our ability to hold water levels as high as desired, as doing so would flood their property and make it unusable for their cattle operations.

Observe waterfowl, especially “Lonesome George”, a non-native mute swan

Cottonwood Cavity

Point out beetle in the cavity in the bottom of a large cottonwood along the west edge of the trail, just before the trail exits the cottonwood grove. Discuss the use of cavities higher in the trees for nesting and feeding by a variety of birds – woodpeckers, sapsuckers, nuthatches, and purple martins. All of these birds except the purple martins create cavities as they attempt to reach insects (such as beetles) feeding and moving through rotting wood in the trees. The purple martins use the cavities for nesting.

Purple Martin Nesting Cavities - *Field Survey Site*

There are only a handful of natural Purple Martin nesting locations in the entire state of Washington, and many of them are located along this trail.

This is the site at which your class will conduct the purple martin nesting survey described in your Field Notebook.



Background

You can share some of the following information with the students before they begin their survey.

Purple Martins are the largest member of the swallow family in North America, measuring 7½ inches and weighing 1.9 ounces. During their non-breeding season they reside in Brazil and migrate to North America to begin breeding. Purple Martins reach Washington by the beginning of April, when they immediately begin to create nests. Purple Martin pairs are monogamous and both male and female care for the young.

The interesting thing is where they nest. Ancestrally martins have used abandoned woodpecker nesting chambers or natural cavities in dead trees or cliffs but now most The transfer from these natural nests to man-made ones was probably accidental. A pair of martins might have come across a hanging gourd the Native American were drying out to use to hold water and built a nest inside. The Native Americans would have found this amusing and placed more gourds for other birds to nest in. Gradually the martins would shift to using the gourds because these man-made dwellings offered benefits, such as fewer predators because of the closeness of the nest to humans and larger nests that allowed for more eggs thus more offspring. These offspring would then return to the gourds the next year to nest their eggs. Eventually most Purple Martins were nesting primarily in human supplied structures. Martins in the Pacific Northwest primarily use gourds (usually plastic rather than natural) and clusters of single-unit wooden boxes.

Plastic gourds can be seen hanging on the trail along the Columbia River, where they were placed as nesting structures for the martins shortly after the refuge was established.

There are several aspects that can have a large effect on the population of Purple Martins. Purple Martins feed on flying insects . If the weather becomes too cold, hot, or wet it leads to a decrease in insect flight. This leads to a lack of food for the martins and they can die within two to three days of prolonged poor weather.

Several years ago, perhaps as a result of a cold spring, some of the martins seem to have nested in the natural cavities in the cottonwood trees at several locations along the trail, including this one. There are only a handful of natural Purple Martin nest left in Washington and many of them are located on this trail. We want to have our students keep records of the purple martin nesting activities at this site over the years.

Native Shrub/Tree Planting

As you walk by the LCEP (Lower Columbia Estuary Partnership) plantings surrounded by blue tubes, you can point them out.

- The refuge coordinates volunteers to plant native shrubs as another layer of vegetation to be used by wildlife (especially birds).
- The shrubs are protected by plastic tubes from beaver and voles (like mice), which would otherwise eat the plants and kill them.
- Refuge and volunteers will cut or spray pesticides to kill the canarygrass, which compete with the new plants for light and water.

Gibbons Creek Bridge

Stop and look upstream and downstream. Point out the value of the riparian forest to a wide variety of birds throughout the year, and the dominance of reed canarygrass (not so valuable) along the creek. There are also sculptures of macro invertebrates mounted along the bridge handrail. They are placed along the handrail to depict where in Gibbons Creek could be found – deepest to most shallow water. Salmon use the Creek to get from upstream spawning areas to Columbia River – feeding on invertebrates along the way. Carefully point out the salmon sculptures hanging from the bridge on the west side (both adults and juveniles).

Be Careful!!! Sometimes you can also see wasp and bee nests in the openings on the top of the bridge rail, especially during spring and early summer.

Vegetation Survey *Field Survey Site*

At the south end of the Gibbons Creek Bridge, you will conduct your vegetation survey of alive and dead plants, as described in the Field Notebook.. These plants were planted by volunteers. We want to have our students keep records of the survivorship of these plants over time.

Basalt Bench

Near the basalt bench you can hear the sound of water flowing over a beaver dam, and see a beaver chewed tree with a wire wrapped around it. The wire was recommended to protect the tree from beaver chewing the tree. We are now using 4' tall welded wire fencing.

Red-tail Pond Boardwalk

Stop at Red-tail Pond boardwalk and observe wildlife using it. We get a lot of ducks – Mallard, Pintail, American Wigeon, Scaup, Wood Ducks, depending on the time of the year. Bitterns and Great Blue Herons also use the shallow areas. Water here is clear.

Migratory Crossroads – Turnaround Location

Many birds are migratory, that is, they nesting in the north and spend their winters in warmer climates to the south. Many birds fly along the western edge of the Cascade mountains as they move from north to south and back. Other species move the “cut” in the Columbia River between the east and west side of the mountains. Because of that, over 200 species of birds have been sighted using the refuge. Some are common and some are not so common.

- The migratory crossroads sign shows some of the species that are present on the refuge during the winter and the summer.

If you are going to participate in the data collection surveys, then it is recommended that you return to the trailhead at this point.

If you are going to continue on around the entire trail loop, the following information will give you some additional talking points.

Great Blue Heron Nesting Colony

About halfway between the ramp up to the Columbia River dike and the fish ladder to the east, you can point towards Reed Island in the Columbia River and explain the presence of a 120- nest Great Blue Heron nesting colony – the birds use Steigerwald Lake for foraging (feeding).

Purple Martin Nesting Gourds

Along the way, you can also point out the plastic Purple Martin nesting gourds erected by volunteers. Add here any information about the martins you might not have discussed earlier.



Fish Ladder

Gibbons Creek serves as a passageway for coho salmon, steelhead, and sea run cutthroat trout.

Spawning occurs north of SR 14. The vegetation along the shoreline of the creek is not sufficient to provide shade to be used as a rearing area, and the creek as it flows through the refuge flows too slowly to move gravel and provide spawning areas. Plantings are being accomplished along the lower section, with a goal of providing shade for rearing habitat.

Bat Houses

There are two bat houses along the trail, on the eastern Gibbons creek segment, which is closed from October 1 through April 30 to protect wintering waterfowl using the area north of this section of the trail. The bat houses are mounted on dead cottonwood trees (bats like roosts that get a lot of sun exposure). They were placed on the refuge because there are very few natural bat roosts available on the refuge. Natural roosts include large tree cavities, tall dead trees with exfoliating (loose) bark, rock crevices, and caves.



The bat houses were placed by a volunteer in 2008. The first summer they were used by one Little Brown Bat (*Myotis lucifugus*). In 2009 the houses were used by six Little Brown bats. Volunteer Dave Miller does the bat counts by taking photographs of the bat house from below. The houses can each hold up to 300 bats, though it is unlikely that we will get that many bats using them. The roof and south side of the houses are made of slate

floor tiles. Slate is good because 1) it absorbs and holds heat from the sun; 2) it requires no maintenance (i.e. painting); and 3) it lasts a very long time. All the exterior wood surfaces have



been finished with melted wax. This will ensure that the wood lasts a very long time, and will cause the wood to weather to a dark brown color which will help to warm the house from the sun.

Bats eat a LOT of night-flying insects (moths, beetles, flies, mosquitoes) - up to 1,200 per hour, per bat. Little brown bats are about the size of your thumb, and live up to 30 years. Each mother bat gives birth to usually just one pup each year. Little brown bats are vulnerable to White Nose Syndrome, a mysterious syndrome affecting bats in the eastern U.S. that is spreading rapidly. It recently reached Tennessee and is spreading westward. Some scientists predict that White Nose Syndrome may lead to the extinction of many North American bat species (including *Myotis*) within as little as 7 years.

Habitat Restoration

Refuge staff has worked with the Columbia Gorge Refuge Stewards, Lower Columbia River Estuary Partnership, and volunteers to obtain funds through grants, donations, and refuge budget contributions to purchase native shrubs and trees, tree tubes, and stakes to provide planting supplies. These plants have been installed annually since 2005 on both sides of Gibbons Creek. Maintenance work throughout the summer includes trimming or spraying grass around the plants by volunteers.

Invasives Control

The primary invasive vegetation (weed) problems on the refuge include reed canarygrass, Himalayan blackberry, and Canada thistle. These plants are considered noxious weeds by the State of Washington. As such, we are required by law to do our best to control them. We use refuge staff (tractor operator), cooperators, and volunteers, to assist in application of environmentally safe herbicides for control. Because of the persistence of these plants, they require repeated treatments.

We hope you have enjoyed the tour.

Nature Trail Resource Card

Steigerwald History Memory Triggers	Nature Walk on Wildlife Art Trail Memory Triggers
Former Floodplain of the Columbia River, cottonwoods near river are on sandbars.	Willow Tunnel–Fire, Birds (flycatcher, warbler, yellowthroat)
10-30-1792, First European, LT. William Broughton, of Capt. Vancouver's exploration of the Columbia River. Here he claimed the river and all that it drains for England, and named Mt. Hood	Reed Canarygrass – Non-native, bitterns & rails
11-3-1805 and 3-31 to 4-5-1806, Lewis & Clark, camped along the nearby shoreline	Cattail – Red-winged/yellow-headed blackbirds, fluff/nests
1847, Joseph Gibbons settled near the mouth of the creek that bears his name after having crossed the Great Plains	Reed Canarygrass – Early Columbia River floods
1906, Steigerwald Dairy, outlet store in Portland shaped like milk bottle and later converted to a 7-Up Bottle	Steigerwald Lake Overlook – Wetland management – Drawdown/flood
1964, dike built	Cottonwood Cavity – Cavities in trees- Woodpeckers looking for insects like beetles and nesting cavities.
1975, Vancouver Audubon formed, Steigerwald was their first environmental cause	Purple Martin Cavities – Field survey site
1980, Preservation efforts here and in other local areas lead to coalition to preserve the entire Gorge	Native Tree/shrub Planting – Volunteers planted, tube protection, canarygrass control
1987, NWR established	Gibbons Creek Bridge – Invertebrate art on bridge rail, salmon hanging below bridge –use of creek by salmon
2009 Gibbons Creek Trail opened	Vegetation Survey – Field survey site
10-5-2012 Grass fire	Basalt bench – Beaver damage to trees, dam nearby
	Red-tailed Pond Boardwalk – Water birds (ducks, geese, Bitterns)
	Migratory Crossroads – N/S and E/W, 200/300 bird species