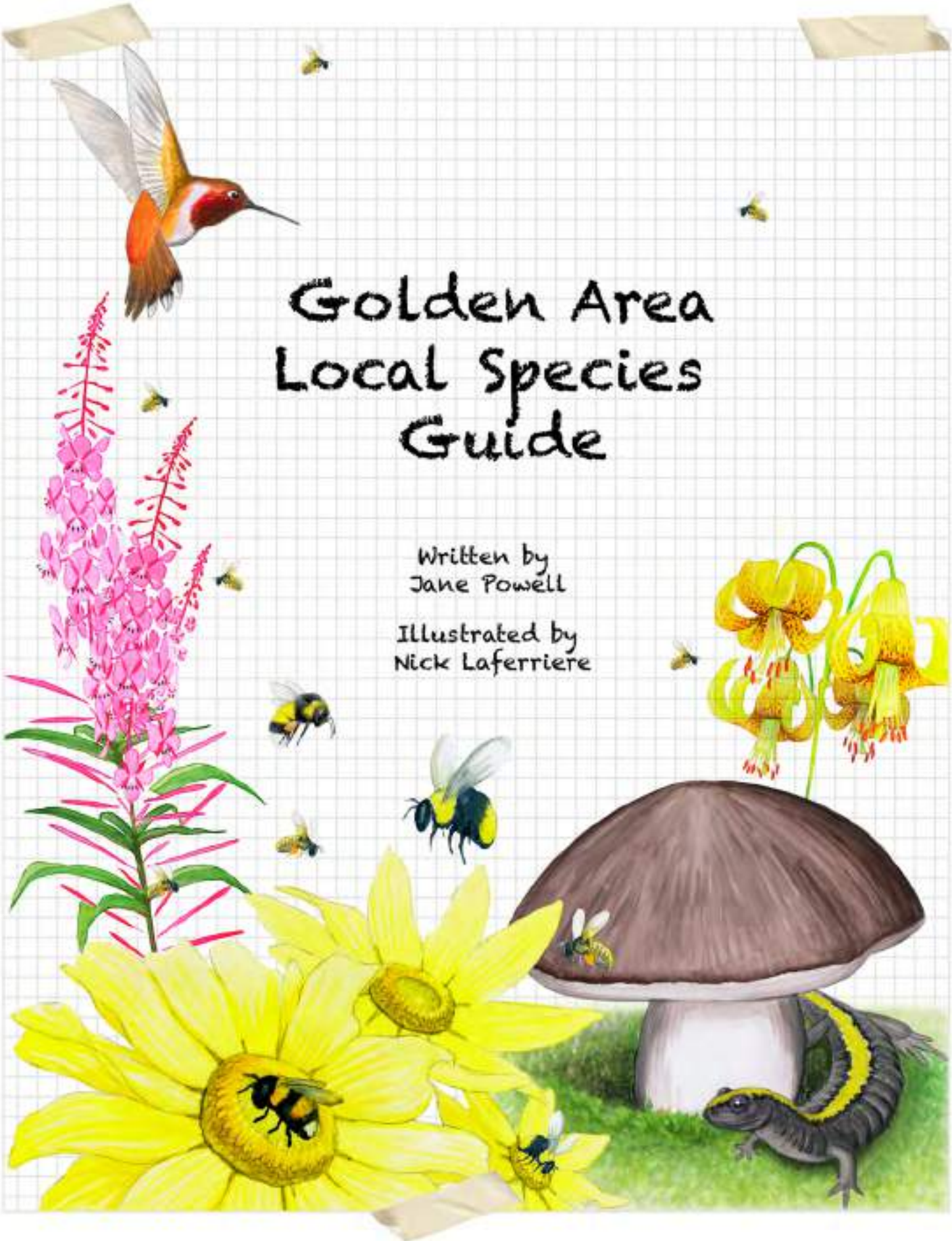


Golden Area Local Species Guide

Written by
Jane Powell

Illustrated by
Nick Laferriere

Acknowledgments

This guide would not have been possible without the support of our wonderful community. A big thank you to the local nature experts and Rocky Mountain School District staff who helped bring this guide to fruition by volunteering expertise. A huge applause to Sandra Beckett, local teacher and environmental education advocate, for the incredible amount of effort put in to transforming this guide from 'mind spark' to actuality. This guide wouldn't have come into existence without her perseverance. Thanks to Columbia Basin Trust, Alexander Park Elementary School, Nicholson Elementary School, Alexander Park Parent Advisory Council, and The Golden Rod & Gun Club for funding this project. A special thanks to DJ's Paper Place for giving us a great deal on printing. Some members of the community donated an exceptional amount of time to this project through providing expertise. A big thank you to Joyce deBoer, Leslie Hein, Bryan Kelly-McArthur, and Meg Langley. Thanks also to the following members for providing help through species identification and/or proof-reading: Heather Adama, Rolland Brown, Natasha Burgess, Rachel Darvill, Joan Dolinsky, Richard Klafki, Amy McKenzie, Sarah Osadetz, Catherine & Chad Parent, Steve Wyer, and Ellen Zimmerman.

This book's design was inspired by another nature guidebook. A warm thanks to the creators of "Flora, Fauna, & Fungi of Hatley Park: a Nature Kindergarten Guidebook" for the inspiration.

The students and staff of the Golden Zone, Rocky Mountain School District #6, wish to acknowledge the Secwepemc and Ktunaxa Nations on whose traditional lands we live, we work, and we learn.

The translated languages in this book have been approved for use by the Secwepemc and Ktunaxa Nations.

About the Author and Illustrator

Jane Powell is a writer, environmental educator, and owner of Thought Doodles Writing Services. Since she could say "wow", Jane has been fascinated with wild spaces and the stories that unfold within them. As a child, she was invigorated by the work of Parks' naturalists. Jane hopes her work will similarly help inspire kids.

Nick Laferriere is a self-taught, award winning artist. He moved to Golden in 2015 and soon started a family with his wife Irene. Nick is avid about the outdoors. He spends his time fishing, hunting, hiking, and is currently building his homestead with his wife and young son.

NICK LAFERRIERE ARTIST

THOUGHT Doodles

Rocky Mountain

Columbia Basin trust

GOLDEN DISTRICT ROD & GUN CLUB

Copyright © 2019 by Jane Powell. All rights reserved. No part of this guidebook may be reproduced without written permission. The text, photographs, and illustrations in this guide are protected. Educators who wish to use this guide for teaching purposes, in whole or in part, may contact Rocky Mountain School District #6 for details. If permission is granted, this guide may not be reproduced for commercial resale or distribution.

Table of Contents

Symbols

Fun Fact

Something To Think About

Invasive Species

Residential Habitat

River Habitat

Field/meadow Habitat

Wetlands Habitat

Wooded Habitat

*Note: Illustrations for Table of Contents *list* and *symbols* (also used throughout the guidebook) are from Clipart Library and pngtree.com

Welcome, adventurous minds!

Every adventure starts with a spark. That spark in your mind ignites curiosity and helps inspire great adventures. This book is meant to help feed your mind-sparks. It is filled with answers to questions you may have as you adventure through the natural spaces in and around your neighborhood.

As you head off on your explorations, the following rules will help you and the species you are sharing space with to stay safe: walk and talk gently, be mindful of the needs of other living things, and never leave a trace.

French (F), Secwepemc (S), and Ktanaxa (K) language translations for names of plants, birds, and mammals are written beside each species name when available. A list of scientific names can be found at the end of the book.

The list of definitions below will help you better understand the local species you share your neighbourhood with. As you explore, ask yourself which of the definitions corresponds to the species you are looking at or reading about.

ANIMAL: a living thing that breathes oxygen and is able to move its body from one place to another

ARACHNID: an arthropod with 8 legs

ARTHROPOD: an animal with an exoskeleton (a skeleton on the outside of its body)

CARNIVORE: an animal that eats other animals

CONIFEROUS: a tree or shrub that produces cones that contain seeds; most conifers stay green in winter

DECIDUOUS: a tree or shrub that sheds its leaves before winter and grows new ones in spring

FORB: a flowering plant that is **not** woody, and is **not** a grass, sedge or rush

HABITAT: a place that provides all things necessary for a species to live: food, water, shelter, space, and the opportunity to reproduce

HIBERNATION: when an animal sleeps for the whole or most of the winter; its body temperature lowers, heart rate slows down, and it does not eat or eats very little

HERBIVORE: an animal that eats only vegetation

INSECT: an arthropod with 6 legs

INVASIVE SPECIES: a species not native to the local area; tends to spread quickly, causing stress to the environment and making it harder for local species to thrive

MIGRATE: when an animal moves from one area to another seasonally

OMNIVORE: an animal that eats both vegetation and other animals

PREDATOR: an animal that hunts other animals

PREY: an animal that is hunted by other animals; prey can also be a predator, as a predator can be prey

SHRUB: a plant or bush with a woody stem or woody root system

UNGULATE: an animal with hooves

VERTEBRATE: an animal with a backbone (mammal, bird, fish, reptile, amphibian); as opposed to an invertebrate, which is an animal without a backbone

American Red Squirrel (F) Écureuil roux / (S) Estsék / (K) Takaé

Diet: The American red squirrel is an omnivore. It eats nuts, acorns, seeds, poplar buds, catkins, berries, insects, mice, eggs, and small birds. It collects and stores food for the winter.

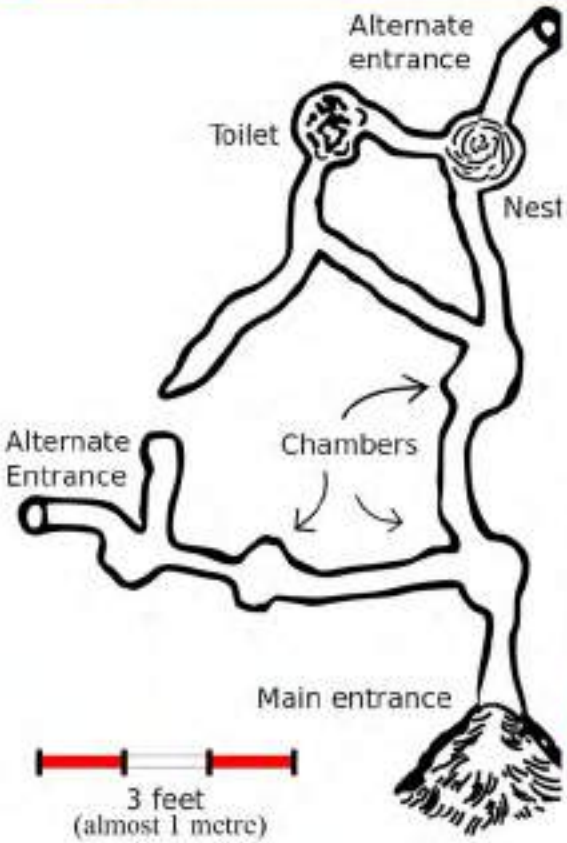
Habitat: This squirrel lives in forests that have a mix of coniferous and deciduous trees and in towns with big, old trees.

✱The American red squirrel prepares mushrooms for winter storage by laying them out on tree branches to dry.

? What kinds of predators might the American red squirrel worry about?

Nesting: Similar to birds, American red squirrels build nests. They use shredded bark, grass, and dead leaves to build their nests in branches of trees or in holes abandoned by birds. The female builds several nests and moves her young between them. This helps keep herself and her young safe from predators and near food sources.

Columbian Ground Squirrel (F) Spermophile du Columbia / (S) Estsék / (K) Namtat



✱Columbian ground squirrels 'kiss' to say hello. When they meet, they rub noses to identify and welcome each other.

Living arrangement: The Columbian ground squirrel lives in colonies (groups) and hibernates together with many other squirrels. In the diagram on the left, you can see the different chambers it makes in its burrow to help organize its home. One chamber is always reserved for storing food for spring.

? How does the Columbian ground squirrel differ from the American red squirrel?

Diet: They eat grasses, fruit, seeds, leaves, and bulbs, and sometimes insects, birds, and small animals.

Habitat: alpine meadows, grasslands, parks

North American Beaver (F) Castor du Canada / (S) Sqlu7uẃ1 / (K) Sina

Diet (summer): plants, fruit, leaves
Diet (winter): birch, poplar, willows; strong teeth that keep growing help beavers chew through wood (below, left)

Habitat: Beavers live in lakes, wetlands, and slow rivers with food sources and trees nearby. They build dams and lodges (below, right) with trees.

✱ In the 1800s, beavers were hunted to near extinction because Europeans wanted beaver fur top hats, just like the ones in this photo.

Communication: Beavers often leave 'mud pies' that they mark with a paw print and their scent. This mark tells other beavers they are in the area. They also communicate by slapping their tail on the water and through whine-like noises.

Beavers remain active in winter but are much more active in summer.

River Otter (F) Loutre de rivière / (S) Lehéts' / (K) ʔaqawxaɬ

Diet: fish, shellfish, birds, and small mammals

Habitat: wetlands, lakes, rivers, streams, coastal waters

Dens: Dens are made in hollow logs, as well as abandoned burrows and beaver lodges.

✱ The river otter has many whiskers. It uses them to help find prey in murky water.

? River otters are often accidentally killed by traps, boats, cars, and by becoming entangled in fishing nets. How do you think people can help the river otter stay safe? Do some library research and discuss with your class.

Hunting behaviour: River otters catch prey in and around water. Characteristics that make otters excellent hunters include the ability to stay under water for 4 minutes, webbed feet for quick swimming, and oily fur to keep warm and dry. They also use the channels that beavers make to get around more easily. They have been known to prey on beaver kits at times.

River otters remain active during the winter.

Bighorn Sheep (F) Moufl on d'Amérique / (S) Sweláps / (K) Kwitqti

Diet (summer): grasses, clover, sage, and other small plants

Diet (winter): willow, alfalfa

Habitat: mountain meadows in summer and grasslands in winter

✱ Bighorn sheep have excellent eyesight and can see small movements as far as 1 km away. That's about the distance between Alexander Park and Lady Grey schools. Predators need luck on their side to catch these sheep!

Description: Females are called ewes and make a "baa" sound when communicating with their young. Young sheep are called lambs and sound just like lambs on farms. Males are called rams and the only sound they make are snorts before fights. Rams are about 1 1/2 times bigger than farm sheep.

Horns: They do not shed their horns. The size of a ram's horns tells you its age. Each horn forms a new ridge for each season (top photo on right). Ewes have smaller horns that curve slightly.

? Bighorn sheep scat is similar to deer scat, with one difference. Can you spot the difference?

Differences in Male & Female Animals

The female red-winged blackbird's colour helps her hide herself and her young from predators in fields and cattails. The male's bright shoulder stripe helps him attract females to mate with.

In most animal species, there are differences between males and females. The scientific term for these differences is "sexual dimorphism." Sexual dimorphism can show itself in size, colour, pattern, horn/antler growth, vocal ability, and other physical characteristics.

There are many theories as to why sexual dimorphism exists. The most common theories are: it helps animals find and compete for mates and it helps animals survive.

✱ Not all males are bigger than females. Many female birds, arthropods, and amphibians are bigger than males.

Female mule deer do not have antlers and are about half the size of males, which helps them hide more easily. Antlers and size help males compete for mating partners.

The male moth in the photo on the left is smaller than the female. It has elaborate antennae with many receptors that help it sense where females can be found.

Male frogs have strong vocal chords. They compete for mates through song. The male frog on the right is mating with a bigger female.

Black Bear (F) Ours noir / (S) Kenkéknem / (K) Nupqu

Black bear paw print (above)

Black bear scat often has seeds & berries in it (below).

Diet: Black bears are omnivores. They eat berries, roots, seeds, ants, and rodents.

Habitat: forests

Markings: no shoulder hump, short claws, black or brown colour, small eyes, short tail, and rounded ears

Description: Black bears are mostly active at dawn and dusk. When feeding, they use their long tongues and flexible lips to lap up berries and other wild delicacies. Bears are attracted by garbage, as it is easy food, so please keep your waste safely locked up.

An adult male black bear weighs between 135-290 kg (as heavy as up to 73 house cats) and a female weighs half that. A cub weighs only 225 grams at birth - a human newborn is about 12 times bigger!

Most bears in Canada partially hibernate, waking up to give birth to young and to stretch.

Grizzly Bear (F) Ours grizzli / (S) Skemcis / (K) Kławła

The grizzly bear prints above show you the difference between back and front paws. The front paw is the one with the long claws.

Grizzly bear scat contains evidence of its meal (below).

Diet: Also an omnivore, 80-90% of a grizzly's diet is plant-based food, such as berries, nuts, and seeds. It also eats salmon, mammals, and insects.

Habitat: Grizzlies live in forests. They avoid people.

Markings: They have a hump between their shoulder blades and long claws. Their colour ranges from creamy white to almost black.

? The biggest threat to bears are people. Why do you think this is? What can you do to help keep bears safe? Research & discuss.

Description: Grizzly bears have huge home ranges and can wander for days without crossing the same spot twice. Adult male grizzlies weigh between 250-500 kg - up to the weight of 125 house cats. Females are about half that weight.

The grizzly in the photo on the right has caught itself an ungulate dinner.

Bears scratch and rub their scent against trees to tell others they were there (left).

Mountain Lion (F) Couguar / (S) Smáwe7 / (K) Swa?

Diet: hares and ungulates (deer, moose, elk)

Habitat: forests and fields - where ungulates roam, mountain lions follow

Hunting behaviour: Mountain lions hunt alone and have distinct hunting territories. They leave traces of their scent to mark their territories. Just like a house cat might spray its yard to keep other cats away, a mountain lion marks its territory to tell other lions to keep out. They do this by peeing on fallen leaves and pine needles and scratching the ground and trees.

Cubs are born with spots (below). These fade away before they reach age 1.

✱Look at the photos on the right. Notice that the mountain lion's paw print does not have claw marks. This is because cats have retractable claws (their claws do not stick out like those of a dog). When walking in snow, mountain lions also leave a tail print behind their footprints.

Mountain lions do not hibernate.

?Where might a mountain lion hunt a white-tailed deer?

Canada Lynx (F) Lynx du Canada / (S) Semréẁ / (K) Kuqni

Diet: Like the mountain lion, the Canada lynx is a carnivore. It eats mainly snowshoe hares but will eat other small animals when there are no hares available.

Habitat: mostly forests, but also hunts in fields

Breeding: Male lynx only associate with females during mating season and then go off on their own again. The female lynx gives birth to her cubs under a bush or fallen tree. The cubs will stay with her for about a year, during which time she will teach them to hunt and to survive on their own.

Hunting behaviour: As the lynx is a slow runner, it quietly and patiently stalks its prey and then pounces on it when the time is right. The male lynx is a solo hunter and marks its territory to warn off other lynx. Female lynx will hunt with their young, strategically flushing out hares together and sharing the meal.

✱Lynx have big, furry feet that help them walk on top of snow (right), similar to the way snowshoes help people walk on snow.

?How are the prints of a Canada lynx different from those of a mountain lion?

Coyote (F) Coyote / (S) Sklep / (K) Skinkuę

Diet: Coyotes eat hares, rodents, deer, insects, berries, sheep and poultry from farms. The coyote is an opportunist; it will eat almost anything to survive.

Habitat: partly wooded areas, fields, anywhere it can find food

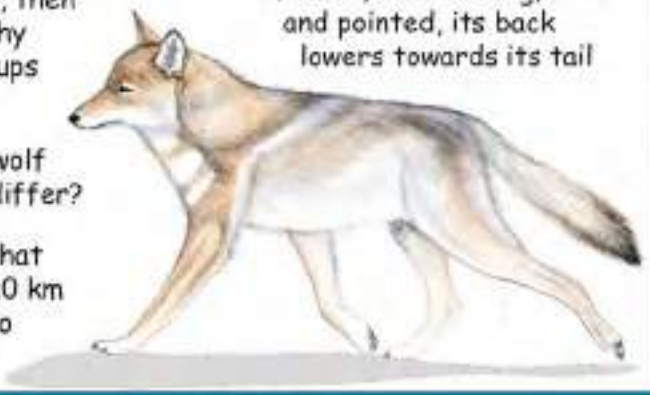
Scat: Like other carnivores, coyote scat (above) contains hair from mammals it eats. Scat colour depends on how old it is and what the coyote has eaten.

Raising pups: Coyote pups begin to eat solid food when they are 1 month old. Their first solid food will be food their mother regurgitates for them. That means she will chew it up, swallow it, then spit it up again in a soft, mushy mass that is easier for the pups to digest.

Description: great swimmer, excellent hearing and sense of smell, ears are big, wide and pointed, its back lowers towards its tail

? What do the coyote and grey wolf have in common? How do they differ?

* The coyote can reach speeds that exceed 60 km per hour. That's 10 km faster than the speed limit up to Kicking Horse Mountain Resort!



Grey Wolf (F) Loup gris / (S) Mélemstÿc / (K) Ka-kin

Diet: The wolf is a carnivore. It eats ungulates (elk, bison, caribou, deer, and muskox).

Habitat: forests, grasslands

Wolves surround a herd of ungulates in hope of a meal (left).

Wolf scat with white animal fur in it (below)

Hunting behaviour: Wolves usually hunt in packs. However, females often hunt alone in summer as they care for their pups and teach them to hunt. Wolves howl to communicate between packs. For every 10 large mammals a wolf hunts, it kills 1. Wolves do not hunt people.

* Wolves help control the numbers in herds of ungulates. Without wolves, ungulates may starve as there may not be enough food to support their numbers.

? Can you spot the differences between the grey wolf and coyote paw prints?

Deer Mouse (F) Souris sylvestre / (S) Kwékwtnc / (K) ʔinɛuk̓

Diet: seeds, buds, grasses, insects, mushrooms

Habitat: grasslands, forests, and residential areas that are near forests

Nesting: Deer mice build nests that are similar to a bird's nest. They find a nook in a dead log or tree stump, then gather grass and line the nook with it. When they're done building their nest, it looks like a neat ball of grass with a hole in it.

✱ As with all wildlife, you should never handle a deer mouse as you may cause harm to it and to yourself. Deer mice can carry a virus called "hantavirus" that is found in dust from poop and harmful to people if inhaled.

Deer mouse prints (below)

Description: Deer mice are tiny, at only 7-10 cm long. These little mice are nocturnal, meaning they are mostly active at night and asleep during the day. If you see one, you will notice its big, round ears, ball-shaped, black eyes, and long tail.

Deer mice and meadow voles do not hibernate.

Meadow Vole (F) Campagnol des champs / (S) Kwékwtnc / (K) ʔinɛuk̓

Diet: Voles eat seeds, grains, grasses, insects, and snails. They shred grasses to get at the seeds. If you come across bits of shredded grass, you may have just missed a meadow vole's dinnertime!

Habitat: meadows, wetlands

In the photo on the left, a meadow vole is making a burrow to live in.

? Can you find a plant in this book that a meadow vole might like to eat?

Description: Meadow voles have very small ears and a short tail. These voles are mostly nocturnal (active at night), but during the colder months they can be diurnal (active during the day). They are not mice, but people sometimes call them "field mice."

✱ When a meadow vole sees a predator, it will squeak repeatedly while stomping its hind feet. This action tells other voles in the area to pay attention and watch for danger.

Threats: Predators that prey on voles include hawks, owls, fox, cats, snakes, and coyotes. In the photo on the right, an unlucky meadow vole has become a lucky owl's dinner.

Little Brown Bat

(F) Petite chauve-souris brune / (S) St'enwèye / (K) ʔa·kɬum

Diet: These little bats eat flying insects. They can eat about half their body weight in insects in one night!

Habitat: open wooded areas, wetlands, towns, mining sites, caves

Description: The little brown bat weighs between 5.5 and 11 grams. It has a wingspan that is between 22-27 cm. This bat roosts in caves, hollow tree trunks, under roofs of houses and barns, and in bat houses. It lives in colonies (groups of the same species) of up to 180,000 individuals.

? The little brown bat hibernates. It sleeps all winter in a cave with other little brown bats. Can you find other animals in this book that sleep all winter?

✱ Insectivorous bats, like the little brown bat, use echolocation to catch their food. The key to the word "echo-lo-ca-tion" is "echo." The bat sends out a series of quick ultrasonic sound waves. The waves bounce off nearby insects and back to the bat, which tells them exactly where each insect is. If their sound waves bounce back quickly, they know an insect is very close. That's when they make their move, swoop in, and catch their dinner.

Hoary Bat

(F) Chauve-souris cendrée / (S) St'enwèye / (K) ʔa·kɬum

Diet: The hoary bat is insectivorous; it eats only insects. It prefers flying insects and especially enjoys moths.

Habitat: The hoary bat lives in forests and hunts above the tree canopy, in open spaces, and around lakes. This bat migrates south for the winter.

Description: The hoary bat is Canada's largest. It weighs 20-35 grams and has a wingspan of around 40 cm. Females are almost twice the size of males. It has brown fur and each hair has a white tip, which makes it look frosted.

? Are there any insects in this book that the hoary bat might particularly enjoy?

✱ Bats help farmers control insect pests that threaten their crops.

Roosting: The hoary bat mainly roosts alone in trees that have a dense foliage and a clear area beneath them. When roosting in a tree, they can be mistaken for a dead leaf, as they hang upside-down from their feet and wrap themselves up in their leathery wings. Males and females roost separately.

A bat's young are called pups.

Pine Marten (F) Marte des pins / (S) Xgens / (K) Naqsaq

Diet (summer): voles, birds, eggs, insects, and berries
Diet (winter): snowshoe hares, squirrels, and grouse

Habitat: The pine marten prefers coniferous forests with lots of hollow logs, fallen branches, new tree sprouts, and other places where it can easily hide and hunt.

? How are pine martens different from ermines?

Description: The pine marten is about half the size of a house cat. It makes its den in hollow logs, under rocks, in burrows, and in holes in big trees. It has a pointed nose and bushy tail. It hunts and lives alone, except when it has kits (young ones). It has a yellow bib under its chin and on its throat. Its colour ranges in shades of brown, from beige to almost black. It makes very distinct prints in the snow (photo on right).

* A pine marten's winter coat is thicker and a lighter shade of brown.

Scat (below)

Short-tailed Weasel (F) Hermine / (S) Spepqllts'e / (K) Mayuk

Prints and scat (above)

Diet: rodents, squirrels, fish, insects, amphibians, reptiles

Habitat: As long as food is available, this weasel can make almost anywhere its home: forests, wetlands, rivers, meadows, fields, or residential areas.

? Which other animals change colour seasonally?

Description: The short-tailed weasel changes colour from brown with a cream coloured throat and stomach in summer to snow white in winter. Weasels mark their territories with urine. They generally live alone, if they are not caring for kits. Females raise their kits alone. They make many dens around their territory, often using the dens of animals they have hunted and killed. Weasels have been known to line their dens with fur from the previous occupant!

* Short-tailed weasel kits make a chirping sound that can easily be mistaken for the chirping of a bird's chicks.

Snowshoe Hare (F) Lièvre d'Amérique / (S) Seqwyits / (K) Kyanuqtumna

Diet (summer): grasses, leaves, strawberries, bluebells, fireweed, and other plants
Diet (winter): bark, twigs, and buds

Habitat: They like forests with lots of shrubs and new growth that they can hide in and stay safe from predators.

Snowshoe hare tracks (above left) and winter coat (right)

Summer coat (below)

? Snowshoe hares change colour from white in winter to brown in summer. How might changing colours help them?

Description: A female is called a "doe" and a male is called a "buck". They have big, furry hind feet that help them stay on top of the snow (like a lynx) and give them lots of hopping power. Unlike rabbits, hares rarely go underground and prefer to outrun their predators rather than hide.

✱ Snowshoe hares can hop 3 metres in one bound and travel as fast as 45 km per hour. That's almost the speed limit in Golden!

Striped Skunk (F) Mouffette rayée / (S) Splant / (K) Xaxas

Diet: insects, small rodents, birds' eggs, plants and berries

Habitat: Skunks live in all sorts of places, from forests to towns and cities.

✱ Like bats, skunks are a farmer's best friend when it comes to pest control; they eat an incredible number of insects.

? When a skunk is threatened, it lifts its tail (like in the photo on the left) and sprays a horrible smelling liquid at its aggressor. This is a unique defense mechanism. Which other animals have a unique way of staying safe?

Living arrangements: Rather than dig their own burrow, skunks adopt burrows abandoned by other animals, or find a nice spot under a balcony or in a shed. They line their den with leaves and live alone or with their kits during summer. They den with other skunks in winter.

Skunks partially hibernate during winter, waking up to stretch now and then.

White-tailed Deer (F) Cerf de Virginie / (S) Sḵwtúps / (K) Kamnuqłuqat

Diet (summer): woody plants, grasses, flowering plants, berries, mushrooms (it is a herbivore)
Diet (winter): Deer eat what they can find in places where the snow cover is thin: mainly grasses, bushes, and acorns.

Habitat: forests, meadows

Antlers: Males have antlers, but females almost never do. The antlers are made of bone. They are covered in velvety fur and have blood running through them while they are growing. Antlers fall off in winter.

The deer in the photo above is a female (called a "doe"). Notice its white tail? The deer sticks its tail up when startled.

? How do white-tailed deer differ from mule deer?

Hoof print (above)

Fawns: Fawns are only the size of a newborn human baby when born and can walk almost immediately.

✱ Does often leave fawns alone under bushes while they forage for food. Fawns have no scent and cannot be smelled by predators. If you find a fawn alone, do not touch it. The doe may abandon it if your scent is on it.

Mule Deer (F) Cerf mulet / (S) Stqwéqwi7pe / (K) Naqyiłnik̓

Diet (summer): grasses, berries, herbs, and flowering plants (it is a herbivore)
Diet (winter): winter greens, shrubs, foliage from Douglas-fir trees

Habitat: valleys, fields, dry areas

Markings: white patch on its rump, short narrow tail with a black tip, and very big ears that are 2/3 the size of its head

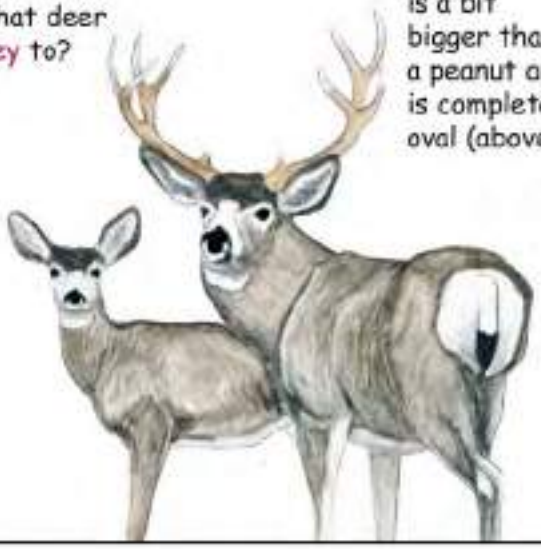
Deer migrate from higher elevations in summer to valleys, where food is easier to find, in winter.

✱ Mule deer are often seen eating the new brush that grows in areas where there has been logging or a forest fire.

? Can you find any mammals in this book that deer are prey to?

Mule deer hoof print (below)

Each piece of deer scat is a bit bigger than a peanut and is completely oval (above).



American Crow (F) Corneille d'Amérique / (S) S7égeen / (K) Xa'xa'

Indigenous peoples: Myths and legends about how the crow helped create the world vary. In some stories, the crow is said to have played a part in creating the world. In others, the crow has taught people respect for animals. All stories depict the crow as smart, tricky, and an important part of Indigenous history and culture.

Diet: Crows are opportunists; they will eat almost any food that is easily available. They particularly enjoy earthworms, eggs, hatchlings, insects, small rodents, and fast food scraps. If you leave food around, they'll eat it. Human food is unhealthy for crows, just as it is for other animals. Please keep your scraps locked up!

? Human food is unhealthy for crows. How will you keep your food out of a crow's diet? Discuss.

Habitat: open wooded areas, fields, farms, towns, cities, rivers, lakes, anywhere it can find food

Wingspan: 95 cm

* American crow families stick together. Each family has up to 15 members, with new chicks hatched yearly. Older siblings help their parents raise their younger brothers and sisters.

Common Raven (F) Corbeau / (S) Setsé7 / (K) Qukin

Indigenous peoples: Like the crow, the raven is featured in many Indigenous stories about how our world was created. It is considered to be a highly intelligent bird. This has recently been proven by scientists, who observed its amazing ability to use a tool, such as a stick, to access food.

Diet: The raven is an omnivore. Small birds, mammals, eggs, fish, frogs, snakes, and insects make an ideal menu for this curious bird. Although ravens prefer meat, they will eat almost any type of food, including unhealthy waste from garbage bins that have not been locked up properly.

Habitat: almost everywhere, but they tend to avoid cities

* Both ravens and crows use special calls and body language to communicate. They have unique calls for food, hunting, danger, comfort, and signaling territorial boundaries. They also communicate through fighting, preening, and beak and wing movements.

? How are ravens and crows similar?

Wingspan: 125 cm

Red-winged Blackbird (F) Carouge à épaulettes / (S) Tqweqwiqwiḳwit / (K) K̓at

Markings: Males are black with a red and yellow stripe on each shoulder. Females are brown and spotted with a beige stripe above each eye.

Habitat: marshes, wetlands, fields, pastures

Diet: Red-winged blackbirds are omnivores. They eat insects and seeds.

? Why do you think some male birds are more brightly coloured than female birds? Research and discuss.

✱ In winter, red-winged blackbirds roost in flocks of thousands, sometimes millions, often together with starlings and grackles.

Red-winged blackbirds migrate to warmer areas for the winter.

Nesting: Males have many female mates. Females make nests near the ground, often in marshes among the cattails. Males fiercely defend the nests against predators.

American Robin (F) Merle d'Amérique / (S) Weswisxe[n] / (K) éIkku

Habitat: woodlands, parks, gardens, fields, pastures, shrublands

Diet: American robins are omnivores. They eat worms, insects, berries, and seeds.

Markings: They have a greyish-brown back with a darker head and orange belly. Females are lighter in colour than males. Robins in Eastern Canada are darker in colour than those in Western Canada.

✱ When coming in for landing, an American robin will flick its tail downwards several times. Can you spot one doing this?

? What will you do to help robins thrive? Research and discuss.

Environmental indicator: As robins often forage in residential areas, they can become poisoned by chemicals used to kill weeds. If robins are becoming sick, it may indicate chemical pollution in an area.

Nesting: American robins make their nests in trees. Pairs do not mate for life but stay together for an entire mating season.

During fall, some American robins migrate all the way to Mexico and Guatemala. Others brave the winter and migrate only to warmer parts of British Columbia.

Belted Kingfisher (F) Martin-pêcheur d'Amérique / (S) Tsʔlas / (K) Q̓apkaɬ

Diet: This bird is a carnivore. It eats fish and crayfish.

Habitat: lakes, ponds, wetlands, rivers, and estuaries

Hunting behaviour: Belted kingfishers are predators. They hunt from a low perch in a tree along the shore or by hovering over the water. When they spot prey, they dive for it.

? If you were a belted kingfisher, where would you hunt in the Golden area?

These birds migrate to warmer ice-free areas for the winter.

* Belted kingfisher chicks are able to digest fish bones, fish scales, and crayfish shells because their stomachs are very acidic. They lose this ability when they become adults, at which stage they vomit up pellets that contain the hard pieces they have eaten. By studying an adult belted kingfisher's pellets (vomit) you can see what animals they've been eating.

Nesting: These clever birds build their nests by burrowing into earthy banks close to water. They prefer a bank without vegetation growing on it, as it is difficult to dig through plant and tree roots.

Great Blue Heron (F) Grand héron / (S) Télłpe7 / (K) Wusaq̓

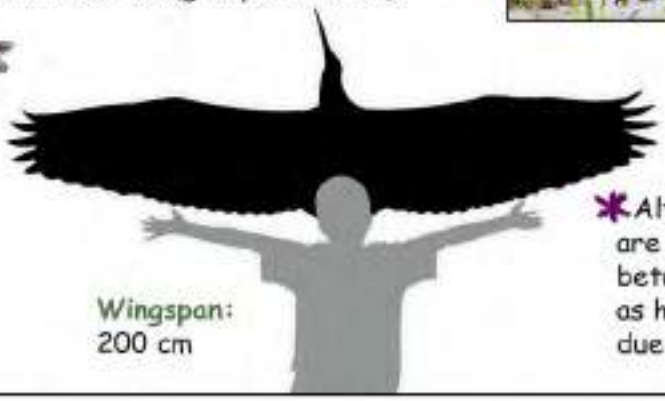
Diet: Great blue herons are carnivores. They eat mostly fish, but will also eat crayfish, insects, amphibians, reptiles, and even ducklings!

Hunting behaviour: A great blue heron stalks its prey by standing completely still in shallow water or wading very slowly through the water until it spots something delicious.

Nesting: They build their nests in the tops of tall trees. Parents feed their young by regurgitating food into the chicks' open beaks.

? What physical differences might you see between a bald eagle and a great blue heron while they are flying high in the sky above you?

Predators: Eagles, crows, ravens, and gulls prey on eggs and chicks. Bald eagles attack rookeries (groups of nests).



Wingspan: 200 cm

Habitat: prefers wetlands, marshes, and ponds

* Although these birds are big, they only weigh between 2 and 3 kg (about as heavy as a house cat) due to their hollow bones .

Canada Goose (F) Bernache du Canada / (S) Ḵwsicw / (K) Kaxuła?k

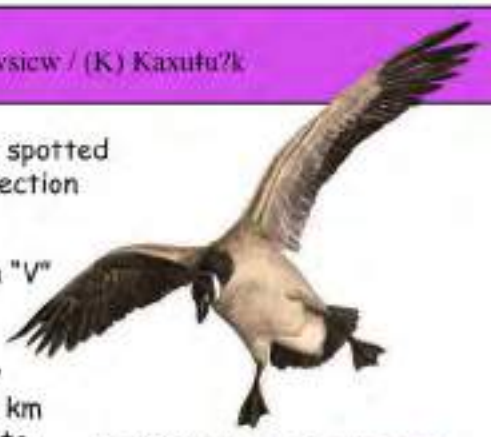
Diet: Canada geese are herbivores. They eat plant-based food, such as grasses, seeds, and grains.

Habitat: wetlands, lakes, rivers, ponds, cities, towns, and farms

Nesting: Nests are built on the ground and passed down through the generations, with geese using the same nest they were hatched in and returning to the nest every year.

? Where and when have you spotted Canada geese? In what direction were they flying?

✱ Canada Geese fly in a "V" formation to reduce wind-resistance and conserve energy. They can fly as far as 2400 km in a day. If they were to follow the highway, that would be almost 5 round-trips to Calgary!



Most Canada geese migrate south for the winter, but some stay if food is available.

Wingspan: 150 cm

Common Loon (F) Plongeon huard / (S) İswell / (K) Nuqłuki:n

Diet: The loon is a carnivore. It eats mostly fish, but also crayfish, frogs, and snails.

Habitat: lakes and other open water

Nesting: Common loons build their nests close to water. Pairs usually nest alone, away from other pairs. Eggs are laid in the beginning of June and hatch around Canada Day. Chicks can swim immediately after hatching but often climb onto a parent's back to avoid predators (such as eagles, crows, and large fish).

✱ The common loon is an excellent diver. Unlike other birds, many of a loon's bones are solid (not hollow), which helps it dive deeply and smoothly.

? The common loon is a protected species in Canada and cannot be hunted. This is because they are few in number. Pollution and residential expansion makes it hard for them to survive. What can you do to help the loon thrive? Research and discuss.

Wingspan: 135 cm

Loons migrate to warmer areas for winter.

Downy Woodpecker (F) Pic mineur / (S) Tseqwqiṅ / (K) KaȼKaȼ

Nesting: A male will build a nest by boring a hole in a tree trunk. Both parents help keep the eggs warm and care for their chicks. A pair mates for life.

Habitat: This bird enjoys forests that have a mix of coniferous and deciduous trees. They also frequent wooded areas, orchards, and parks in towns and cities.

Wingspan: 28 cm

Description: At 21-28 grams (about twice the size of a chickadee), the downy woodpecker is the smallest woodpecker in Canada.

✱ A downy woodpecker's body is made for climbing trees and drilling for insects. Its beak is chisel-shaped to help it make holes in wood. Feathers cover its nostrils to keep wood dust out. Its tail is supported by strong muscles that help the bird stay balanced while climbing.

Diet: An omnivore, this bird eats insects, larvae, and berries. It hammers holes in a tree and pries off pieces of bark with its beak, looking for tasty bugs. They do a wonderful job ridding trees of insect infestations and have substantially helped reduce bark beetle infestations.

Northern Flicker (F) Pic flamboyant / (S) Tseq̓wtsqwésp / (K) Ma?ka

Diet: Unlike other woodpeckers, the northern flicker forages on the ground for insects and eats mostly ants and beetles. It has a long, barbed tongue that it uses for lapping up insects. It is carnivore.

Habitat: open wooded areas, parks, mountain forests

Wingspan: 54 cm

Northern flickers migrate short distances to warmer areas in British Columbia.

Description: Northern flickers are large woodpeckers. At 110-160 grams, they are over 5 times heavier than downy woodpeckers. They are 28-31 cm in length and have a 42-51 cm wingspan.

Nesting: Pairs build a nest together by making a hole in the trunk of a tree. This process takes them 1-2 weeks. They are known to use bird houses for nesting. The female lays 6-8 eggs, which hatch 11-12 days later.

? How are the northern flicker and downy woodpecker different? How are they similar?

✱ Similar to other woodpeckers, the northern flicker will drum on trees and metal objects with its beak to declare and defend its territory. The louder the bang, the more serious the declaration or defence.

Osprey (F) Balbuzard / (S) Tsicwts'ccw / (K) ¿U·¿U

Diet: fish (almost exclusively)

Nesting: Osprey pairs mate for life. They nest in the tops of trees, often dead ones. In the Golden area, they also nest on top of man-made poles along the highway. Female osprey stay with chicks while male birds hunt for fish to feed their family.

Habitat: lakes, rivers, wetlands, reservoirs

Markings: dark brown back with white cheeks, forehead, neck, and belly

Fish are prey to this carnivore.

* An osprey has a 'sun-shade' bone above its eyes and uses a particular flying pattern, both of which help it spot fish from up to 30 metres above the water (that's over two times the length of a school bus!).

Wingspan: 180 cm

? How are the osprey and bald eagle similar and different?

Osprey migrate south for the winter. Some fly all the way to South America.

Bald Eagle (F) Aigle à tête blanche / (S) Spelqwèqs / (K) ?aknuqtutaṁ

Habitat: places with open water, open spaces, and tall trees; lake shores, seasides, wetlands, mountains

Indigenous peoples: The bald eagle represents honesty, wisdom, courage, strength, and freedom.

Diet: The bald eagle is a carnivore. It eats fish, mammals, birds - dead or alive.

Bald eagles migrate to warmer areas in British Columbia for the winter.

? Why do you think a bald eagle would bother to steal prey from an osprey? Research & discuss.

* These big birds can see 3-4 times as far as people can!

Hunting behaviour: Bald eagles have been known to steal fish from osprey in flight and crow chicks from their nests.

Nesting: A pair will build their nest in the top of the highest tree. Bald eagles' nests are the biggest in North America.

Courtship: beautiful calls and acrobatics, including aerial swoops, cartwheels, and chases

Wingspan: 200 cm

Pygmy Owl (F) Chouette chevêchette / (S) Snine / (K) Kup

Diet: Pygmy owls are carnivores. They eat small birds and rodents.

Habitat: along the edge of forests and in the trees along the edge of rivers

Description: These tiny owls are only 15-18 cm tall. That's about half the length of a 30 cm ruler.

✱ Whistling like a pygmy owl tends to attract flocks of angry, small birds, as they look for the danger. When spotted, pygmy owls often get mobbed by groups of the prey they've been hunting!

Nesting: Pygmy owls nest along the forest edge, in abandoned tree holes left by woodpeckers.

Hunting behaviour: Unlike many other owls, pygmy owls are diurnal, meaning they hunt during the day. They will sit in a tree, watching for rodents and birds, then pounce when they spot one. They often catch prey twice their weight!

Pygmy owls do not migrate but will winter in lower elevations.

? Most carnivores eat some plant material too. This little owl's diet consists of 90% meat. Can you find the other carnivores in this book?

Wingspan: 38 cm

Rufous Hummingbird (F) Colibri roux / (S) Xwexwnc / (K) NukcAqlit

Diet: They eat flying insects, spiders, and nectar from flowers. They particularly enjoy paintbrush, columbines, lilies, and fireweed.

Habitat: meadows, open shrub-lands, gardens, parks, marshes

? Cats and hawks prey on hummingbirds. How can you make sure that your bird feeder doesn't become a cat & hawk feeder? Discuss.

Nesting: Females prefer to build their nest in a coniferous tree and sometimes reuse the nest from year to year. Females are the sole caregiver for their chicks.

✱ Recipe for hummingbird feeder: Dissolve 1 cup sugar in 4 cups boiling water. Let cool overnight in the fridge, then fill the feeder. Do not add red dye, as it can harm the birds.

Male (above)

Wingspan: 11 cm

Flying pattern: Hummingbirds are unique in the way they fly. They are the only bird that can fly backwards as well as hover like a helicopter in one spot. They are lightning-fast fliers and migrate from Mexico to as far as the Yukon and back every spring and fall.

Description: These tiny birds weigh only 2-5 grams, are 7-9.5 cm in length, and have an 11 cm wingspan. Adult females are slightly bigger than males and pale greyish-brown with a green sheen on their back feathers. The female on the left is enjoying an easy snack at a feeder. Males will fiercely defend the food sources within their territory.

Ruddy Duck (F) Érismature rousse / (S) S7ést'cwem / (K) Kyaq̓ta

Nickname: "Ruddies"

Diet: Ruddies are omnivores. They eat aquatic plants, roots, seeds, insects, and larvae. They particularly enjoy midge larvae.

Behaviour: Ruddies dive to forage for food in mud at the bottom of ponds. Ruddies are nocturnal; they feed mostly at night and sleep during the day. When threatened, these ducks will dive rather than fly to avoid the danger.

Habitat: lakes, ponds, wetlands

Ruddies migrate to warmer areas in British Columbia.

? How do ruddies differ from mallards? How are they similar?

* Ruddies commonly lay eggs in other birds' nests.

Wingspan: 47 cm

Markings: Adult male ruddies change colour from summer to winter. In summer, males are chestnut brown with a black head and have a light blue beak (top photo). In winter, males turn greyish brown with a grey beak. Females and young ducks are shades of beige-brown with a distinctive light stripe across each cheek (bottom photo).

Mallard (F) Canard colvert / (S) Qwiqwiqin / (K) Kyaq̓ta

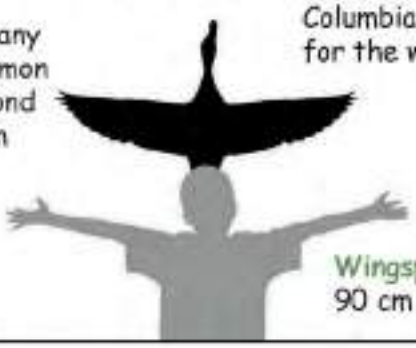
* Some ducks dive for food and some dabble. Divers have bigger feet, to propel themselves under water. Dabblers only dip their head and upper body under water. Mallards are dabblers, while ruddies are divers.

Diet: Mallards are omnivores. They eat aquatic plants, seeds, insects, and larvae. Mallards dabble for food. They can often be seen floating with their rears in the air and heads below water as they search for pond delicacies.

Habitat: Mallards adapt easily to many different environments and are common even in cities. As long as there's a pond or lake and available food, they seem to be satisfied.

Only hens (female mallards) quack, while drakes (male mallards) make a rasping noise.

Mallards stay in British Columbia for the winter.



Wingspan: 90 cm

? Male mallards are called "drakes" and females are called "hens." In the top left illustration, the drake is shown flying. In the photo above, the hen is shown swimming with her chicks. What are some differences between hens and drakes?

Sharp-shinned Hawk (F) Épervier brun / / (S) Kikéyt (K) Ḳitikika

Description: These hawks are a bit smaller than crows. When they are flying, their wings look rounded and their tail has a square tip. Females are larger than males. Young birds are a mix of browns (below). Adult birds have an orange tint to their breast feathers and their backs and heads are darker (right). They migrate only within British Columbia.

A young sharp-shinned hawk eats a hummingbird (below).

Diet: This bird is a carnivore. It preys on small birds and mammals.

✱To help their young develop hunting skills, a parent will swoop over the nest holding live prey. It calls to the young birds, encouraging them to rise up and retrieve the live prey from its talons as it flies by.

Habitat: forests (preferably containing coniferous trees), fields

Above, an adult sharp-shinned hawk quietly sits on a branch and listens for songbirds.

Hunting behaviour: Unlike many other bird predators, these hawks will hunt in dense woods, swooping down swiftly from their camouflaged perch in a tree to catch their prey unaware.

Bohemian Waxwing (F) Jaseur boréal

Diet: The bohemian waxwing is an omnivore. It eats insects, seeds, and berries. It favours flying insects, birch tree seeds, mountain ash and juniper berries. It also drinks tree sap.

✱Bohemian waxwings travel in huge flocks. When a flock takes off in flight, the sound of wings can be heard from 30 metres away (that's longer than two school buses).

Habitat: They prefer boreal forests in summer and open wooded areas in winter. They also like towns because of all the fruit trees and berry bushes.

Courtship: Both birds sit close together with their feathers all puffed up while the male passes the female an offering, usually a berry or flower.

?! Bohemian waxwings travel in flocks, making it hard for predators to focus on a single bird while in flight. Which predators do you think they are worried about?

Nesting: Females and males build their nest together, using twigs, moss, grass, and feathers. A preferred spot for building is on a horizontal branch in a spruce tree.

Bohemian waxwings usually winter in British Columbia and some stay in the Golden area year-round.

Tree Swallow (F) Hirondelle bicolore / (S) Sulnéńtkwe / (K) Kyatłanana

Diet: Tree swallows are omnivores. They eat flying insects and berries.

Habitat: wetlands and fields

Nesting: Females use weeds, grass, roots, moss, and feathers to make nests in holes in dead trees and nesting boxes. Both parents feed chicks. Young tree swallows leave the nest after 18-22 days.

? What are the similarities and differences between tree swallows and chickadees?

Tree swallows and chickadees are cavity nesters. To build their nest, they either make a hole in a rotting tree or they use a hole made by a woodpecker.

The tree swallow migrates to the southern United States for the winter. It is one of the first birds to return in the spring.

Black-capped Chickadee (F) Mésange à tête noire / (S) Ts'kikse7 / (K) Miɬ'qaqas

Diet (summer): insects and spiders

Diet (winter): seeds and berries

This bird is an omnivore.

Habitat: forests, towns, parks, marshes

Behaviour: Chickadees fly in flocks and communicate together with a "dee-dee-dee" call. The more "dees," the more danger.

Black-capped chickadees are so good at finding food that other birds observe them in order to more easily find food themselves. Chickadees are also known to hide food for later. Can you find other animals in this book that store food?

Nesting: A chickadee's favourite spot to build a nest is in a birch, alder or willow tree. Females build nests with rough material such as moss and soft material like fur.

Many black-capped chickadees stay for the winter, but some migrate south in flocks.

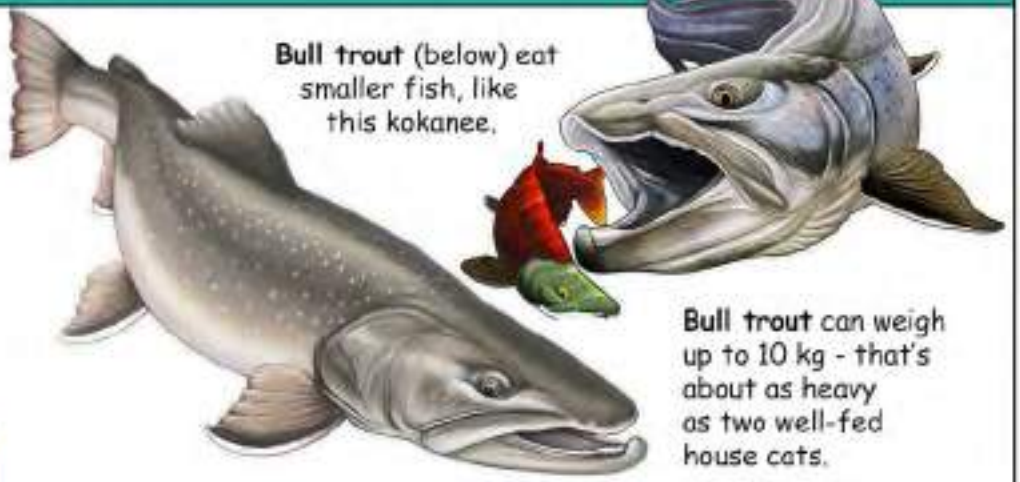
The illustration above shows the black-capped chickadee on the top branch and the mountain chickadee on the bottom branch.

? Why do you think black-capped chickadees hide food for later? Research and discuss.

Fish (F) Poisson / (S) Swewll / (K) Kyakxu


Fish are vertebrates, which means they have backbones. They also have gills on each side of their head that help them breathe under water. Gills are filters that help fish absorb oxygen in water.

? How are the fish on this page different from each other?



Bull trout (below) eat smaller fish, like this kokanee.

Bull trout can weigh up to 10 kg - that's about as heavy as two well-fed house cats.

Northern pike minnow (left) only grow to half the size of bull trout. They are omnivores: they eat insects, aquatic plants, and smaller fish. They are aggressive predators and have made it difficult for kokanee to thrive in some places.

* Salmon are an important part of Indigenous peoples' tradition and history. Every part of the salmon is nutritious. It is eaten fresh, cooked, or preserved for later by drying it in a smoke house. Prior to colonization, salmon were used as a trade item, similar to the way money is used today.

Rainbow trout (below) normally weigh up to 9 kg, but the largest ever caught was 25 kg - the size of 5 well-fed house cats. This fish is a carnivore and will eat almost any smaller animal in the water, but not vegetation. It is a relative of the salmon.

* The biggest threat to fish are people. If we are not careful, our actions can pollute the rivers and threaten fish habitat.

? Which animals in this book might prey on these fish? Which animals might be prey to these fish?

Westslope cutthroat trout (bottom right) are carnivores. They feed mainly on insects (such as water boatmen, mayflies, and ants) and zooplankton (tiny organisms that live in the water). These fish live in streams that flow into the Kicking Horse River.

Kokanee are landlocked salmon. They cannot swim to the ocean like other salmon because of the dams built on the Columbia river. When Kokanee are 3-5 years old, they lay eggs in shallow, gravelly areas in the river, close to where they were born. Kokanee turn red and die after they lay their eggs. The fry (baby fish) stay in the gravel for their first month to avoid predators and then swim away in schools (groups of similar fish).

Amphibians & Reptiles

Amphibians and reptiles are some of the most significant animals in our ecosystem. Not only do they help control arthropod and rodent populations, but they are an important source of food for many animals and birds.

Amphibians and reptiles are cold-blooded and need the sun to keep warm.

Long-toed salamanders (above), eggs with developing larvae (below)

Salamander eggs (top) and larvae ("tadpole")

Amphibians are quite amazing. They hatch with gills (like fish) and develop air-breathing lungs as they grow into adults. As adults, their skin is very thin, allowing them to absorb oxygen through it under water. They need to keep their skin damp or they will die.

Frogs, salamanders, and toads are amphibians.

The **Columbia spotted frog** (left) lays between 700-1500 eggs in the spring. Tadpoles emerge when the eggs hatch 4 days later. Tadpoles have tails and swim and breathe through gills like fish. They develop legs first, followed by arms. Their tail finally shrinks and they crawl out of the pond as frogs.

✱Mosquito repellent and sunscreen are harmful to amphibians and reptiles.

Frog eggs (below)

Reptiles start their life in an egg. Unlike amphibians, reptiles crawl out of their eggs and onto land. They are immediately land creatures. They have scales (like snakes) or shells (like turtles) and tough leathery skin. They all shed layers of skin as they grow bigger.

Snakes and turtles are reptiles.

Common garter snakes (left) eat amphibians, rodents, and insects. These snakes hibernate together in large numbers.

The **western painted turtle** (right) digs a hole on land for her eggs. She lays 6-18 eggs and covers them with soil, twigs, and leaves. She does not stay with her eggs.

Arthropods (F) Athropodes / (S) Pepíp7ese / (K) Tuq̓eQamnanana

An arthropod is an animal that has an exoskeleton (a skeleton on the outside of its body) and segmented parts that have joints between them. Arthropods include insects (6 legs), arachnids (8 legs), myriapods (centipedes, millipedes), and crustaceans (crayfish, lobster, crabs).

Swallowtail Butterfly

A **butterfly** starts off as an egg, becomes a caterpillar, then transforms into a butterfly inside a chrysalis.

Bumblebees (above) flap their wings back and forth, rather than up and down.

There are 4000 species of bee that are native to North America, including the mason bee. The honey bee was introduced by European settlers.

There are 60 species of **millipede** in Canada. They grow up to 8cm long. They have 11-100 segments. Most segments have 2 pairs of legs each - that's up to 400 legs on one millipede!

These **ants** (left) are drinking honeydew produced by aphids. Some ants farm aphids by moving them around on plants or between plants. The aphids eat sap on plant stems and leaves, then excrete honeydew. Ants feed on the honeydew that aphids excrete.

Ceanothus Silkmoth

? Which insects are a food source to other animals in this book?

A **jumping spider** (left) does not use a web to catch its prey. Instead, it actively hunts insects and pounces on them when they're not looking. Like other spiders, it is a carnivore.

Mason bees (above) are important polinators and help farmers improve crop production. Farmers build "mason bee condos" (wooden blocks with many drilled holes) to encourage mason bee occupation. These "condos" mimic a mason bee's preferred nesting spots in the wild: holes in trees, under bark, and hollow plant stems. Unlike honey bees, mason bees nest alone.

The **lesser water boatman** (left) feeds on algae and dead pond plants. To stay under water longer, it collects a bubble of oxygen under its wings and uses it a bit like a diver uses an oxygen tank.

The **damselfly** (below) has hairs on its legs that help it catch and hold its prey in mid-air. It cannot walk but can fly and stand.

Arthropods are very important pollinators. They spread pollen between flowers, which helps plants reproduce. The **honey bee** (bottom left) is one of the most important pollinators. Without honey bees, we would have a very tough time growing plant-based food.

The **harvestman** (above) is an arachnid and an omnivore.

Black Cottonwood (F) Peuplier de baumier / (S) Mulc / (K) ʔakɬumak

The black cottonwood is a deciduous tree that can grow to 50 metres tall.

Habitat: moist areas with lots of sun, such as river edges and wetlands


Indigenous use: The wood is used to make dugout canoes and as a fire-starter. Ashes are used as a cleanser. The resin from buds is used as a medication for cold and flu.

Bark: While young black cottonwood trees have smooth bark, older trees have rough dented bark (below).

Foliage: heart-shaped with a pointed tip, shiny, dark green on top with a silvery-green on the underside

Flowers: many very small flowers on catkins that hang from branches

Fruit: They look like small green beads. When they split, they release their seed, along with white fluff, into the wind.

✱Bees use the sticky resin from the buds to seal their hive against curious mice and other intruders. The resin's anti-bacterial properties help protect the hive against disease.

A black cottonwood in the winter without its foliage (right)

European Mountain Ash (F) Sorbier / (K) Kyaɬtiʔɬmak

The European mountain ash is an exotic deciduous tree that can remain short in a very dry area or grow up to 20 metres tall in a damp, open space.

Habitat: This tree benefits from a mix of sun and shade with fertile, damp, well-drained soil. It thrives along forest edges and rivers, on rocky hillsides, and in meadows and residential areas.

Flowers: Very small white flowers grow in clusters.

Foliage: Its leaves have a dark green, smooth upperside and soft, furry underside. They grow in groups of 4-9 pairs with one solo leaf at the end of each group. Leaves turn yellow and orange in the fall.

✱There is a myth that the amount of berries on a mountain ash tree can tell you whether it'll be a good ski season or not. Many berries means lots of snow, while few berries means less snow.

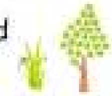
? Which birds have you seen eating berries from mountain ash trees in your neighbourhood?

Fruit: This tree produces reddish-orange berries that grow in clusters. Many birds depend on the berries as a food source during winter and spring. People use them to make jams, jellies, and cold medicine. The berries are too bitter to eat without cooking them.

Trembling Aspen (F) Peuplier faux-tremble / (K) ?akłumak

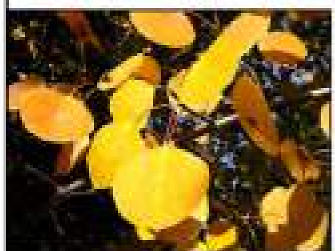
The trembling aspen is a deciduous tree that grows in groups of males and females.

Habitat: meadows and mixed wooded areas



Flowers, fruit & seeds: They grow in clusters on long catkins (10 cm). Seeds are attached to fluff that blows easily in the wind.

✱ The wind can carry seeds up to 30 km in a storm. The trees also reproduce with suckers; new trees grow from the roots of current trees.



Foliage: The leaves are green in the summer and turn yellow in the fall. They have long stalks and are round with a point on the end. The leaves clap in the wind.

Bark: It is smooth, white or grey, and does not peel easily. There is a powder on the bark of young trees that protects them from UV light damage. People have used the powder as sunscreen.

Paper Birch (F) Bouleau à papier / (S) Qweqwlilleńlp / (K) ?a·kuwałwu?k

The paper birch is a deciduous tree that can grow up to 40 metres tall. There are male and female trees.

Habitat: wetlands, forests, residential areas; often one of the first trees to populate an area after a forest fire or avalanche

The catkins (flowers) in the photo on the left are male and contain pollen, not seeds.

Indigenous use: The paper birch provides many important resources. The wood has been used to make tools such as bows and spoons. The leaves are used for making soap and shampoo. The bark is used to make canoes, baskets, ornaments, and for wrapping food to store for later. The sap is used for making cold medicine, syrup, vinegar and beer.

? How does the paper birch differ from the trembling aspen?

Foliage: The leaves are green in the summer and yellow in the fall. They are rounded at one end and have a long, pointed tip at the other.

Bark: The bark is white with a pinkish underside. On young trees, it is reddish-brown. The bark peels as the tree grows.

Douglas-fir (F) Sapin de Douglas / (S) Tsq̓ellp / (K) ʔu

The Douglas-fir is a conifer that can grow up to 42 metres (the length of 3 school buses) in the Golden area. On the coast, it can grow up to 85 metres tall. It can live for over 1000 years.

Habitat: mixed coniferous forests that are not very dense and have moist, well-drained soil

Indigenous use: Branches are used as a floor cover in lodges and sweat lodges, as fuel for cooking, and to make fishing hooks.

Cones: Male pollen cones fertilize female cones with pollen (photo on left) with help from the wind. The female cones turn from green to greyish-brown as they grow. Each cone holds about 50 seeds, which are located at the base of each scale.

Foliage: The Douglas-fir tree has flat flexible needles with a ridge running down the centre and a dull point at the tip. They grow individually (not in clusters) along branchlets.

✱The Douglas-fir is unique and not a true fir, as its cones fall from the tree intact. The cones of true firs fall apart on the tree.

Lodgepole Pine (F) Pin tordu / (S) Qweqwlt̓t / (K) ʔiɬtit

The lodgepole pine is a conifer that doesn't typically grow taller than 25 metres in the Golden area. It can live as long as 300 years.

Habitat: From forests to rocky hillsides, from oceans to inland mountains, these trees can thrive in all sorts of environments.

Pollen cones (left) fertilize the seed cones (below) with pollen. When the seed cones are fertilized, they develop scales to protect the seeds.

Indigenous use: The inner bark has a sweet flavour and is considered a delicacy by many Indigenous peoples who often dry it and store it for later. The trunks are used as support beams for dwellings. The dense wood has been used to make fishing spears.

Foliage: Needles grow in clusters of two, are yellowish-green, flexible, and are often a bit twisted.

✱The cones on a lodgepole pine are sealed tightly with resin. They only open and release their seeds during extreme hot periods or when a forest fire passes through.

Seedlings (below)

Engelmann Spruce (F) Epinette d'Engelmann / (S) Tsellp / (K) Kistutat

The Engelmann spruce is a coniferous tree that can grow up to 50 metres tall and live up to 1000 years.

Habitat: mountain slopes and near streams

Foliage: Needles are stiff (break easily), with sharp points, and a square center (roll easily in fingers). Their colour is bluish-green. They grow individually (not in clusters) along branches.

✱Spruce needles are spiky and fir needles are not. To tell them apart, think "friendly fir" and "spiky spruce."

Indigenous use: The bark and roots are used to make canoes and baskets.

The Engelmann spruce can tolerate extremely cold temperatures down to -60°C.

Cones: Young cones are purple (above) and change to light brown as they mature. They can grow up to 8 cm long. The cones open in the fall and drop to the ground in the winter.

Bark: flaky, grey, and thin

Western Redcedar (F) Cèdre rouge de l'Ouest / (S) Estqw / (K) ʔiéNat

The western redcedar is a coniferous tree that can grow up to 60 metres, sometimes taller. It is B.C.'s provincial tree.

Habitat: forests with shade and moist soil

Uses: The wood is used for building projects. Leaf oil is used for perfume, insect repellent, and shoe polish. Indigenous peoples use the wood to make many things, as it does not rot easily. The Northwest Coast Indigenous peoples made totem poles with it.

✱The western redcedar is a tall tree that gets very large around its trunk. The largest one measured was 6.4 metres in diameter. It is one of the biggest native trees in Canada.

Foliage and seed cones (below)

Bark: The bark is reddish-brown and thin. Narrow, vertical ridges form as it ages.

Foliage: Short, yellow-green branchlets grow out from bigger branches. They appear scaley. The foliage is quite dense.

Shrubs & Forbs (F) Arbustes et plantes non graminées / (K) ʔakuqmana

This section will tell you about some of the shrubs and forbs that grow in our area. A shrub is a woody plant that's smaller than a tree and quite bushy. A forb is a non-woody plant that often has colourful flowers.

Shrubs and forbs both have flowers that help them reproduce. A berry-producing shrub has flowers that turn into berries with seeds inside (like red-osier dogwood). A flower on a forb plant produces seeds inside its carpel that are released when the flower dries up. Shrubs and forbs both need the help of insects or the wind to reproduce.

✱ Flowers attract insects with sweet nectar. As an insect crawls in to collect nectar, it brushes against pollen. When the insect visits another flower of the same type, the pollen on its body rubs off onto the second flower's stigma. The pollen then fertilizes the second flower. When this happens, seeds are produced. When the seeds drop to the ground, they develop roots and new plants grow. The wind, birds, and animals help distribute seeds to new areas.

? Which animals in this book get nutrients from forbs? Which ones eat shrubs?

Below: example of a forb

Red-osier Dogwood (F) Cornouiller stolonifère / (K) Muʔk

Fruit: white (sometimes bluish) berries that grow in clusters

✱ Many berries are poisonous. Never eat berries in the wild without an adult's permission.

Red-osier dogwood is a shrub that grows up to 4 metres tall and has red bark.

Habitat: Red-osier dogwood grows in wetlands, along streams, and near lakes. This shrub likes moist soil.

Indigenous use: Although the berries are very bitter, many people eat them. They are mixed with other berries and foods or dried for later use. The bark and leaves are smoked by some. The bendable branches have also been used in the making of sweat lodges.

Foliage: The leaves are oval and pointed at each end. They turn from green to red in the fall.

Flowers: Small, white flowers grow in clusters with almost flat tops.

Rocky Mountain Juniper

(F) Genévrier de Virginie / (S) Punlip
(K) ʔakukpłutaɬ

Rocky Mountain juniper is a coniferous shrub that can grow into a tree up to 10 metres tall.

Habitat: dry valleys, rocky hillsides, along the edges of rivers, towns.

Indigenous use: Many Indigenous peoples make soap and shampoo with juniper berries and bows with juniper wood. The strong scent of the boughs is thought to keep harmful spirits away.

Foliage (above and right): It looks a bit like needles but with scales. It's quite similar to the western redcedar.

Fruit (right): The fruit is about the size of a pea and turns from green to purplish-blue as it gets older.

✱This shrub depends on birds to eat its seeds before they can germinate and grow into new shrubs. When birds digest the seeds, the protective layer is removed allowing germination to begin.

? Which birds in this book eat juniper berries?

Bark: thin, reddish to greyish-brown, looks shredded and as if the tree is shedding (right)

Douglas Maple

(F) Érable nain / (S) Ts'wéllten

The Douglas maple is a shrub that can grow into a tree up to 7 metres tall.

Habitat: mountain valleys, open forests, along stream edges, and in towns

Indigenous use: Snowshoe frames are made by soaking green branches and bending them into the right shape, then tying them together. Bows, masks, and headdresses are also made with the branches. The bark is used to make rope.

✱The wood on the Douglas maple is very tough and bends easily. It can be used to make all sorts of things, from bows to tools, utensils, and marshmallow-roasting sticks.

Foliage: The leaves are dark green on the upperside, greyish-green on the underside. They turn bright orange in the fall.

? How are the Douglas maple and Rocky Mountain juniper different and similar?

Seeds (left): The seeds look like wings and spin like a helicopter's rotary blades when they fall to the ground. They turn from red in the summer to brown in the fall.

Oregon Grape (F) Mahonia à feuilles de houx / (S) Sts'ełsállp / (K) Nahukwu?k

The Oregon grape is a shrub that can grow up to 1 metre tall.

Habitat: This plant thrives in all sorts of places, including forests and hillsides, and prefers soil that is not very moist.

Fruit: football-shaped berries that are blue and have seeds inside; edible with a sour taste

Indigenous use: The bark and roots are used to make a bright yellow dye. The bark and berries can be made into a medicine to treat several illnesses. Jellies are made from the berries.

✱ Several birds and mammals eat Oregon grape berries and deer eat the spiky leaves in the winter, as they stay on the bush and are easy to find in the snow.

Foliage: The leaves are glossy, green and turn red in the fall. They have thorn-like prickles along their edges.

Kinnikinnick Raisin d'ours / (S) Elk / (K) éAqawu?k

Flowers: Little pink, drooping bells grow in clusters at the tips of branches.

Kinnikinnick is small shrub that can grow up to 20 cm tall.

Habitat: open forests and clearings, rocky hillsides; thrives in well-drained soil

Foliage: green, leathery, oval leaves that can be up to 3 cm long

Fruit: red berries with a hard seed and whitish flesh on the inside

✱ Another name for this plant is "common bearberry." This could be because bears are very fond of them. Bears (along with other berry-eating animals) depend on these berries for food in late fall and in winter. The berries remain on the plants well into the snowy season.

Indigenous use: Kinnikinnick leaves are added to tobacco mixes and smoked in pipes by many Indigenous peoples. The leaves are also boiled to make tea. The berries are often fried in salmon oil or bear fat or added to soups with salmon, venison, or moose meat.

? Which animals and birds in this book would benefit from finding kinnikinnick berries in December?

Saskatoon (F) L'amélanchier / (S) Spəqpqélłp / (K) Sq̓umu

Saskatoon is a woody deciduous shrub that can grow up to 5 metres tall.

Habitat: dry to moist areas in forests, fields, and meadows

Flowers: white, with long petals; grow in clusters of 3-20

Fruit: The Saskatoon plant produces edible berries that are dark purple and can be almost black. Berries contain seeds.

Indigenous use: The Saskatoon plant is an important resource for most Indigenous peoples. Berries are a great source of vitamin C and are used as sweeteners, fresh off the bush or dried for later. Along with the bark, berries are also used to make medicines for liver illnesses. The wood is used to make arrow shafts.

? Can you name some animals, birds, and arthropods that eat Saskatoon berries or visit its flowers?

Foliage: Leaves are round to oval, green, smooth on top and feel a bit hairy on the underside.

Highbush Cranberry (F) Canneberge / (S) Tn̓eslłp / (K) ʔakuma

Highbush cranberry is a deciduous shrub that can grow up to 2.5 metres tall.

Habitat: moist forests, wetlands, and other damp areas

Indigenous use: The highbush cranberry is an important resource. The berries are used to make jams and jellies or stored for later. The bark and wood can be boiled to make medicine for coughs and sore throats. The branches are hollowed out to make pipes.

Foliage: The leaves are shaped a bit like maple leaves. They turn red in the fall.

Flowers: small, white; grow in clusters in between two leaves

? Can you find this shrub in your neighbourhood?

✱ Highbush cranberry is a very leafy and dense shrub that provides shelter for birds.

Fruit: The berries are red, have seeds inside them, and grow in clusters. They are edible.

Snowberry (F) Symphorine / (S) Tpeqpqûqse7 / (K) MiɛQukuɬiɬnawu?k

Snowberry is a deciduous shrub that can grow up to 1.5 metres.

Habitat: forests, meadows, dry rocky hillsides

Fruit: Berries are white, contain seeds, and grow in clusters. They can be POISONOUS to humans.

Indigenous use: In many Indigenous languages, these berries are called "corpse berries" or "ghost berries" because of their waxy white colour. The branches are used to make pipe stems.

Foliage: The leaves are oval-shaped with smooth edges. A young plant's leaves can be irregularly shaped.

? What are some differences between the snowberry and Rocky Mountain juniper shrubs?

Snowberry berries stay on the bush throughout the winter, providing many birds with food.

Prickly Rose (F) Rose sauvage / (S) Skeplélllp / (K) Ǫuɬmawu?k

The prickly rose is a deciduous shrub that can grow up to 1.5 metres tall.

Habitat: forests that have open spaces, fields, hillsides, parks, residential areas

Indigenous use: Rose hips are high in Vitamins C and A, and also in calcium. The outer fleshy part is used to make teas and jellies. The inside is hairy with many seeds and can't be eaten.

? How do you think the thorns on the prickly rose help it thrive?

Fruit: Oval-shaped, red rose hips grow in the same place as the flower after it sheds its petals. Rose hips stay on the plant well after the leaves have fallen in the fall. They are eaten by coyotes, bears, and other animals.

Striped Coralroot (F) Corallorhize striée

Striped coralroot is a forb that can grow up to 50 cm tall. It is a member of the orchid family.

Habitat: This plant thrives in forests and meadows that are moist. It tolerates shade.

Flowers: Striped coralroot has yellowish-pink flowers with three purple stripes on each petal. 7-25 flowers grow along a stem. They bloom in spring.

✱ Coralroot is quite unique, as it relies on fungi for nutrients. Unlike other plants, it does not have chlorophyll. This is why it is not green.

Seeds: When the flowers have fallen, they leave behind football-shaped capsules that hang downwards from the stem. These capsules hold the seeds.

? Based on your observations, why do you think this plant is called striped coralroot?

Canada Goldenrod (F) Solidage du Canada

Canada goldenrod is a forb that grows up to 175 cm tall.

Habitat: This plant can grow in most habitats. It can even grow in areas with lots of gravel, like beside the road or next to fast rivers, such as the Kicking Horse River.

Indigenous use: The stems and flowers are used to make a tea that helps stop diarrhea.

✱ European settlers made tea with goldenrod, as the English tea was very costly. The leaves were also eaten, and a yellow dye was made with the flower heads.

? Where have you seen Canada goldenrod growing?

Red Columbine (F) Ancolie rouge

The red columbine is a forb that grows up to 1 metre tall.

Habitat: This plant thrives in forests with open spaces, in meadows, and on roadsides and river banks. It needs moist soil.

? How are red columbine and paintbrush similar?

Seeds are black, as seen here in the fall after the flower has dried up (below, right).

Flower: The flowers have red sepals and yellow petals that droop like bells with crowns. Flowers grow in clusters of 2-5.

* Red columbine has a very sweet nectar that attracts hummingbirds and butterflies.

Indigenous use: Some Indigenous peoples in this area use red columbine as a good luck charm for love.

Paintbrush (F) Castillèje d'Amérique / (S) Pell-Tsqwéqwyemc

Alpine paintbrush (above)

Paintbrush is a forb that can grow up to 80 cm tall.

Habitat: forests with open spaces, mountain meadows, roadsides

Description: The paintbrush plant comes in many shades, including red, purple, pink, yellow, and white. The coloured part on the paintbrush are its sepals. The flowers are very small and located at the base of the sepals.

Indigenous peoples: The scarlet paintbrush (right) is considered sacred.

* The paintbrush got its name from the paintbrush shape its flowers make.

The scarlet paintbrush (bottom left and right) is also referred to as "Indian paintbrush" and "common red paintbrush". It is the one that you'll likely see in the Golden area.

Meadow Buttercup (F) Renoncule âcre / (S) Smeltsekyä7

Seed pods (above)

Meadow buttercup is a forb that grows up to 80 cm tall.

Habitat: Buttercup thrives in meadows, fields, residential areas, and on roadsides. It needs well-drained moist soil.

Description: The meadow buttercup is an invasive, weedy species but is much loved by bees and other insects. It is poisonous to cattle if eaten.

✱There is an Irish myth that rubbing a cow's udder with buttercups will help it produce more milk.

Common Dandelion (F) Pissenlit / (S) Kwelkwelqiqen / (K) Ktúqutkatmaxaka

The dandelion is a forb that grows up to 60 cm tall.

Habitat: Dandelions can thrive in all sorts of habitats, especially in fields, gardens, and cultivated areas.

The photos on the left show the seeds. They have a fluffy tail that helps them travel easily in the wind.

✱Dandelions are considered a delicacy by people all over the world. The leaves are used in salads and soups, the roots are dried and used to make a hot drink similar to coffee, and flowers can be fried or used to make wine.

?"Dandelion" was named after the French "dents de lion" (lion's teeth) because of its leaf's shape. Can you see the resemblance?

Description: The common dandelion is an invasive species that originally came from Europe. It grows very quickly and can take over an area easily. It is enjoyed by all sorts of insects that depend on its persistent blooms for food. It is one of the first plants to bloom in spring.

Blue Clematis (F) Clématite bleue / (K) Ka?tka

Blue clematis is a vine that can grow up to 5 metres long. It is a forb.

Habitat: This plant thrives in coniferous forests, along streams and rivers. It needs damp soil. It can also be grown in gardens.

Seeds have cottony tails that catch in the wind and help the seeds spread (left).

Blue clematis is a fussy plant when it comes to sun and shade. For it to thrive, its base must be shaded while its flowers like full sun!

Leaves are light green and slightly furry (above).

Flowers have four blue sepals (above)

? Blue clematis grows in many places in the Golden area. Have you noticed it in the woods along the Rotary Trail?

Heart-leaved Arnica (F) Arnica à feuilles cordées (S) Kwelkwelqiqen / (K) Kyantaktiqutaqpik

Heart-leaved arnica is a forb that can grow up to 60 cm tall.

Habitat: forests with open spaces, fields, residential areas

Indigenous use: Heart-leaved arnica is used to treat bruises, swelling, and scrapes. Some also use it as a love charm.

Flowers: They are yellow with pointed, long petals. Each stem has one flower head at its top end. If you look carefully at the photo above, you can see that each flower head has several tiny flowers (called "disc flowers") at its center. The petals that surround the disc flowers are called "ray flowers."

Foliage: heart-shaped green leaves that grow in pairs

? Like arnica, many flowers have "ray flowers" and "disc flowers". Can you spot some others in your garden?

Common Horsetail (F) Prêle des champs / (S) Tûceẽ / (K) Wasa

Common horsetail is a forb. It can grow up to 50 cm tall.

Habitat: wetlands, river banks, damp forests, meadows, roadsides

Description: The common horsetail has sterile stems (left) and fertile stems (right). The fertile stems grow straight up without branches and have cones at the top. The cones contain spores that help it reproduce. This plant can spread quickly and take over in areas that have suitable soil conditions.

Indigenous use: The rough stems are used as sandpaper. The stems can also be boiled to make medicines.

? Where does this plant grow in your neighbourhood?

* The horsetail is an ancient plant that can be traced back to Earth's carboniferous period - 270 million years ago!

Cattail (F) Quenouille / (S) Kwetéllp / (K) ʔaḱis Hanq̓u

Seed fluff (left) Spring stem (right)

Cattail can grow up to 2 metres and sometimes even taller. It is a forb.

Habitat: wetlands, marshes, and around the edges of lakes

? Cattails are an important source of food and shelter for many animals and birds. Can you find animals and birds in this book that may use cattails?

Flowers: Cattail flowers come in two parts: male and female. The male flowers are clustered in a dense thin strip at the tip. The female flowers make up the brown velvety hot-dog shaped part that cattails are famous for. The male flowers hold the pollen and the female flowers hold the seeds.

Indigenous use: Rhizomes (roots) are harvested and eaten in early spring. Cattails are also used for making mats, and the seed fluff is used for stuffing pillows and mattresses.

Female flowers (right)

Fireweed (F) Épilobe à feuilles étroites / (S) Ts'ixnélip / (K) Napquñsat

Fireweed is a forb. It grows up to 3 metres tall.

Habitat: forests with open spaces, meadows, places that have recently been burned by forest fires or cleared by avalanches

? What are some differences between fireweed and pearly everlasting? How are they similar?

Flowers: They are pink to purple in colour and grow up along the top end of a long stem.

Foliage: Leaves are long with pointed ends. They stick upwards along the stem, under the flowers.

Indigenous use: When fireweed has just come up in spring, the long stalk has a sweet flavour and is often eaten raw or boiled. Fireweed has also been used as a treatment for skin conditions, such as eczema.

Pearly Everlasting (F) Immortelle blanche / (K) KuęUku

Seeds (above)

Pearly everlasting is a forb that can grow up to 90 cm.

Habitat: forests with open spaces, meadows, roadsides, pastures, residential areas

✱ Have you ever seen flowers in bloom when it's snowing? Keep your eyes open for pearly everlasting. It doesn't bloom until the middle of summer, but when it finally does, the flowers can stay in bloom until winter hits.

Flowers: Pearly everlasting have many white, papery, petal-looking bracts that overlap with tiny tubular disc flowers in the centre. The flowers grow in clusters at the end of each stem.

Foliage: Long, thin, pale green leaves grow up along each stem. The underside of each leaf feels woolly.

Indigenous use: Pearly everlasting has been used as a remedy for fever and coughs. Tea is made with the roots and shoots to help with an upset stomach. The stems also smell nice and are often picked for the fragrance.

Bull Thistle (F) Chardon vulgaire/ (S) Qelspû7

The bull thistle is a tall forb. It can grow up to 2 metres tall. It is an invasive species.

Habitat: fields, roadsides, open spaces in forests, residential areas

There is a legend that Scotland was saved from being invaded by the Danes when a Danish soldier stepped on a bull thistle and yelled in agony, warning the Scots of the attempted invasion.

Seeds (below)

Leaves: The leaves are long and prickly with sharp, spike-like points. All thistles have spiky bits on the edges of their leaves, but bull thistles even have them on the surface of the leaf. If you've ever stepped on a new thistle in the grass, you'll know that these plants are not to be messed with. Covered in prickly bits, the whole plant has evolved to keep things from touching it!

Flower: They're beautiful, pink, and held up with lots of spiky bits!

? Bees and butterflies are very fond of bull thistle flowers. Which other insects might be too?

Tiger Lily (F) Lis tigré / (S) Textsiñ / (K) Nasayit

Tiger lilies are forbs and can grow up to 1 metre tall.

Habitat: They like moist soil, sun, and open spaces in forests, meadows, and fields.

Flowers: Tiger lilies have big, yellow-orange flowers with red dots on the upperside of each petal. Petals curl back towards the stem. There can be as many as 30 flowers on one stem.

There is an old English myth that smelling a tiger lily will give you beautiful freckles!

Indigenous use: The bulbs have a peppery taste and are often added to other foods (such as Saskatoon berry pudding and soup) as a spice. The bulbs can also be boiled and dried for storage. Some Indigenous peoples believe that eating tiger lily bulbs leads to a healthy long life.

Fungi (F) Champignon / (S) Semíéqe7 / (K) ?a·kałaka?is Watak

Tinder polypore gets its nutrients from living and dead trees (above).

A fungus is quite unique. It does not have stems, roots, or leaves, and it does not need sunlight to thrive. In fact, most fungi prefer shady damp places. A mushroom is the fruiting body of a fungus and its sole role is to produce spores for reproduction.

Some mushrooms are edible and some are very poisonous. Never touch a mushroom in the wild.

Fungi are wonderful at recycling dead plants and animals. As they absorb nutrients from them, they help break them down into healthy soil.

Little browns are a name given to small umbrella-like mushrooms that are hard to identify (above and below).

The **pear-shaped puffball** (above) can often be found on fallen decaying trees in the forest.

Some mushrooms have gills (below left), some have pores (below right), and others have different spore producing structures. Mushrooms can be identified by color, shape and whether they have gills, pores, or other spore producing structures.

Some fungi in tropical areas have bioluminescent powers and glow in the dark! People have used them to guide their way in the woods at night.

The **shaggy-mane** mushroom (below) grows in grassy areas. It curls up, turns black, and dissolves itself after it releases its spores.

Mushroom with gills

Mushroom with pores

Black morel mushrooms (above) are poisonous if eaten raw.

Fungi reproduce by making spores, which are a bit similar to pollen and seeds. When insects crawl on the mushroom, or when the wind blows or rain falls, the spores are carried away and deposited in new places. If the new environment is moist enough and nutrients are available, new mushrooms will grow where the spores are deposited.

Moss & Lichen

(F) Mousse & lichen /
(S) Sepsyúlecw & Wíle / (K) ʔakuqtawutiyaɬ & ʔumquɬna

Angel Hair (lichen)

So, what on earth is the difference between moss & lichen? If you've ever wondered about this, you are not alone! Moss and lichen have some key similarities. They're both cryptogams (they don't need seeds or flowers to reproduce). They can both be very colourful, often in shades of green, brown, yellow, and red. Neither of them grow very tall. The main difference is that moss is a plant and lichen is a mix between a fungus and an alga.

Blunt-leaved Bristle-Moss

Witch's Hair (lichen)

Lichen (left) is made up of two organisms, a fungus and an alga, living together. The fungus is the lichen's body and it protects the lichen from drying out in the sun (a bit like a person's skin). The alga absorbs food for the lichen and keeps the fungus alive (similar to a person's inner organs).

Silver-edge Pelt (lichen)

Lichen is quite dry and thrives in both sunny and shady places.

Lichen can be very colourful and comes in many different shapes.

Blunt-leaved Bristle-Moss (spore capsules)

? What are the differences between the mosses and lichens in your neighbourhood?

Silver-edge Pelt

Mosses (right) are multicellular organisms that use photosynthesis, just like other plants do. However, mosses do not transport nutrients from the ground and up through their roots and stems like many plants do. Instead, mosses absorb nutrients by soaking them up like a sponge. Mosses need damp shady environments to thrive.

Spore capsules on moss

Silver-edge Pelt (fruiting body)

Valley Wolf (lichen)

Wavy-leaved Moss

Knight's Plume (moss)

Photo Attributions

Alphabetically listed with forenames (or Wikimedia Commons usernames)

Photos donated by local contributors

Bill Powell: osprey flying (2 photos); bald eagle flying; bald eagle chased by crow; loons with chicks (2); herons (2); grizzly bear walking; weasel between wood planks; common garter snake eating frog.

Bryan Kelly-McArthur: heart-leaved arnica (2 photos); blue clematis (4); striped coral root (2); bull thistle (3); red-osier dogwood (4); Rocky Mountain juniper (branch; fruit; trunk); Saskatoon (3 close-ups); snowberry (berries on branch; flowers on branch); pearly everlasting (4); common horsetail (2); cattail (3); dandelion (3); buttercup (2); red columbine (3); Canada goldenrod (3); Oregon grape (2); long-toed salamanders, eggs, & larva; Columbia spotted frog; jumping spider; ant with aphids; harvestman arachnid; tinder polypore; little browns (2); pear-shaped puffballs; black morel; mushroom with gills; mushroom with pores; angel hair; old man's beard; silver-edge pelt (3); valley wolf; wavy-leaved moss; knight's plume; blunt-leaved bristle-moss (2); spore capsules on moss.

Jane Powell: Canada geese on grass; sharp-shinned hawk eating hummingbird; young sharp-shinned hawk sitting on wire; ground squirrel; bighorn sheep herd; Douglas maple (leaves with red seed pods); skunk prints; flowering Douglas-fir; scarlet paintbrush in field.

Nick Laferriere: pygmy owls (2 photos); rufous hummingbirds (3); white-tailed deer with antlers; white-tailed deer fawn; black bear adult; black bear cub; fireweed (2); high-bush cranberry (red leaves); Alpine paintbrush; northern pike minnow; kokanee salmon; westslope cutthroat; swallowtail butterfly; ceanothus silk moth.

Photos & illustrations obtained on Wikimedia Commons (with licenses listed)

Creative Commons CC0 1.0 Universal Public Domain Dedication

Alan Schmierer (snowshoe hare, summer coat); Skeeze (striped skunk with raised tail);

Creative Commons Attribution 2.0 Generic License

Andrey Zharkikh (Engelmann spruce, closeup of needles; Engelmann spruce needle broken); Ben Sale (moth pair); Dfaulder (ruddy duck in middle of water swirl; Forest Service Northern Region (columbia spotted frog egg mass); Jason Hollinger (lodgepole pine, flowers; high-bush cranberry with flowers; prickly rose thorns); Mark Nenadov (damselfly); Melissa McMasters (female red-winged blackbird on cattail); Oregon Department of Fish & Wildlife (mule deer pair); Russ (male red-winged blackbird in field); Stephen Shellard (mountain ash berries); Thomas Quine (mountain ash berries); USFWS Mountain-Prairie (black cottonwood – winter);

Creative Commons Attribution 3.0 Unported license

Faldrian (mating frogs); Ke Loving (kinnikinnick flower closeup);

Creative Commons Attribution-Share Alike 2.0 Generic license

Airwolfhound (weasel on grass); Andy Reago & Chrissy McClarren (American crow; belted kingfisher on measuring pole); Bear Golden Retriever (black-capped chickadee in flight to hand); Biodiversity Heritage Library (winter weasel illustration); Clayoquot (cougar track in snow); Dawn Beattie (coyote looking at camera); Domic Sherony (northern flicker on tree stump); Don Faulkner (female red-winged blackbird); Emery Way (white-tailed deer, tail flared up); Francesco Veronesi (common raven, standing); GlacierNPS (grizzly claw marks on tree); G'pa Bill (coyote pups); Gregory "Slobirdr" Smith (deer mouse); J Jongsma (little brown bat); Jason Hollinger (wolf scat); Jeremy Weber (bighorn sheep headshot); Kaz Andrew (high-bush cranberry berries); Keith Williams (lynx walking on snow); Matt Lavin (altered photo) and Peter Coxhead (flower photographer) (flower parts illustration);

Melissa McMasters (downy woodpecker, flying); Oregon Department of Fish & Wildlife (western painted turtle hatchlings); Oregon Department of Fish & Wildlife (snowshoe hare – summer browns); Peter Broster (red squirrel on branch); Peter O'Connor (water boatman, swimming); Seney Natural History Association (coyote scat); Tim Gage (pine marten); Unknown author (weasel killing rabbit); USFWS Midwest Region (western painted turtle, withdrawn into shell); USFWS Mountain-Prairie (mule deer herd);

USFWSmidwest (red-winged blackbird nest/eggs); USFWSmidwest (turtle eggs); USFWSmidwest (white-tailed deer hoof print); USFWS Mountain-Prairie (meadow vole caught by owl); U.S. Fish and Wildlife Service Headquarters (little brown bat hanging on rock); U. S. Fish and Wildlife Service - Northeast Region (deer mouse tracks);

Creative Commons Attribution-Share Alike 2.5 Generic license

Cody Connor (pine marten, from side); Geographer (lodgepole pine, cluster of pollen-bearing male cones).

Creative Commons Attribution-Share Alike 3.0 Unported license

Amiyashrivastava (black cottonwood – seeds and fluff); Beeblebrox

(black cottonwood bark); Brocken Inaglory (female mallard with young); Clay Heaton (white-tailed deer, fawn); D. Gordon E. Robertson (beaver cutting tree); Dcrjsr (Columbia tiger lily); Dick Daniels (female ruddy duck); Dmitry Azovtsev (river otters rubbing faces); Eddie Carle (bohemian waxwing, on branch, head down); Famartin (Engelmann Spruce, immature cones; Rocky Mountain juniper - bush); Fungus Guy (prickly rose flower); Gilles San Martin (Douglas-fir needles);

Greg Tally (meadow vole digging out of ground); Forest and Kim Starr (hoary bat hanging in tree); Jongsun Lee (2 tree swallows flying); Meggar (Saskatoon berries);

Needsmoreritalin (young meadow vole); Roger Culos (Douglas-fir cones);

Smidon33 (jumping spider); Unknown author (black-capped chickadee on branch); Walter Siegmund (striped coralroot flower closeup; lodgepole pine, female cone; western redcedar, shoot with female cones; trembling aspen autumn foliage; Douglas maple – full bush / seed; Saskatoon bush; snowberry flowers close-up); Wayne Thornton (mountain lion in tree).

Creative Commons Attribution-Share Alike 4.0 International license

Photo Attributions

Alphabetically listed with forenames (or Wikimedia Commons usernames)

Photos donated by local contributors

Bill Powell: osprey flying (2 photos); bald eagle flying; bald eagle chased by crow; loons with chicks (2); herons (2); grizzly bear walking; weasel between wood planks; common garter snake eating frog.

Bryan Kelly-McArthur: heart-leaved arnica (2 photos); blue clematis (4); striped coral root (2); bull thistle (3); red-osier dogwood (4); Rocky Mountain juniper (branch; fruit; trunk); Saskatoon (3 close-ups); snowberry (berries on branch; flowers on branch); pearly everlasting (4); common horsetail (2); cattail (3); dandelion (3); buttercup (2); red columbine (3); Canada goldenrod (3); Oregon grape (2); long-toed salamanders, eggs, & larva; Columbia spotted frog; jumping spider; ant with aphids; harvestman arachnid; tinder polypore; little browns (2); pear-shaped puffballs; black morel; mushroom with gills; mushroom with pores; angel hair; old man's beard; silver-edge pelt (3); valley wolf; wavy-leaved moss; knight's plume; blunt-leaved bristle-moss (2); spore capsules on moss.

Jane Powell: Canada geese on grass; sharp-shinned hawk eating hummingbird; young sharp-shinned hawk sitting on wire; ground squirrel; bighorn sheep herd; Douglas maple (leaves with red seed pods); skunk prints; flowering Douglas-fir; scarlet paintbrush in field.

Nick Laferriere: pygmy owls (2 photos); rufous hummingbirds (3); white-tailed deer with antlers; white-tailed deer fawn; black bear adult; black bear cub; fireweed (2); high-bush cranberry (red leaves); Alpine paintbrush; northern pike minnow; kokanee salmon; westslope cutthroat; swallowtail butterfly; ceanothus silk moth.

Photos & illustrations obtained on Wikimedia Commons (with licenses listed)

Creative Commons CC0 1.0 Universal Public Domain Dedication

Alan Schmierer (snowshoe hare, summer coat); Skeeze (striped skunk with raised tail);

Creative Commons Attribution 2.0 Generic License

Andrey Zharkikh (Engelmann spruce, closeup of needles; Engelmann spruce needle broken); Ben Sale (moth pair); Dfaulder (ruddy duck in middle of water swirl; Forest Service Northern Region (columbia spotted frog egg mass); Jason Hollinger (lodgepole pine, flowers; high-bush cranberry with flowers; prickly rose thorns); Mark Nenadov (damselfly); Melissa McMasters (female red-winged blackbird on cattail); Oregon Department of Fish & Wildlife (mule deer pair); Russ (male red-winged blackbird in field); Stephen Shellard (mountain ash berries); Thomas Quine (mountain ash berries); USFWS Mountain-Prairie (black cottonwood – winter);

Creative Commons Attribution 3.0 Unported license

Faldrian (mating frogs); Ke Loving (kinnikinnick flower closeup);

Creative Commons Attribution-Share Alike 2.0 Generic license

Airwolfhound (weasel on grass); Andy Reago & Chrissy McClarren (American crow; belted kingfisher on measuring pole); Bear Golden Retriever (black-capped chickadee in flight to hand); Biodiversity Heritage Library (winter weasel illustration); Clayoquot (cougar track in snow); Dawn Beattie (coyote looking at camera); Domic Sherony (northern flicker on tree stump); Don Faulkner (female red-winged blackbird); Emery Way (white-tailed deer, tail flared up); Francesco Veronesi (common raven, standing); GlacierNPS (grizzly claw marks on tree); G'pa Bill (coyote pups); Gregory "Slobirdr" Smith (deer mouse); J Jongsma (little brown bat); Jason Hollinger (wolf scat); Jeremy Weber (bighorn sheep headshot); Kaz Andrew (high-bush cranberry berries); Keith Williams (lynx walking on snow); Matt Lavin (altered photo) and Peter Coxhead (flower photographer) (flower parts illustration);

Melissa McMasters (downy woodpecker, flying); Oregon Department of Fish & Wildlife (western painted turtle hatchlings); Oregon Department of Fish & Wildlife (snowshoe hare – summer browns); Peter Broster (red squirrel on branch); Peter O'Connor (water boatman, swimming); Seney Natural History Association (coyote scat); Tim Gage (pine marten); Unknown author (weasel killing rabbit); USFWS Midwest Region (western painted turtle, withdrawn into shell); USFWS Mountain-Prairie (mule deer herd);

USFWSmidwest (red-winged blackbird nest/eggs); USFWSmidwest (turtle eggs); USFWSmidwest (white-tailed deer hoof print); USFWS Mountain-Prairie (meadow vole caught by owl); U.S. Fish and Wildlife Service Headquarters (little brown bat hanging on rock); U. S. Fish and Wildlife Service - Northeast Region (deer mouse tracks);

Creative Commons Attribution-Share Alike 2.5 Generic license

Cody Connor (pine marten, from side); Geographer (lodgepole pine, cluster of pollen-bearing male cones).

Creative Commons Attribution-Share Alike 3.0 Unported license

Amiyashrivastava (black cottonwood – seeds and fluff); Beeblebrox

(black cottonwood bark); Brocken Inaglory (female mallard with young); Clay Heaton (white-tailed deer, fawn); D. Gordon E. Robertson (beaver cutting tree); Dcrjsr (Columbia tiger lily); Dick Daniels (female ruddy duck); Dmitry Azovtsev (river otters rubbing faces); Eddie Carle (bohemian waxwing, on branch, head down); Famartin (Engelmann Spruce, immature cones; Rocky Mountain juniper - bush); Fungus Guy (prickly rose flower); Gilles San Martin (Douglas-fir needles);

Greg Tally (meadow vole digging out of ground); Forest and Kim Starr (hoary bat hanging in tree); Jongsun Lee (2 tree swallows flying); Meggar (Saskatoon berries);

Needsmoreritalin (young meadow vole); Roger Culos (Douglas-fir cones);

Smidon33 (jumping spider); Unknown author (black-capped chickadee on branch); Walter Siegmund (striped coralroot flower closeup; lodgepole pine, female cone; western redcedar, shoot with female cones; trembling aspen autumn foliage; Douglas maple – full bush / seed; Saskatoon bush; snowberry flowers close-up); Wayne Thornton (mountain lion in tree).

Creative Commons Attribution-Share Alike 4.0 International license

Cloud Atlas (bighorn sheep hoof prints in snow); David J. Stang (lynx feet); Didier Descouens (beaver skulls); Famartin (trembling aspen catkins); Gaff (ground squirrel chamber drawing); Ian Poellet (mountain ash autumn lake); Ivanvector (red squirrel eating rose bud); Jacek Proszyk (mason bee larvae cycle); Joe Mabel (wild rose hips); Krzysztof Ziarnek, Kenraiz (western redcedar, foliage); Mas3cf (grey wolf headshot); Ryan Hodnett (white-tailed deer scat); VanDusen Botanical Garden (trembling aspen – group); Vengolis (millipede, alone walking).

Creative Commons CC0 1.0 Universal Public Domain Dedication

Alan Schmierer (sharp-shinned hawk – adult); Jocelyn Anderson (black-capped chickadee, standing on branch); Pookie Fugglestein (American robin, female).

License: No Copyright (wikimedia public domain classification)

Buchanan-Hermit (western redcedar totem pole); Denali National Park and Preserve (snowshoe hare – winter whites); Don Pfritzer (little brown bat wingspan); Doug Smith (grey wolves hunting); Hardyplants (high-bush cranberry – flower closeup); Hillebrand Steve (beaver swimming with branch); Jessica Bolser/USFWS (red-winged blackbird chicks in nest); Jim Peaco (black bear scat); John Stehn (white-tailed deer, buck); Mariana Ruiz LadyofHats (parts of a flower); NASA (osprey, flying facing camera); Paul Cryan (hoary bat in tree); San Bernardino Nat'l Forest (coyote track in mud); Thereidshome (black cottonwood male catkin and leaf buds); Unknown author (grizzly paws); Unknown author (grey wolf paw prints); USDA (beaver lodge diagram); USDA NRCS (grizzly scat); U.S. Forest Service- Pacific Northwest Region (western redcedar tree); Yellowstone National Park (river otter on snow; river otter cleaning itself); Yellowstone National Park (grizzly bear on bison carcass); Author deceased/www.biolib.de (buttercup illustration); Author deceased/www.biolib.de (mountain ash illustration of parts).

*Provincial Archives of Alberta @ Flickr Commons (mountain ash flowers). This image was taken from Flickr's *The Commons.*

*Table of Contents small symbols (also used throughout the guidebook): Clipart Library (http://clipart-library.com) and pngtree.com (https://pngtree.com/freepng/the-white-tape-is-sticky_3426321.html)

Literature Reference List

Alphabetically listed with surnames, organization name

- Alberta Conservation Association. Retrieved January – April, 2019, from https://open.alberta.ca/dataset/516d89da-1741-4d1a-bd64-c4cf447eb8dc/resource/5fba36c0-f648-4007-a8bc-c043b204bfe5/download/SAR-BullTrout-FactSheet-May2003.pdf
- Alberta Ministry of Environment and Parks: Fish and Wildlife. Retrieved January – April, 2019, from https://www.alberta.ca/fish-wildlife.aspx
- Alberta Plant Watch. Retrieved January – April, 2019, from http://plantwatch.naturealberta.ca/choose-your-plants/saskatoon/
- Animal Diversity Web. Retrieved January – April, 2019, from https://animaldiversity.org
- Antal, A., Anari, E., Beckman, K., & Xu, Z. (2014). *Flora, Fauna and Fungi of Hatley Park: A Nature Kindergarten Guidebook*. Royal Roads University & Kreate.
- Antos, J., Coupe, R. Douglas, G. Evans, R., Roberts, A. (1996). *Plants of Southern Interior British Columbia*. Lone Pine Publishing.
- Atlas of the Breeding Birds of British Columbia. Retrieved January – March, 2019, from https://www.birdatlas.bc.ca
- Bab.la Dictionary. Retrieved April, 2019, from https://en.bab.la/dictionary/
- Bat Conservation International. Retrieved January – April, 2019, from http://www.batcon.org
- BC's Coast Region: Species & Ecosystems of Conservation Concern Northern Pygmy-owl. Retrieved March, 2019, from http://ibis.geog.ubc.ca/biodiversity/factsheets/pdf/Glaucidium_gnoma_swarthi.pdf
- Britannica Kids: Fungus. Retrieved January – April, 2019, from https://kids.britannica.com/kids/article/fungus/353159/296818-toc
- Bug Guide: Native Bees of North America. Retrieved March-June 2019, from https://bugguide.net/node/view/475348
- Canadian Geographic: Rainbow Trout. Retrieved January – April, 2019, from https://www.canadiangeographic.ca/article/animal-facts-rainbow-trout
- Canadian Wildlife Federation: Hinterland Who's Who. Retrieved January - April 2019, from http://www.hww.ca/en/index.html
- Canadian Wildlife Federation: Mason Bees. Retrieved March-June, 2019, from http://cwf-fcf.org/en/resources/encyclopedias/fauna/insects/mason-bee.html
- Capital Regional District: Otters. Retrieved March 2019, from https://www.crd.bc.ca/education/our-environment/wildlife-plants/marine-species/otters
- Community Bat Programs of BC. Retrieved January – April, 2019, from https://www.bcbats.ca
- Duane Sept, J. (2012). *Animal Tracks & Signs of the Northwest*. Calypso Publishing.
- Duane Sept, J. (2011). *Trees of the Northwest*. Calypso Publishing.
- Duane Sept, J. (2005). *Wild Berries of the Northwest*. Calypso Publishing.
- Ducks Unlimited Canada. Retrieved January – April, 2019, from https://www.ducks.ca
- Electronic Atlas of the Flora of British Columbia. Retrieved January – April, 2019, from http://ibis.geog.ubc.ca/biodiversity/eflora/
- Endangered Species International: Amphibians. Retrieved January – April, 2019, from https://www.endangeredspeciesinternational.org/amphibians6.html

- Frog Watch: Engaging Citizens in Science. Retrieved January – April, 2019, from https://www.naturewatch.ca/frogwatch/columbia-spotted-frog/
- First Voices. Retrieved January – June, 2019, from https://www.firstvoices.com
- Habitat Conservation Trust Foundation. Retrieved March, 2019, from https://www.hctfeducation.ca
- Hunting Net: the Ultimate Hunting Community. Retrieved March-June, 2019, from https://www.huntingnet.com/articles/deer-anatomy-antlers.html
- Jumping Spider Facts: Lesson for Kids. Retrieved January - April, 2019, from https://study.com/academy/lesson/jumping-spider-facts-lesson-for-kids.html
- Kavanaugh, J. (2018). *Animal Tracks: an Introduction to the Tracks & Signs of Familiar North American Species.* Waterford Press Ltd.
- Kavanaugh, J. & Leung, R. (2005). *British Columbia Wildlife: A Folding Pocket Guide to Familiar Species*. Waterford Press Ltd.
- Keefer, M. and McCoy, P. (1999). *ʔa-kxaṁis ġapi qapsin = All Living Things: a Ktunaxa Ethnobotany Handbook.* Ktunaxa/Kinbasket Tribal Council.
- Korol, B., Ohanjanian, P., & Shepard, J. (1999). *Naturescape British Columbia: Native Plant and Animal Booklet, Southern Interior Mountains*. Habitat Conservation Trust Foundation
- Lake Forest College: Environmental Studies. Retrieved June, 2019, from https://www.lakeforest.edu/academics/programs/environmental/courses/es204/corallorhiza_striata.php
- Linguee Dictionary. Retrieved April, 2019, from https://www.linguee.com/english-french/about#about
- Live Science: Facts About Bumblebees. Retrieved January – April, 2019, from https://www.livescience.com/57509-bumblebee-facts.html
- Ministry of Forests, Lands, and Natural Resource Operations: Management Guidelines for Furbearers in British Columbia. Retrieved January – April, 2019, from http://www.env.gov.bc.ca/fw/wildlife/trapping/guidelines.html
- National Geographic Education. Retrieved January – April, 2019, from https://www.nationalgeographic.org/education/resource-library/?q=birds&page=1&per_page=25&subjects=Earth%20Science&subjects=Oceanography&subjects=Geology&subjects=Astronomy&subjects=Meteorology&subjects=Climatology&subjects=Biology&subjects=Ecology&subjects=Health&subjects=Genetics
- National Geographic Kids: 10 Facts About Honey Bees. Retrieved January – April, 2019, from https://www.natgeokids.com/za/discover/animals/insects/honey-bees/
- National Geographic Society. (1999). *National Geographic Field Guide To The Birds Of North America.* 3rd Ed. National Geographic.
- Nature for my Soul: 10 Things You May Not Know About Damselflies. Retrieved January – April, 2019, from https://natureformysoul.com/2016/06/10-things-you-may-not-know-about-damselflies/
- Parish, R. & Thomson, S. M. (1994). *Tree Book: Learning to Recognize Trees of British Columbia*. Canada-British Columbia Partnership on Forest Resource Development: FRDA II.
- U.S. Department of Interior Bureau of Land Management: Bald Eagles & Kokanee Salmon. Retrieved January – April, 2019, from https://www.blm.gov/sites/blm.gov/files/uploads/programs_fish-and-wildlife_wildlife_eagle-%20watch_about-bald-eagles_kokanee-salmon_funfacts.pdf
- Ralph, D., Miller, V., Hougen, C., Leekie, J. (2014). *Field Guide to Weeds and Other Selected Invasive Plants of British Columbia*. 8th Ed. B.C. Ministry of Forests, Lands and Natural Resource Operations & Invasive Species Council of BC.
- Science Direct. Retrived June, 2019, from https://www.sciencedirect.com/topics/veterinary-science-and-veterinary-medicine/sexual-dimorphism
- Science Kids. Retrieved January – April, 2019, from http://www.sciencekids.co.nz
- Sheldon, I. & Hartson, T. (1999). *Animal Tracks of British Columbia.* Lone Pine Publishing.
- Sierra Club British Columbia. Retrieved January – April, 2019, from https://sierraclub.bc.ca
- Southern Interior Weed Management Committee. *Invasive Plants of the Southern Interior B.C.*
- Stark, R. (1981). *Guide to Indian Herbs.* Octavo.
- The Canadian Encyclopedia. Retrieved January – April, 2019, from https://www.thecanadianencyclopedia.ca/en
- The Cornell Lab of Ornithology: All About Birds. Retrieved January – April, 2019, from https://www.allaboutbirds.org
- The Reptiles of British Columbia. Retrieved January – April, 2019, from https://www.bcreptiles.ca
- The Truth About Pine Cones. Retrieved January – April, 2019, from http://markcullen.com/the-truth-about-pine-cones/
- The Wildlife Trust: Species. Retrieved January – April, 2019, from https://www.wildlifetrusts.org/wildlife-explorer
- Turner, N. J. (1997). *Food Plants of Interior First Peoples*. 2nd Ed. Royal British Columbia Museum.
- Vancouver Island Big Trees: Flowering Douglas Fir. Retrieved January – April, 2019, from https://vancouverislandbigtrees.blogspot.com/2011/05/flowering-douglas-fir.html
- Westslope Cutthroat Trout. Retrieved January – April, 2019, from
- http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Fish/f_westslopecutthroattrout.pdf
- Wildsafe B.C. Retrieved February, 2019, from https://wildsafebc.com
- Yukon Department of Environment. Retrieved January – April, 2019, from http://www.env.gov.yk.ca

Photo Attributions

Alphabetically listed with forenames (or Wikimedia Commons usernames)

Photos donated by local contributors

Bill Powell: osprey flying (2 photos); bald eagle flying; bald eagle chased by crow; loons with chicks (2); herons (2); grizzly bear walking; weasel between wood planks; common garter snake eating frog.

Bryan Kelly-McArthur: heart-leaved arnica (2 photos); blue clematis (4); striped coral root (2); bull thistle (3); red-osier dogwood (4); Rocky Mountain juniper (branch; fruit; trunk); Saskatoon (3 close-ups); snowberry (berries on branch; flowers on branch); pearly everlasting (4); common horsetail (2); cattail (3); dandelion (3); buttercup (2); red columbine (3); Canada goldenrod (3); Oregon grape (2); long-toed salamanders, eggs, & larva; Columbia spotted frog; jumping spider; ant with aphids; harvestman arachnid; tinder polypore; little browns (2); pear-shaped puffballs; black morel; mushroom with gills; mushroom with pores; angel hair; old man's beard; silver-edge pelt (3); valley wolf; wavy-leaved moss; knight's plume; blunt-leaved bristle-moss (2); spore capsules on moss.

Jane Powell: Canada geese on grass; sharp-shinned hawk eating hummingbird; young sharp-shinned hawk sitting on wire; ground squirrel; bighorn sheep herd; Douglas maple (leaves with red seed pods); skunk prints; flowering Douglas-fir; scarlet paintbrush in field.

Nick Laferriere: pygmy owls (2 photos); rufous hummingbirds (3); white-tailed deer with antlers; white-tailed deer fawn; black bear adult; black bear cub; fireweed (2); high-bush cranberry (red leaves); Alpine paintbrush; northern pike minnow; kokanee salmon; westslope cutthroat; swallowtail butterfly; ceanothus silk moth.

Photos & illustrations obtained on Wikimedia Commons (with licenses listed)

Creative Commons CC0 1.0 Universal Public Domain Dedication

Alan Schmierer (snowshoe hare, summer coat); Skeeze (striped skunk with raised tail);

Creative Commons Attribution 2.0 Generic License

Andrey Zharkikh (Engelmann spruce, closeup of needles; Engelmann spruce needle broken); Ben Sale (moth pair); Dfaulder (ruddy duck in middle of water swirl; Forest Service Northern Region (columbia spotted frog egg mass); Jason Hollinger (lodgepole pine, flowers; high-bush cranberry with flowers; prickly rose thorns); Mark Nenadov (damselfly); Melissa McMasters (female red-winged blackbird on cattail); Oregon Department of Fish & Wildlife (mule deer pair); Russ (male red-winged blackbird in field); Stephen Shellard (mountain ash berries); Thomas Quine (mountain ash berries); USFWS Mountain-Prairie (black cottonwood – winter);

Creative Commons Attribution 3.0 Unported license

Faldrian (mating frogs); Ke Loving (kinnikinnick flower closeup);

Creative Commons Attribution-Share Alike 2.0 Generic license

Airwolfhound (weasel on grass); Andy Reago & Chrissy McClarren (American crow; belted kingfisher on measuring pole); Bear Golden Retriever (black-capped chickadee in flight to hand); Biodiversity Heritage Library (winter weasel illustration); Clayoquot (cougar track in snow); Dawn Beattie (coyote looking at camera); Domic Sherony (northern flicker on tree stump); Don Faulkner (female red-winged blackbird); Emery Way (white-tailed deer, tail flared up); Francesco Veronesi (common raven, standing); GlacierNPS (grizzly claw marks on tree); G'pa Bill (coyote pups); Gregory "Slobirdr" Smith (deer mouse); J Jongsma (little brown bat); Jason Hollinger (wolf scat); Jeremy Weber (bighorn sheep headshot); Kaz Andrew (high-bush cranberry berries); Keith Williams (lynx walking on snow); Matt Lavin (altered photo) and Peter Coxhead (flower photographer) (flower parts illustration);

Melissa McMasters (downy woodpecker, flying); Oregon Department of Fish & Wildlife (western painted turtle hatchlings); Oregon Department of Fish & Wildlife (snowshoe hare – summer browns); Peter Broster (red squirrel on branch); Peter O'Connor (water boatman, swimming); Seney Natural History Association (coyote scat); Tim Gage (pine marten); Unknown author (weasel killing rabbit); USFWS Midwest Region (western painted turtle, withdrawn into shell); USFWS Mountain-Prairie (mule deer herd);

USFWSmidwest (red-winged blackbird nest/eggs); USFWSmidwest (turtle eggs); USFWSmidwest (white-tailed deer hoof print); USFWS Mountain-Prairie (meadow vole caught by owl); U.S. Fish and Wildlife Service Headquarters (little brown bat hanging on rock); U. S. Fish and Wildlife Service - Northeast Region (deer mouse tracks);

Creative Commons Attribution-Share Alike 2.5 Generic license

Cody Connor (pine marten, from side); Geographer (lodgepole pine, cluster of pollen-bearing male cones).

Creative Commons Attribution-Share Alike 3.0 Unported license

Amiyashrivastava (black cottonwood – seeds and fluff); Beeblebrox

(black cottonwood bark); Brocken Inaglory (female mallard with young); Clay Heaton (white-tailed deer, fawn); D. Gordon E. Robertson (beaver cutting tree); Dcrjsr (Columbia tiger lily); Dick Daniels (female ruddy duck); Dmitry Azovtsev (river otters rubbing faces); Eddie Carle (bohemian waxwing, on branch, head down); Famartin (Engelmann Spruce, immature cones; Rocky Mountain juniper - bush); Fungus Guy (prickly rose flower); Gilles San Martin (Douglas-fir needles);

Greg Tally (meadow vole digging out of ground); Forest and Kim Starr (hoary bat hanging in tree); Jongsun Lee (2 tree swallows flying); Meggar (Saskatoon berries);

Needsmoreritalin (young meadow vole); Roger Culos (Douglas-fir cones);

Smidon33 (jumping spider); Unknown author (black-capped chickadee on branch); Walter Siegmund (striped coralroot flower closeup; lodgepole pine, female cone; western redcedar, shoot with female cones; trembling aspen autumn foliage; Douglas maple – full bush / seed; Saskatoon bush; snowberry flowers close-up); Wayne Thornton (mountain lion in tree).

Creative Commons Attribution-Share Alike 4.0 International license

Cloud Atlas (bighorn sheep hoof prints in snow); David J. Stang (lynx feet); Didier Descouens (beaver skulls); Famartin (trembling aspen catkins); Gaff (ground squirrel chamber drawing); Ian Poellet (mountain ash autumn lake); Ivanvector (red squirrel eating rose bud); Jacek Proszyk (mason bee larvae cycle); Joe Mabel (wild rose hips); Krzysztof Ziarnek, Kenraiz (western redcedar, foliage); Mas3cf (grey wolf headshot); Ryan Hodnett (white-tailed deer scat); VanDusen Botanical Garden (trembling aspen – group); Vengolis (millipede, alone walking).

Creative Commons CC0 1.0 Universal Public Domain Dedication

Alan Schmierer (sharp-shinned hawk – adult); Jocelyn Anderson (black-capped chickadee, standing on branch); Pookie Fugglestein (American robin, female).

License: No Copyright (wikimedia public domain classification)

Buchanan-Hermit (western redcedar totem pole); Denali National Park and Preserve (snowshoe hare – winter whites); Don Pfritzer (little brown bat wingspan); Doug Smith (grey wolves hunting); Hardyplants (high-bush cranberry – flower closeup); Hillebrand Steve (beaver swimming with branch); Jessica Bolser/USFWS (red-winged blackbird chicks in nest); Jim Peaco (black bear scat); John Stehn (white-tailed deer, buck); Mariana Ruiz LadyofHats (parts of a flower); NASA (osprey, flying facing camera); Paul Cryan (hoary bat in tree); San Bernardino Nat'l Forest (coyote track in mud); Thereidshome (black cottonwood male catkin and leaf buds); Unknown author (grizzly paws); Unknown author (grey wolf paw prints); USDA (beaver lodge diagram); USDA NRCS (grizzly scat); U.S. Forest Service- Pacific Northwest Region (western redcedar tree); Yellowstone National Park (river otter on snow; river otter cleaning itself); Yellowstone National Park (grizzly bear on bison carcass); Author deceased/www.biolib.de (buttercup illustration); Author deceased/www.biolib.de (mountain ash illustration of parts).

*Provincial Archives of Alberta @ Flickr Commons (mountain ash flowers). This image was taken from Flickr's *The Commons.*

*Table of Contents small symbols (also used throughout the guidebook): Clipart Library (http://clipart-library.com) and pngtree.com (https://pngtree.com/freepng/the-white-tape-is-sticky_3426321.html)

Literature Reference List

Alphabetically listed with surnames, organization name

- Alberta Conservation Association. Retrieved January – April, 2019, from https://open.alberta.ca/dataset/516d89da-1741-4d1a-bd64-c4cf447eb8dc/resource/5fba36c0-f648-4007-a8bc-c043b204bfe5/download/SAR-BullTrout-FactSheet-May2003.pdf
- Alberta Ministry of Environment and Parks: Fish and Wildlife. Retrieved January – April, 2019, from https://www.alberta.ca/fish-wildlife.aspx
- Alberta Plant Watch. Retrieved January – April, 2019, from http://plantwatch.naturealberta.ca/choose-your-plants/saskatoon/
- Animal Diversity Web. Retrieved January – April, 2019, from https://animaldiversity.org
- Antal, A., Anari, E., Beckman, K., & Xu, Z. (2014). *Flora, Fauna and Fungi of Hatley Park: A Nature Kindergarten Guidebook*. Royal Roads University & Kreate.
- Antos, J., Coupe, R. Douglas, G. Evans, R., Roberts, A. (1996). *Plants of Southern Interior British Columbia*. Lone Pine Publishing.
- Atlas of the Breeding Birds of British Columbia. Retrieved January – March, 2019, from https://www.birdatlas.bc.ca
- Bab.la Dictionary. Retrieved April, 2019, from https://en.bab.la/dictionary/
- Bat Conservation International. Retrieved January – April, 2019, from http://www.batcon.org
- BC's Coast Region: Species & Ecosystems of Conservation Concern Northern Pygmy-owl. Retrieved March, 2019, from http://ibis.geog.ubc.ca/biodiversity/factsheets/pdf/Glaucidium_gnoma_swarthi.pdf
- Britannica Kids: Fungus. Retrieved January – April, 2019, from https://kids.britannica.com/kids/article/fungus/353159/296818-toc
- Bug Guide: Native Bees of North America. Retrieved March-June 2019, from https://bugguide.net/node/view/475348
- Canadian Geographic: Rainbow Trout. Retrieved January – April, 2019, from https://www.canadiangeographic.ca/article/animal-facts-rainbow-trout
- Canadian Wildlife Federation: Hinterland Who's Who. Retrieved January - April 2019, from http://www.hww.ca/en/index.html
- Canadian Wildlife Federation: Mason Bees. Retrieved March-June, 2019, from http://cwf-fcf.org/en/resources/encyclopedias/fauna/insects/mason-bee.html
- Capital Regional District: Otters. Retrieved March 2019, from https://www.crd.bc.ca/education/our-environment/wildlife-plants/marine-species/otters
- Community Bat Programs of BC. Retrieved January – April, 2019, from https://www.bcbats.ca
- Duane Sept, J. (2012). *Animal Tracks & Signs of the Northwest*. Calypso Publishing.
- Duane Sept, J. (2011). *Trees of the Northwest*. Calypso Publishing.
- Duane Sept, J. (2005). *Wild Berries of the Northwest*. Calypso Publishing.
- Ducks Unlimited Canada. Retrieved January – April, 2019, from https://www.ducks.ca
- Electronic Atlas of the Flora of British Columbia. Retrieved January – April, 2019, from http://ibis.geog.ubc.ca/biodiversity/eflora/
- Endangered Species International: Amphibians. Retrieved January – April, 2019, from https://www.endangeredspeciesinternational.org/amphibians6.html

- Frog Watch: Engaging Citizens in Science. Retrieved January – April, 2019, from https://www.naturewatch.ca/frogwatch/columbia-spotted-frog/
- First Voices. Retrieved January – June, 2019, from https://www.firstvoices.com
- Habitat Conservation Trust Foundation. Retrieved March, 2019, from https://www.hctfeducation.ca
- Hunting Net: the Ultimate Hunting Community. Retrieved March-June, 2019, from https://www.huntingnet.com/articles/deer-anatomy-antlers.html
- Jumping Spider Facts: Lesson for Kids. Retrieved January - April, 2019, from https://study.com/academy/lesson/jumping-spider-facts-lesson-for-kids.html
- Kavanaugh, J. (2018). *Animal Tracks: an Introduction to the Tracks & Signs of Familiar North American Species.* Waterford Press Ltd.
- Kavanaugh, J. & Leung, R. (2005). *British Columbia Wildlife: A Folding Pocket Guide to Familiar Species*. Waterford Press Ltd.
- Keefer, M. and McCoy, P. (1999). *ʔa-kxaṁis ġapi qapsin = All Living Things: a Ktunaxa Ethnobotany Handbook.* Ktunaxa/Kinbasket Tribal Council.
- Korol, B., Ohanjanian, P., & Shepard, J. (1999). *Naturescape British Columbia: Native Plant and Animal Booklet, Southern Interior Mountains*. Habitat Conservation Trust Foundation
- Lake Forest College: Environmental Studies. Retrieved June, 2019, from https://www.lakeforest.edu/academics/programs/environmental/courses/es204/corallorhiza_striata.php
- Linguee Dictionary. Retrieved April, 2019, from https://www.linguee.com/english-french/about#about
- Live Science: Facts About Bumblebees. Retrieved January – April, 2019, from https://www.livescience.com/57509-bumblebee-facts.html
- Ministry of Forests, Lands, and Natural Resource Operations: Management Guidelines for Furbearers in British Columbia. Retrieved January – April, 2019, from http://www.env.gov.bc.ca/fw/wildlife/trapping/guidelines.html
- National Geographic Education. Retrieved January – April, 2019, from https://www.nationalgeographic.org/education/resource-library/?q=birds&page=1&per_page=25&subjects=Earth%20Science&subjects=Oceanography&subjects=Geology&subjects=Astronomy&subjects=Meteorology&subjects=Climatology&subjects=Biology&subjects=Ecology&subjects=Health&subjects=Genetics
- National Geographic Kids: 10 Facts About Honey Bees. Retrieved January – April, 2019, from https://www.natgeokids.com/za/discover/animals/insects/honey-bees/
- National Geographic Society. (1999). *National Geographic Field Guide To The Birds Of North America.* 3rd Ed. National Geographic.
- Nature for my Soul: 10 Things You May Not Know About Damselflies. Retrieved January – April, 2019, from https://natureformysoul.com/2016/06/10-things-you-may-not-know-about-damselflies/
- Parish, R. & Thomson, S. M. (1994). *Tree Book: Learning to Recognize Trees of British Columbia*. Canada-British Columbia Partnership on Forest Resource Development: FRDA II.
- U.S. Department of Interior Bureau of Land Management: Bald Eagles & Kokanee Salmon. Retrieved January – April, 2019, from https://www.blm.gov/sites/blm.gov/files/uploads/programs_fish-and-wildlife_wildlife_eagle-%20watch_about-bald-eagles_kokanee-salmon_funfacts.pdf
- Ralph, D., Miller, V., Hougen, C., Leekie, J. (2014). *Field Guide to Weeds and Other Selected Invasive Plants of British Columbia*. 8th Ed. B.C. Ministry of Forests, Lands and Natural Resource Operations & Invasive Species Council of BC.
- Science Direct. Retrived June, 2019, from https://www.sciencedirect.com/topics/veterinary-science-and-veterinary-medicine/sexual-dimorphism
- Science Kids. Retrieved January – April, 2019, from http://www.sciencekids.co.nz
- Sheldon, I. & Hartson, T. (1999). *Animal Tracks of British Columbia.* Lone Pine Publishing.
- Sierra Club British Columbia. Retrieved January – April, 2019, from https://sierraclub.bc.ca
- Southern Interior Weed Management Committee. *Invasive Plants of the Southern Interior B.C.*
- Stark, R. (1981). *Guide to Indian Herbs.* Octavo.
- The Canadian Encyclopedia. Retrieved January – April, 2019, from https://www.thecanadianencyclopedia.ca/en
- The Cornell Lab of Ornithology: All About Birds. Retrieved January – April, 2019, from https://www.allaboutbirds.org
- The Reptiles of British Columbia. Retrieved January – April, 2019, from https://www.bcreptiles.ca
- The Truth About Pine Cones. Retrieved January – April, 2019, from http://markcullen.com/the-truth-about-pine-cones/
- The Wildlife Trust: Species. Retrieved January – April, 2019, from https://www.wildlifetrusts.org/wildlife-explorer
- Turner, N. J. (1997). *Food Plants of Interior First Peoples*. 2nd Ed. Royal British Columbia Museum.
- Vancouver Island Big Trees: Flowering Douglas Fir. Retrieved January – April, 2019, from https://vancouverislandbigtrees.blogspot.com/2011/05/flowering-douglas-fir.html
- Westslope Cutthroat Trout. Retrieved January – April, 2019, from
- http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Fish/f_westslopecutthroattrout.pdf
- Wildsafe B.C. Retrieved February, 2019, from https://wildsafebc.com
- Yukon Department of Environment. Retrieved January – April, 2019, from http://www.env.gov.yk.ca

- Frog Watch: Engaging Citizens in Science. Retrieved January – April, 2019, from https://www.naturewatch.ca/frogwatch/columbia-spotted-frog/
- First Voices. Retrieved January – June, 2019, from https://www.firstvoices.com
- Habitat Conservation Trust Foundation. Retrieved March, 2019, from https://www.hctfeducation.ca
- Hunting Net: the Ultimate Hunting Community. Retrieved March-June, 2019, from https://www.huntingnet.com/articles/deer-anatomy-antlers.html
- Jumping Spider Facts: Lesson for Kids. Retrieved January - April, 2019, from https://study.com/academy/lesson/jumping-spider-facts-lesson-for-kids.html
- Kavanaugh, J. (2018). *Animal Tracks: an Introduction to the Tracks & Signs of Familiar North American Species.* Waterford Press Ltd.
- Kavanaugh, J. & Leung, R. (2005). *British Columbia Wildlife: A Folding Pocket Guide to Familiar Species*. Waterford Press Ltd.
- Keefer, M. and McCoy, P. (1999). *ʔa-kxaṁis ġapi qapsin = All Living Things: a Ktunaxa Ethnobotany Handbook.* Ktunaxa/Kinbasket Tribal Council.
- Korol, B., Ohanjanian, P., & Shepard, J. (1999). *Naturescape British Columbia: Native Plant and Animal Booklet, Southern Interior Mountains*. Habitat Conservation Trust Foundation
- Lake Forest College: Environmental Studies. Retrieved June, 2019, from https://www.lakeforest.edu/academics/programs/environmental/courses/es204/corallorhiza_striata.php
- Linguee Dictionary. Retrieved April, 2019, from https://www.linguee.com/english-french/about#about
- Live Science: Facts About Bumblebees. Retrieved January – April, 2019, from https://www.livescience.com/57509-bumblebee-facts.html
- Ministry of Forests, Lands, and Natural Resource Operations: Management Guidelines for Furbearers in British Columbia. Retrieved January – April, 2019, from http://www.env.gov.bc.ca/fw/wildlife/trapping/guidelines.html
- National Geographic Education. Retrieved January – April, 2019, from https://www.nationalgeographic.org/education/resource-library/?q=birds&page=1&per_page=25&subjects=Earth%20Science&subjects=Oceanography&subjects=Geology&subjects=Astronomy&subjects=Meteorology&subjects=Climatology&subjects=Biology&subjects=Ecology&subjects=Health&subjects=Genetics
- National Geographic Kids: 10 Facts About Honey Bees. Retrieved January – April, 2019, from https://www.natgeokids.com/za/discover/animals/insects/honey-bees/
- National Geographic Society. (1999). *National Geographic Field Guide To The Birds Of North America.* 3rd Ed. National Geographic.
- Nature for my Soul: 10 Things You May Not Know About Damselflies. Retrieved January – April, 2019, from https://natureformysoul.com/2016/06/10-things-you-may-not-know-about-damselflies/
- Parish, R. & Thomson, S. M. (1994). *Tree Book: Learning to Recognize Trees of British Columbia*. Canada-British Columbia Partnership on Forest Resource Development: FRDA II.
- U.S. Department of Interior Bureau of Land Management: Bald Eagles & Kokanee Salmon. Retrieved January – April, 2019, from https://www.blm.gov/sites/blm.gov/files/uploads/programs_fish-and-wildlife_wildlife_eagle-%20watch_about-bald-eagles_kokanee-salmon_funfacts.pdf
- Ralph, D., Miller, V., Hougen, C., Leekie, J. (2014). *Field Guide to Weeds and Other Selected Invasive Plants of British Columbia*. 8th Ed. B.C. Ministry of Forests, Lands and Natural Resource Operations & Invasive Species Council of BC.
- Science Direct. Retrived June, 2019, from https://www.sciencedirect.com/topics/veterinary-science-and-veterinary-medicine/sexual-dimorphism
- Science Kids. Retrieved January – April, 2019, from http://www.sciencekids.co.nz
- Sheldon, I. & Hartson, T. (1999). *Animal Tracks of British Columbia.* Lone Pine Publishing.
- Sierra Club British Columbia. Retrieved January – April, 2019, from https://sierraclub.bc.ca
- Southern Interior Weed Management Committee. *Invasive Plants of the Southern Interior B.C.*
- Stark, R. (1981). *Guide to Indian Herbs.* Octavo.
- The Canadian Encyclopedia. Retrieved January – April, 2019, from https://www.thecanadianencyclopedia.ca/en
- The Cornell Lab of Ornithology: All About Birds. Retrieved January – April, 2019, from https://www.allaboutbirds.org
- The Reptiles of British Columbia. Retrieved January – April, 2019, from https://www.bcreptiles.ca
- The Truth About Pine Cones. Retrieved January – April, 2019, from http://markcullen.com/the-truth-about-pine-cones/
- The Wildlife Trust: Species. Retrieved January – April, 2019, from https://www.wildlifetrusts.org/wildlife-explorer
- Turner, N. J. (1997). *Food Plants of Interior First Peoples*. 2nd Ed. Royal British Columbia Museum.
- Vancouver Island Big Trees: Flowering Douglas Fir. Retrieved January – April, 2019, from https://vancouverislandbigtrees.blogspot.com/2011/05/flowering-douglas-fir.html
- Westslope Cutthroat Trout. Retrieved January – April, 2019, from
- http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Fish/f_westslopecutthroattrout.pdf
- Wildsafe B.C. Retrieved February, 2019, from https://wildsafebc.com
- Yukon Department of Environment. Retrieved January – April, 2019, from http://www.env.gov.yk.ca

Scientific Names Prepared by Meg Langley	Page	*Scientific name*	N=native E=exotic
Mammals:			
American Red Squirrel	3	*Tamiasciurus hudsonicus*	N
Bighorn Sheep	5	*Ovis canadensis*	N
Black Bear	6	*Ursus americanus*	N
Canada Lynx	7	*Lynx canadensis*	N
Columbian Ground Squirrel	3	*Spermophilus columbianus*	N
Coyote	8	*Canis latrans*	N
Deer Mouse	9	*Peromyscus maniculatus*	N
Ermine	11	*Mustela erminea*	N
Grey Wolf	8	*Canis lupus*	N
Grizzly Bear	6	*Ursus arctos*	N
Hoary Bat	10	*Lasiurus cinereus*	N
Little Brown Bat	10	*Myotis lucifugus*	N
Meadow Vole	9	*Microtus pennsylvanicus*	N
Mountain Lion	7	*Puma concolor*	N
Mule Deer	13	*Odocoileus hemionus*	N
North American Beaver	4	*Castor canadensis*	N
Pine Martin	11	*Martes americana*	N
River Otter	4	*Lontra canadensis*	N
Snowshoe Hare	12	*Lepus americanus*	N
Striped Skunk	12	*Mephitis mephitis*	N
White-tailed Deer	13	*Odocoileus virginianus*	N
Birds:			
American Crow	14	*Corvus brachyrhynchos*	N
American Robin	15	*Turdus migratorius*	N
Bald Eagle	19	*Haliaeetus leucocephalus*	N
Belted Kingfisher	16	*Megaceryle alcyon*	N
Black-capped Chickadee	23	*Poecile atricapillus*	N
Bohemian Waxwing	22	*Bombycilla cedrorum*	N
Canada Goose	17	*Branta canadensis*	N
Common Loon	17	*Gavia immer*	N
Common Raven	14	*Corvus corax*	N
Downy Woodpecker	18	*Picoides pubescens*	N
Great Blue Heron	16	*Ardea herodias*	N
Mallard	21	*Anas platyrhynchos*	N
Northern Flicker	18	*Colaptes auratus*	N
Osprey	19	*Pandion haliaetus*	N
Pygmy Owl	20	*Glaucidium gnoma*	N
Red-winged Blackbird	15	*Agelaius phoeniceus*	N
Ruddy Duck	21	*Oxyura jamaicensis*	N
Rufous Hummingbird	20	*Selasphorus rufus*	N
Sharp-shinned Hawk	22	*Accipiter striatus*	N
Tree Swallow	23	*Tachycineta bicolor*	N
Fish:			
Bull Trout	24	*Salvelinus confluentus*	N
Kokanee Salmon	24	*Oncorhynchus nerka*	N
Northern Pikeminnow	24	*Ptychocheilus oregonensis*	N
Rainbow Trout	24	*Oncorhynchus mykiss*	N
Westslope Cutthroat Trout	24	*Oncorhynchus clarkii lewisi*	N
Amphibians and Reptiles:			
Columbia Spotted Frog	25	*Rana luteiventris*	N
Common Garter Snake	25	*Thamnophis sirtalis*	N

Long-toed Salamander	25	*Ambystoma macrodactylum*	N
Western Painted Turtle	25	*Chrysemys picta*	N
Arthropods:			
Ceanothus Silkmoth	26	*Hyalophora euryalus*	N
Jumping Spider	26	*Phidippus borealis*	N
Lesser Water Boatman	26	*Cenocorixa andersoni*	N
Mason Bee	26	*Osmia lignaria*	N
Western Tiger Swallowtail Butterfly	26	*Papilio rutulus*	N
Plants:			
Black Cottonwood	27	*Populus balsamifera*	N
Blue Clematis	39	*Clematis occidentalis*	N
Bull Thistle	42	*Cirsium vulgare*	E
Canada Goldenrod	36	*Solidago altissima*	E
Cattail	40	*Typha latifolia*	N
Common Horsetail	40	*Equisetum arvense*	N
Dandelion	38	*Taraxacum officinale*	E
Douglas Maple	32	*Acer glabrum*	N
Douglas-fir	29	*Pseudotsuga menziesii*	N
Engelmann Spruce	30	*Picea engelmannii*	N
European Mountain Ash	27	*Sorbus aucuparia*	E
Fireweed	41	*Epilobium angustifolium*	N
Heart-leaved Arnica	39	*Arnica cordifolia*	N
Highbush-cranberry	34	*Viburnum edule*	N
Kinnikinnick	33	*Arctostaphylos uva-ursi*	N
Lodgepole Pine	29	*Pinus contorta*	N
Meadow Buttercup	38	*Ranunculus acris*	E
Oregon Grape	33	*Mahonia aquifolium*	N
Scarlet Paintbrush	37	*Castilleja miniata*	N
Paper Birch	28	*Betula papyrifera*	N
Pearly Everlasting	41	*Anaphalis margaritacea*	N
Prickly Rose	35	*Rosa acicularis*	N
Red Columbine	37	*Aquilegia formosa*	N
Red-osier Dogwood	31	*Cornus stolonifera*	N
Rocky Mountain Juniper	32	*Juniperus scopulorum*	N
Saskatoon	34	*Amelanchier alnifolia*	N
Snowberry	35	*Symphoricarpos albus*	N
Striped Coralroot	36	*Corallorhiza striata*	N
Tiger Lily	42	*Lilium columbianum*	N
Trembling Aspen	28	*Populus tremuloides*	N
Western Redcedar	30	*Thuja plicata*	N
Fungi:			
Black Morel	43	*Morchella brunnea*	N
Pear-shaped Puffball	43	*Lycoperdon pyriforme*	N
Shaggy-mane	43	*Coprinus comatus*	N
Tinder Polypore	43	*Fomes fomentarius*	N
Lichen:			
Angel Hair	44	*Ramalina thrausta*	N
Silver-edge Pelt	44	*Peltigera aphthosa*	N
Valley Wolf	44	*Letharia vulpina*	N
Witch's Hair	44	*Alectoria sarmentosa*	N
Moss:			
Blunt-leaved Bristle-moss	44	*Orthotrichum obtusifolium*	N
Knight’s Plume	44	*Ptilium crista-castrensis*	N
Wavy-leaved Moss	44	*Dicranum polysetum*	N

Columbia Basin trust

Rocky Mountain

Designed by
THOUGHT Doodles

GOLDEN DISTRICT ROD & GUN CLUB

DJ's PaperPlace
Printing Office & Art Supplies

Printed by
DJ's Paper Place,
in Golden, B.C.