

APPENDIX "J"

HABITAT NEEDS OF PIERCE COUNTY WILDLIFE

A wide variety of species have adapted to life in and around streams and wetlands. Some are dependent upon streams for reproduction and rearing of juveniles. Others take advantage of the insects that streams and wetlands attract as a main source of food. Even those that eat and breed in dryer upland areas visit streams to drink. Many include streamside and wetland vegetation among their main food sources.

The following section identifies how different types of animals function within the stream ecosystem. It explains the roles each species plays and the conditions necessary to meet their needs. Because wetlands and ponds are inextricably linked to rivers and streams and all are impacted by nonpoint pollution, species dependent on any of these environments are mentioned.

Animal species that have been recorded specifically within Pierce County will be identified as possible watershed inhabitants.

Amphibians and Reptiles: There are a number of amphibians that live in Pacific Northwest streams, including frogs, newts, and salamanders. Frogs are important, not only because their tadpoles serve as food for fishes in the spring (and even adult frogs are caught by large trout), but because by capturing aerial insects with their long, sticky tongues they bring outside nutrients into the streams. Pierce County supports an abundance of Pacific tree frogs as well as the more uncommon Red-legged frog. The adult tree frog spends little time in water but depends upon it for hatching eggs and as a source of insects. The Red-legged frog is much more dependent upon regular contact with water for its habitat and spends a great deal of time in the water hunting for insects and larvae. Bullfrogs have also been located within Pierce County, but they are not native. All bullfrogs found west of the Rocky Mountains have been introduced and in some areas have adversely affected populations of native frogs. Bullfrogs like quiet water areas with thick aquatic vegetation, such as cattails.

The larvae of salamanders and newts are often found under rocks in streams and lakes. Upon reaching adulthood salamanders and newts move to the banks of the stream and some varieties migrate even further into damp wooded areas. Rough-skinned newts, Northwestern salamanders, Long-toed salamanders, and Western red-backed salamanders are all Pierce County residents. The Northwestern salamander's egg masses support algal growth and, when molested, adults have the ability to secrete a sticky, white, irritating substance.

Only a few aquatic reptiles are common in the Northwest and the only one frequently encountered is the garter snake. Believed to be the most adaptable and wide-ranging reptile in North America, the garter snake preys on slugs, worms, tadpoles, frogs, salamanders, fish, mice, and small birds. Three types of garter snakes found in Pierce County include the common garter snake, the Western garter snakes, and the Northwestern garter snake. The only other species of snake found in Pierce County is the Rubber boa. It is fairly rare and prefers damp sand, rotting logs, and forest litter for its habitat. Using constriction, it preys on small mammals, birds, and lizards.

Mammals: The riparian zone forms an important feeding and nesting habitat and travel corridor for many animals that are an integral part of the stream ecosystem. Beavers feed on willows and alder. Elk enjoy streamside patches of skunk cabbage. Otter and mink

prey on mature fishes, crayfish, and frogs. Bears like to feast on spawned-out salmon. Dozens of species of weasels, opossums, rabbits, skunks, mice, voles, shrews, and bats concentrate along streams and streamside wetlands.

Shrews

Shrews have the highest metabolic rate of all mammals. They must eat their weight in food daily in order to provide them with enough warmth to stay alive. Shrews prefer damp conditions and eat insects. Water shrews gyrate on water surfaces like insects and dive into the water after prey. They have incredibly thick fur which holds air against their skins and causes them to bob back up to the surface after a dive. Owls, stellar jays, and trout are common shrew predators.

Bats

Bats are often associated with wet areas because mosquitoes are their main food source. They eat thousands of the insects on a daily basis.

Rabbits

Rabbits are not usually wet area inhabitants but they do depend upon the bark of deciduous trees for winter fodder. They have been known to consume aspens, willows, and alders.

Beavers

Native beavers nest in burrows along the banks of lakes, wetlands, rivers, and streams. Beavers that have been introduced to an area build dams. This is accomplished by gnawing on the trunks of slender streamside trees until they fall into the creek. Since most riparian trees tend to lean towards the creek it is less complicated than might be imagined. The cut trees then catch at some point downstream and the basis of the dam is formed. They do not hibernate so the dam creates a deep water area that provides food and safety during winter months. Beaver like to eat cattails, tules, pond lilies, grasses, willow rootlets, and green bark. Once all of the trees near a colony have been cut they move to a new location and create a new dam. Beaver dams can be very beneficial in creating wetlands and slowing runoff in streams that have been "cleaned out" or scoured.

Muskrats

Ponds, reservoirs, and irrigation canals that are heavily vegetated with rushes and/or cattails seem to provide ideal habitat for muskrats. For some reason, they have also been known to heavily populate trout streams with no rushes or cattails. Other food choices for muskrats include mussels, tadpoles, and snails. The muskrat uses rushes and other water plants to construct shelters and to build floating rafts on which the muskrat rests while eating. Muskrats do not hibernate.

Voles

Voles, also known as meadow mice, usually prefer pasture land habitat particularly near marshes. While they are more comfortably sheltered in upland areas, they like sedges and other wet area plants as food sources.

Racoons

Racoons feed primarily along stream and lake borders. They consume a wide variety of different types of foods including: fruits, nuts, grains, insects, frogs, crayfish, birds, bird eggs, fish, turtles, insects, and small mammals. They like to dunk and wash their food before eating it. They prefer to nest in hollow trees but they are fond of water and spend most of their lives near streams, lakes, and marshes.

Weasels

Weasels, ermine, and mink are all included under this heading. All of these animals make their homes near water. Mink, in particular, like to make their dens along the banks of streams and rivers. All of these animals eat small mammals, birds, eggs, frogs, crayfish, and fish which are most abundantly found in wet areas.

Otters

Otters are extremely well adapted to aquatic life. They can remain submerged for a considerable amount of time and are said to swim fast enough to catch trout. However, most of the fish caught by otters are not of game quality but are "rough" fish that actually eat trout eggs or otherwise discourage the presence of game fish. Otters also consume frogs, crayfish, and other aquatic invertebrates. Otters are not known to catch salmon. Otters make their homes in dens along stream and lake banks that have been left by other animals. They also like to have haul-out places where they can roll around in the grass to dry.

Other

Other mammals that live within Pierce County but are less dependent on wetlands for their day to day habitat include: opossums, moles, squirrels, bushy-tailed wood rats, porcupines, skunks, coyotes, red fox, bobcats, cougars, black bears, elk, and deer. Most of these animals enjoy certain food sources that are typically found in and near wetlands, but they generally prefer drier areas for their habitat.

Three whale species and two porpoise species have been identified as Pierce County residents but no evidence supports their existence within that portion of Commencement Bay which is considered part of the Lower Puyallup Watershed.

Birds

Birds, such as the great blue heron and belted kingfisher, crop the insect and fish populations. Streamside trees and shrubs are also ideal for nesting birds since aquatic insect adults provide a steady source of high-energy food for the nestlings and nearby water is always available. All of the bird species identified within Pierce County include riparian, shrub/forest swamp, open water/marsh, or marine wetland habitats as being common nesting areas. A complete list of birds found within Pierce County may be found on the attached table, "Wildlife Species Expected to Occur in Pierce County".