



NATURE TRAIL GUIDE

SANDY LAKE BEACH CAMP
GIRL GUIDES OF CANADA - EDMONTON AREA

FOR FALL, WINTER, AND EARLY SPRING

ACKNOWLEDGEMENTS

Text - Elizabeth Marsland
Layout - Edmonton Guide Centre

Thanks to Enid Dewald and her Pathfinders, who drew up the first trail guide, to the many Guiders who have contributed information and expertise over the years, and to Isobel Mailloux, a “friend of Guiding” who has helped several times to update the trail guide and markers.

** indicates illustration included*

SUGGESTIONS FOR ENJOYING THE NATURE TRAIL

At this time of the year be sure to look up. When the trees are bare, you can see birds' and squirrels' nests, paper-wasp nests, shelf and other fungi, and lichens. You may even see an owl, a woodpecker, or a porcupine. (Yes, they do climb trees, to eat the tender bark high up!)

Scan the sky to the south for sundogs (parhelions or mock suns), especially in the morning or towards sunset.

But don't just look - use your other senses, too.

Smell the needles and pitch (sap) of spruce trees; notice the different scents as you go from meadow to marsh to forest. (Scents are usually more noticeable when the ground or air is damp.)

Feel the softness of moss, the hardness of shelf fungus, the sticky buds of balsam poplar, and the texture of the bark on different trees.

Taste some of the edible berries (WITH YOUR GUIDER'S PERMISSION).

Listen for woodpeckers and chickadees; on a clear, cold day count how many far-away noises you can hear; if it's snowing, listen to the snowflakes settling. In spring, hug a tree and listen to the sap flowing. Notice, too, how it seems to be cooler or warmer on different sections of the trail.

Walk slowly and quietly, so that you don't disturb the birds and animals. (They live here, while you are only a visitor!) Take care not to step on plants close by the trail edge. And please don't pick flowers or take souvenirs.

A NOTE TO GUIDERS

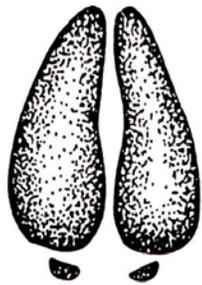
Please share the above suggestions with your girls.

Read through the booklet in advance and highlight the points you find most interesting. Brownies and young Guides will be cold and very bored listening to everything that is written here, so leave out items that are not relevant at the moment, such as out-of-season plants, or birds that are not in sight. Take small groups if possible, and encourage the girls to be active observers, not just listeners. (Who can see the . . . ? How many . . . are there? What does . . . feel like?) Ask for their help in spotting the number markers.

Note: After wet weather or in the spring, the trail may be muddy in places.
START NEAR THE FLAGPOLE IN FRONT OF HILLTOP HOUSE

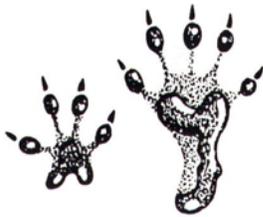
1 By the flagpole.

Until about 20 years ago this whole hillside was one big grassy slope, but gradually rose bushes and saskatoons have taken over. The area around the flagpole is kept clear by mowing in the summer. Notice that the bushes around the edge of the clearing have few buds; deer and snowshoe hares that live here year-round like this area for their food. Look for their



tracks* in the snow.

White-Tailed Deer



Meadow Vole

(Field Mouse)

Domestic Dog



Snowshoe Hare



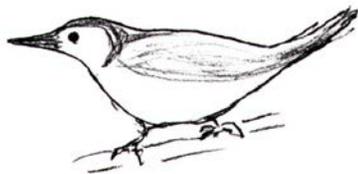
As you come into the clearing you may see a small boulder on your left, if it isn't covered with snow. Look closely at the lichen (pronounced "liken") on its surface. The tiny individual plants that you can see, not much bigger than dots, feed on minerals in the rock, and they slowly but gradually turn the rock to soil. Lichens have the longest life-span of any plant - some are 10,000 years old.

This is a good place to look at the sky to the south (over the lake) for a sundog, a patch of brightness to the left or right of the sun.

A note on winter birds:

Around the spruce trees you may find black-capped chickadees, tiny fluffy grey and white birds (12-14 cm.) with white face, black throat and crown, and light chestnut under-parts. Chickadees hardly ever stay still, and they like to hang from the branches at all angles, like acrobats. They enjoy small seeds like those on birch trees, and they often shelter in spruces in the bad weather.

You may also see Bohemian waxwings, if they haven't moved into the city for the winter. They are much bigger than chickadees (about 20 cm. long), and are smooth and greyish brown, with a dark "mask" around their eyes, a crest at the back of the head, darker wing feathers, and a yellow tail-tip. They are called waxwings because of a little bright red patch on their wings that shows when they fly. It looks like a dab of red sealing wax, which was used in the old days to put an official "seal" on letters or documents.



Watch too for nuthatches*, which are slightly bigger than chickadees (13-15 cm.), grey with a white breast, darker on the top and back of the head, and with a distinctive shape: their head is fairly flat on

top and they have a long, slightly upturned beak, so that the head and the tail seem to curve up at the same angle. They hunt for insects by creeping down the bark of trees, so if you see a small bird coming down a tree trunk head first, it is probably a nuthatch.

**NOW GO TO THE START OF THE TRAIL LEADING TO #4 TENTSITE.
THE NEXT MARKER IS ON A SHRUB IN FRONT OF THE COTTAGE.**

2 This shrub is a pin cherry. Note its smooth reddish bark with horizontal silver markings, and its multiple trunks. The small, deep red cherries,

which are edible but tart, grow singly on a longish stalk (like a pin, with the cherry as its head.)

As you go down the trail, there are many interesting things to see. (Some are indicated by marker tape.)

Red osier dogwood When you first start your walk in the late fall or winter, everything will probably look gray and colourless, but as you go on you will notice more and more colours. Look out for a bush with bright red stems; this is the red osier dogwood, a member of the dogwood family. It may still have some small white berries. (Not to be eaten.) What other natural colours can you see?

Witches broom of saskatoon Some of the taller bushes have branches with blackened leaves still attached. These shrubs are saskatoons, and the black leaves are caused by a fungus, witches broom of saskatoon. It gets its name because the fungus can also cause the branches to grow extra side-shoots that form a broom-like shape.

Old man's beard Many of the tree trunks and branches have crust-like (crustose) lichens growing on them. The grey-green stringy tangles hanging from some of the branches are another kind of lichen called old man's beard.

High bush cranberries If you see clusters of bright red translucent berries (translucent means the light shows through them) at head height or above, they are likely to be high bush cranberries. Unlike the bog cranberries that we eat in cranberry sauce, and which have many seeds, high bush cranberries have a single large seed. The berries usually persist well into the winter, probably because few birds like the taste of them. (They are edible to humans, but extremely tart.) Low bush cranberries are very similar, but the clusters are less distinct and the bushes are lower. All look very beautiful against the snow, like tiny lamps.

Saskatoons* You may see some dried up berries on tall shrubs. These are the remains of last season's crop of saskatoons, delicious sweet purple berries that were a popular food with the native people, and also with the pioneer settlers. Another name is serviceberry.

Count the berries

How many kinds of berry have you found so far? Keep count of all the different types you see on the walk. In addition to those we have just mentioned, you may find choke cherries (dark purple and shiny, on a tall shrub - edible) and

snowberries (creamy berries on a shrub with stalks - not to be eaten). And you will see lots of orange-red rosehips on prickly bushes. In the early fall you may notice clusters of bright red berries growing on the ground; they belong to another member of the dogwood family, Canadian dogwood, also known as bunchberry. (Not to be eaten!)

And if you look really carefully in the fall you may find beside the trail a little red velvet cushion belonging to a plant called fairy bells. This beautiful berry is very tempting to pick, but there are not many fairy bells around, and the seeds in the berry will be next year's flowers. So if you find one, please leave it in peace. (Not to be eaten.)

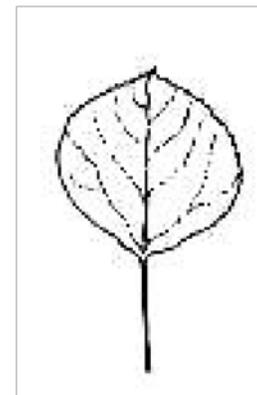
3 The most common large trees here are aspen poplars* or "trembling aspens", and their

leaves flicker in the wind. Try to find a leaf on the ground (they're quite small, almost diamondshaped, with a long stem); the stem is flat-sided

and partly twisted, and that's how the leaves "tremble". In some native languages the tree is called "noisy leaf."



Saskatoon yellowish-green



Aspen Poplar

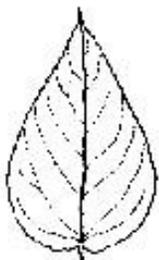
On the young trees the bark is smooth and silvery green, with a powdery surface. As the tree ages the bark on the lower part becomes grey and deeply ridged, but it remains silvery and smoother higher up. The leafing branches are only at the top. People who work in the bush sometimes rub the powder from young aspens on their skin as an insect repellent. The bark often splits as a result of frost, leaving a black vertical scar when the tree re-seals itself. These splits allow access for insects and fungi.

Aspens reproduce mainly by putting out suckers under the surface of the ground, so that neighbouring trees are clones of each other. But because they also shed lots of seeds, they grow very readily, helping turn open areas into forest.

With their small leaves and tall, bare trunks, aspens let through lots of sunlight, allowing many other plants to grow in the "understory". Amongst them you may spot some baby spruces, getting ready to take over the forest when the aspens eventually decay.

4 The tall aspen tree to the left has shelf fungus (another name is bracket fungus) on its trunk, a sure sign that the tree is coming to the end of its life. Nearby are fallen trees with different kinds of shelf fungus; notice how these fungi always grow parallel to the ground, like little shelves.

The decaying logs beside the trail are a sign of a healthy forest. As trees reach maturity they become more subject to attack by insects, birds, and fungi. Eventually the trees fall or are blown down, and the process of decay continues more quickly. By this means, all the minerals that the trees drew from the earth to help create wood are returned to where they came from, as the rotting tree becomes soil from which new vegetation can grow.



Balsam
Poplar

Off to the left just ahead is a large balsam poplar*. (Marked with tape.) Note how it differs from the aspens. Its bark is grey and rough all the way to the top, it has branches lower down as well as up high, and its leaves, if you can find one, are heart-shaped, not diamondshaped; the leaves are glossy in the early summer, and if you could reach the buds you would find that they are

sticky.

5 You may have noticed some plants whose tops are covered in straggly cotton. These are fireweed*, a tall plant with a spike of purple flowers. Fireweed is a "pioneer" plant, which means it is one of the first to grow in an area recently disturbed by construction or after a forest fire. That's how it gets its name. In the early fall, the fireweed's seed pods burst open and the fluff escapes. Each thin strand of cotton is a seed carrier, so it is not surprising that fireweed thrives so well.



The tree on the left of the boardwalk is an alder, identifiable by its tiny dark brown cones. What seem to be larger cones are actually galls, where an insect has laid its eggs in a cone, and then constructed a protective cover over it. We have more about alders and galls later.

6 SIDE-TRAIL On the left is a short side-trail leading to two very interesting plants.

Labrador tea is a low shrub with out-spread, dull green leaves that persist through the winter. The leaf-edges curl under and the leaves are rustcoloured and woolly on the underside, like felt. The leaves, dried or fresh, were used by some native peoples to make a tea.

Ground pine Around and under the shrub are some little plants that look like miniature Christmas trees. (You may have to clear the snow to find them, but they remain green in the winter.) These are a club moss, a special type of plant that is not actually a moss but more like a fern; it reproduces with spores instead of seeds. This one is known as ground pine, and in the early days of photography its spores, a powdery substance in the "cone" at the tip, were used to make flash powder for indoor photography.

RETURN TO THE MAIN TRAIL

7 A grove of birch trees. Birch bark is light-coloured - pink underneath - and peels off in layers. But please don't peel it, since the tree needs the protection of the bark until it is ready to shed the layer. Touch a newly peeled area to feel how smooth the underbark is.

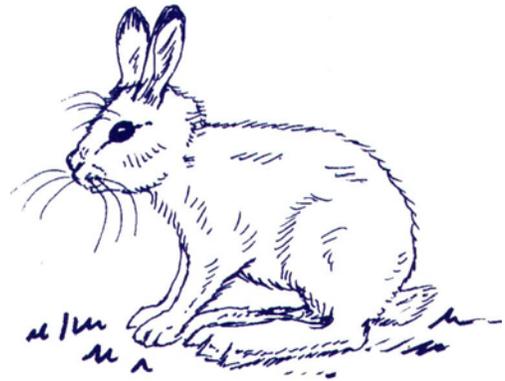
Birches have many slender branches and lots of thin twigs, especially compared to aspens (where branches are short and stubby and occur only near the top). On their own, away from other trees, birches often have a single trunk and a graceful triangular shape, but in the forest they tend to have several trunks and the shape is less distinct.

The flowers of the birch tree, stiff catkins in clusters of two or three, are already in place during the winter, ready for spring. Last year's fruit, too, may still be visible - a dangling chain of tiny seeds attached to a thin stalk. You will notice that there are spruce trees here, too. Unlike aspens, which cannot flourish alongside spruce trees, birches can live quite well with spruce. However, the spruce trees will dominate in the end.

Watch for deer tracks in the mud, and notice the many little side trails made by deer and hares.

8 The Small Meadow. Natural clearings like this occur where the ground used to be swampy. The swamp has gradually dried up and become overgrown, first by grass and then by bushes and shrubs. Animals find good food in the clearings in summer, and when the grass is under snow they browse on the shrubs and bushes.

But who has been browsing here? Examine the ends of the twigs. If they look as though they were clipped off with scissors or garden shears, they were probably cut by the sharp teeth of a snowshoe hare* (a member of the rabbit family); but if the end looks chewed instead of cut, then this is where a deer had its meal. When the snow has gone,



you can tell how deep it was by how

high *Snowshoe Hare* above the ground the hares have browsed.

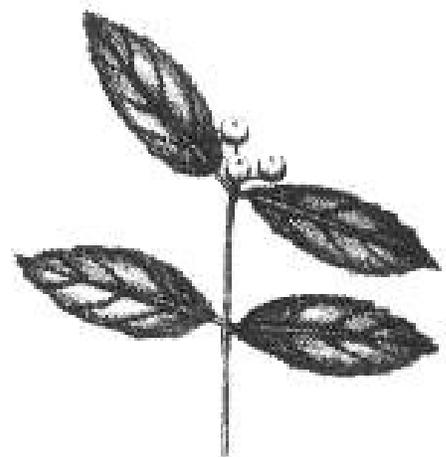
In the spring, if you have come quietly, you may hear the drumming sound of ruffed grouse in their mating dance. The spruce trees straight ahead are a favourite spot with them, but they are well camouflaged so you may not see them even if they are there. Ruffed grouse are year-round residents. They are about the size of a small domestic hen, greyish-brown in colour, with a dark "ruff" at each side of the neck that puffs out for the spring mating dance.

Take a look at one of the large anthills. Are there any signs of life? In the middle of winter most likely not, but the queen is probably still alive in there, waiting for spring when the eggs she laid last fall will hatch. She will tend the first larvae (babies) herself, but as soon as some workers mature they will take over the job for the next hatching. A queen ant can survive many winters, sheltered in the cozy anthill.

GO TO THE RIGHT, TO THE FENCE LINE

9 This strip of land was cleared a few years ago when the old fence was

replaced. Like other clearings, it is popular with animals, and with plants that like a mix of sun and shade. On the left of the trail you may see a shrub with yellowish stems, which may still have some small white berries - snowberries* - (not to be eaten), and the flowers or seed-heads of a daisy-like plant called aster.



Notice that the grass is quite long here - a sure sign *Snowberries* that the ground is moist.

10 Here you can see some of nature's recyclers at work. Look carefully at fallen logs without bark, to find a place where it looks as though someone has been writing or drawing. These wiggly lines date back to when the tree was still upright and fairly healthy, and they are the tunnels or galleries of bark beetles. The adult beetle lays eggs under the bark; then the larvae (the babies, which are like tiny caterpillars) eat their way along, making tunnels, until eventually, as they turn into adult beetles, they eat their way out.

Also helping to recycle the forest is shelf fungus. Fungi find their way into trees through the holes in the bark made by insects and birds (and sometimes people). And like the insects, they feed on wood. We actually see only a small part of the fungus, the "fruit" part; the rest, consisting of invisible threads, is inside the log. Shelf fungus often looks soft, but it is mostly quite hard - just feel it.

11 These conifers (cone-bearing trees) are called white spruce, even though they are green. They have a thin scaly bark with a pinkish underbark, and stiff needles (leaves) that are square in cross-section. Since they don't lose their leaves in the winter they are called evergreens.

Their cones are narrow and fairly soft, and the individual scales fit close together. Each scale contains a seed, much loved by squirrels and crossbills (a bird with a crooked bill especially adapted for eating from cones).

Spruce trees like these will eventually take over from aspens in much of this area, in what is called natural progression. At first, spruce make use of the shelter provided by aspens to become established. The mature aspens gradually die off, but young ones are unable to compete with the flourishing young evergreens that increasingly block the sunlight. In time (80 to 100 years maybe), the spruce too will die off and be blown down, and then the sunlight-loving plants like aspens will have their chance once more.

12 Do you remember the name of these reddish trees with small dark cones? They are alders, and they like places where there is plenty of moisture. Although the fruiting body looks like a cone, it no longer contains seeds (unlike spruce cones, for instance). As soon as the alder fruit is ripe the cone opens and the seed escapes.

We mentioned earlier how colourful this grey and brown forest turns out to be when you start looking for colours. Where the bark of these alders has been stripped away, whether by machinery from the boardwalk construction or by animals (hares or porcupines), the underbark is bright orange.

You may be able to see some bright orange lichen on a log on the right of the trail. Crustose (crust-like) lichens come in many bright colours, as well as some dull ones.

13 A tree-root garden. This big tree was blown down, and lots of plants have started to make their home on its roots. Although it is sad that the tree's life is over, no doubt the younger trees and other plants appreciate the extra sunlight, as well as the newly turned soil in which to place their roots. In this way the forest regenerates or replaces itself.

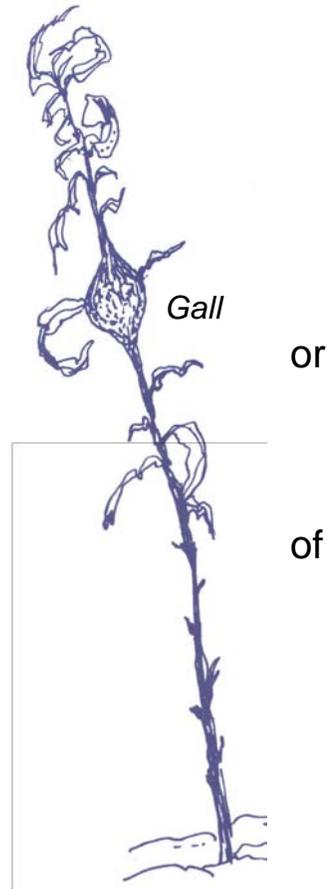
THE TRAIL LEAVES THE FENCE LINE AND CROSSES A MEADOW BY THE REMAINS OF SOME CLIMBING FRAMES AND OTHER EQUIPMENT. THE NEXT FEW NUMBERS ARE FAR APART, SO EXPECT A LONG WALK - A GOOD CHANCE TO WARM UP.

14

On the shrub with the number tag, look for a bump, called a gall*, on one of the branches. Galls are the homes of insects. The adult lays eggs on the twig, then either the adult herself or the larvae inject a chemical into the bark and the gall grows to protect the young, like a little house, until they can fend for themselves. Then they eat a hole to the outside and fly crawl away. Some galls are outside the bark, and look like nuts; others are beneath the bark; and those on alder trees are sometimes in the fruit (cone). Rose bushes are a popular location for galls, especially those the solitary wasp.

Notice how the bushes here are kept low by animals browsing. Look out, too, for branches or logs stripped of their bark by hares, and for the snow tunnels made by meadow voles. These tiny

mouse-like animals move around under the snow all winter, a good way to keep warm (because the snow acts as insulation) and to protect themselves from predators.



15

The sap or "pitch" has oozed out from this spruce tree, probably as a result of an attack by either birds or insects. The sap is very sticky - touch it with just the tip of one finger (otherwise you will have sticky hands!), and smell and maybe taste it. It was used by native people for many purposes (including chewing!).



As you walk along, look out for (and listen for) woodpeckers. All our winter woodpeckers are black and white, with a dash of red. The downy woodpecker* is smallest, not much bigger than a sparrow, and it has a short beak and a red bar on the back of the head (males only). Next comes the hairy woodpecker, about the size of a robin, with a beak as long as its head, and a red bar (males). Then, much larger, the size of a crow, is the pileated woodpecker, mostly black, with a very strong-looking beak and a red crest like a cap (males and females).

Remember them alphabetically: downy first in the alphabet and smallest, then hairy, then pileated.

You may also find owl pellets on the ground - the *Downy* indigestible parts of a bird or small animal that an *Woodpecker* owl has disgorged.

CONTINUE FOLLOWING THE COLOURED MARKER TAPE, UNTIL YOU REACH A T-JUNCTION. GO LEFT.

16

These untidy-looking trees with lots of trunks branching out in many directions are willows. They like to grow in wet places, but in time they dry out the swamp or wetland around them, as they have here, so that this once swampy area now looks like a jungle. The bark forms a diamond pattern, which is sometimes made deeper by a fungus, causing a diamondshaped hollow in the wood underneath.

The flowers of willow trees appear very early in the spring - variations on the familiar furry ball of the pussy willow. The young shoots of different types of willow may be green, yellow, or red.

17 Only a few years ago the smooth patch off to the right of the trail was a pond that ducks sometimes visited. Now it is nearly dry. You may see some extra-tall and thick grass around here; it belongs to the sedge family, and like other sedges is triangular in cross-section rather than round. Be sure to feel its shape.

18 In the early spring, as soon as the snow and ice are gone, look out for the large round leaves and bright yellow flowers of the marsh marigold.

Take a look at the small logs on the ground at the far end of the boardwalk. They have recently been moved, and the fungi have not yet realigned themselves. You can see witches broom of spruce on some of the branches.

ANOTHER LONG WALK WITHOUT ANY NUMBERS, UNTIL YOU REACH THE FAR SIDE OF A CLEARING.

19 The Big Meadow. Notice that the spruces are mainly on one side of this clearing. Around mid-day the sun shines directly from the south onto the opposite edge of the clearing, the north side, and that sunshine is what aspens like. Spruce, on the other hand, like the coolness provided by the shadows of other trees, so they grow where the sun cannot shine on them directly - that is, on the south side. This is a handy way to tell roughly which direction is north. (Aspens on the north side, spruce on the south.)

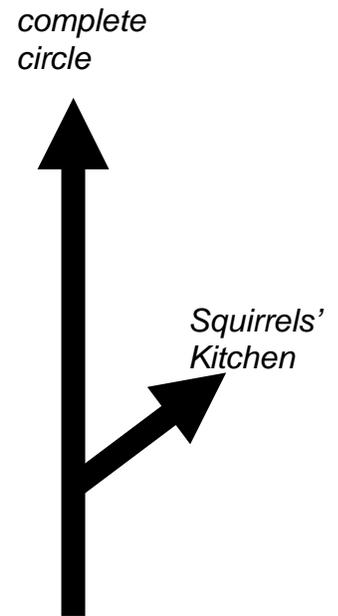
FROM THIS POINT THERE ARE TWO OPTIONS.

To

THE NUMBERED AND MARKED WINTER NATURE TRAIL GOES STRAIGHT AHEAD (THAT IS, LEFT FORK) TO COMPLETE A CIRCLE.

THE TRAIL TO THE RIGHT TAKES YOU THROUGH A BEAUTIFUL SPRUCE FOREST KNOWN AS THE "SQUIRRELS' KITCHEN", AND EVENTUALLY TO A T-JUNCTION, FROM WHICH THE LEFT-HAND TRAIL GOES TO TREFOIL HOUSE.

IF YOU STARTED FROM TREFOIL HOUSE, THE SECOND IS THE SHORTER RETURN ROUTE. THERE ARE NO NUMBER MARKERS ON THE SQUIRRELS' KITCHEN TRAIL, BUT THE FOLLOWING INFORMATION WILL STILL BE USEFUL.



20 Look for lichens growing beside the trail. Lichens are one of the best examples of symbiosis ("living together"), because they consist of a fungus and an alga growing together to maintain each other. In spells of dry weather, lichens "rest" for a while, but they start growing again as soon as it rains. We have seen three distinct types on the trail: the crustose lichen that grows on logs, old man's beard dangling from branches, and this ground plant.

If the ground is not yet covered with snow, you may see the round leaves of the wintergreen plant, which really lives up to its name. In summer it has a lovely pink flower, and in the fall a green berry.

21 In a well-established spruce forest like the Squirrels' Kitchen (see #19) there is little undergrowth, not only because of the lack of sunlight but also because the spruce needles that the trees shed decay very slowly, making it difficult for other plants to find nutritious soil. This patch of forest is still in transition, but already it has taken on some of the character of spruce forest, with its lichens (#20), mosses, and middens.

If the moss is not covered with snow, take a close look at it and feel how soft it is. Moss has no roots to supply it with water, so some kinds of moss grow in very wet places, while other kinds are designed to dry up and "sleep" until the next rainfall. However dry it may feel, the plant will revive as soon as it receives water. Most mosses like shady, cool places where the moisture lasts longer.

The snow (or the ground) here is likely to be littered with spruce cone husks. The squirrels sit up on a high branch and eat the seed from each of the segments that form the cone, then they drop the husks and the stalk of the cone. The heaps of husks are called "middens". You may also spot the places where the squirrels have stored cones for the winter. Although squirrels hibernate in the coldest weather, you will often see them on sunny, not-so-cold days. A bit like Brownies and Guides, aren't they? - staying inside on the coldest days, but then when it is not so cold, going outside to see what winter has to offer!

THE TRAIL NOW TAKES YOU BACK INTO THE SMALL MEADOW AND MARKER #8. FROM THERE, FOLLOW THE TRAIL UP THE HILL (THAT IS, TO THE RIGHT) BACK TO HILLTOP HOUSE.

We hope you have enjoyed the walk. If you have discovered something that other people might find interesting, please tell us about your find.

Leave a message at the Edmonton Guide Centre,
Attention: Elizabeth Marsland - Training Committee. Thank you.

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