

# TRAVELLING SAFELY IN BEAR COUNTRY

by Michael Morris

A group of four hikers, two men and two women, are standing in a field of tall green plants with white flowers. They are wearing backpacks and looking towards the camera. The background is a dense forest.

*Cover Photo: The white flowered cow parsnip is a favourite bear food and grows in patches dense enough to obscure a feeding bear.  
Credit Mas Matsushita.*

*Acknowledgement*

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Bear ecology for hikers in the Columbia Mountains



## **Introduction**

*By virtue of its geography, the Columbia Mountains provides a diverse and lush habitat for many species of wildlife and a wonderful setting for people to enjoy a spectacular natural environment. Many people visit our national and provincial parks and provincial lands seeking a place to experience these wonders. Once having decided where to hike or camp, the most frequently asked question of park staff is: "What about the bears?"*

*This booklet will address that question by investigating the ecology of bears. By analysing a bear's habitat requirements, learning bear foods over the changing seasons and by studying bear behaviour, back country hikers, campers and workers will be able to evaluate the relative risk of travel in bear country.*



by Michael Morris, Parks Canada

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There are two species of bears in the Columbia Mountains and they are both widespread throughout British Columbia. Being able to distinguish between the two is important when deciding how to contend with an encounter.

Black bears are usually black, with a lighter coloured muzzle and sometimes with a white chest patch. Cinnamon coloured black bears are common in this part of British Columbia. Most adult bears range from 70 kg to 150 kg. Their ears are relatively large to the size of the head. Black bear claws are short and highly curved which makes them ideally suited to climbing trees. Having evolved in forested environments, they typically resort to climbing trees when threatened.

Grizzly bears range in colour from dark brown to blonde. The name comes from the most prevalent fur colouring which is a dark brown hair with a blond tip. On average these bears are larger than black bears,



*Black bear, note short curved claws and relatively long ears. Credit Parks Canada*

typically ranging from 100 to 250 kg. Much larger specimens are known on the Pacific coast where bears have access to salmon runs. These bears have a dished shaped head with ears that are proportionally smaller than black bears. A prominent shoulder hump of muscle can help distinguish these bears at a distance. This muscle mass assists the bear to dig with its long (up to 10 cm), relatively straight claws. These will be worn shorter as the summer progresses. ❖

*Grizzly bear, note large dished shaped head and straight nose. Credit Parks Canada*







## Behavior

Bears are great opportunists. Because they hibernate for half the year, a bear has to eat enough in six months to last the whole year. So maximizing weight gain is the foremost concern for a bear. Shelter and reproduction are the next important aspects of bear life.

Hibernation in bears is physiologically different from hibernation in small mammals. Bears maintain a near normal body temperature while ground squirrels allow their body temperature to drop to near freezing temperatures. Raising the body temperature of a large mammal back to normal in spring would be very slow and difficult. However, maintaining a high body temperature costs many calories over a winter.

Reproduction is another motivating factor. Quite simply, the bigger the bear, the better the chances of reproducing. In nature, passing on one's genes is the only measure of success. For males, being bigger means access to females by being able to fight off other males. For females,

stored fat is crucial to nursing a litter of 2 or 3 cubs for several months who will weigh 4 to 8 kg by the time they leave the den in May.

Bears mate in May and June but the fertilized egg does not implant until fall, likely in response to adequate fat reserves in the female's body. Cubs are born in February and are very small, less than 500 grams. They remain in the den with their mother for 3 months.

Adult bears in the den do not eat, drink, defecate, or urinate for 6 months. Through a fantastic metabolic feat they can emerge from the den after a winter's snooze having consumed 25% of their body weight. Bears are able to metabolize waste products and somehow avoid the loss of bone density during their long sleep. Bears are able to accomplish this great feat because they can eat so much during the summer. But this is also why bears are attracted to prime sources of food and can be very aggressive towards possible competitors.

For these reasons, being able to identify bear foods is the first step in assessing bear habitat. Bears mostly eat plants, though they evolved from carnivores. Eating plants is less risky in terms of supply and potential for injury. Bears eat a wide variety of plants. The following is a list of some

of the more important ones in regard to availability and nutrition.

*Cont. on page 4*



*In late summer, huckleberries are a favourite of both bears and people.  
Credit Jackie Morris.*

Cont. from page 3

These factors change with the seasons, elevation and slope aspect.

- Roots; glacier lily, spring beauty, hedsyarum
- Herbs; sedge, horsetail, cow parsnip, fireweed
- Berries; huckleberry, blueberry, mountain ash

These plants are easy to identify. Anyone who travels in bear country should learn to identify these plants in their various phases of growth.

South facing avalanche paths are particularly important in spring. These are productive sites for bear food because the absence of trees allows more sunlight to reach the ground. The soil in the lower portion of a slide path has been built up by many years of climax avalanches that bring down nutrients from higher slopes, and there is usually ample moisture. This combination of factors produces a bountiful supply of plants that bears can eat. Like us, they prefer the fresh and tender shoots of new growth which are also more nutritious. This can be maximized by following new growth emerging from the retreating snow.

Dominant male bears take the best feeding sites. Females and cubs often use habitat of secondary quality to avoid confrontations with larger males who are sometimes aggressive toward anything that is competing for food. An exception to this are productive berry patches which can have concentrations of male and female bears in late summer and fall. The best huckleberry and blueberry patches occur about 25 years after a forest fire.



**Sign**

The presence of a bear can be assumed from the evidence of their activities. Interpreting the age of any of the signs of bear activity is key to assessing the significance of the sign.

Scats are obvious and can also be examined to determine what kind of food bears are eating. It is not possible to determine which species produced the stool. When bears eat green vegetation the stool is dark green. The longer it has been exposed to air, the blacker it will become. By using a stick to poke the stool apart, one can determine an approximate time of the bear's having passed that spot. Stools darken faster during warm weather. Generally speaking, it takes a few hours for the outside of the stool to darken and a few days for it to darken right through. When trying to age a scat, consider the recent weather.

Tracks can assist in determining species. Black bears have more of an  
*Cont. on page 9*



*Scats often reveal what bears are eating now. Credit Michael Morris.*

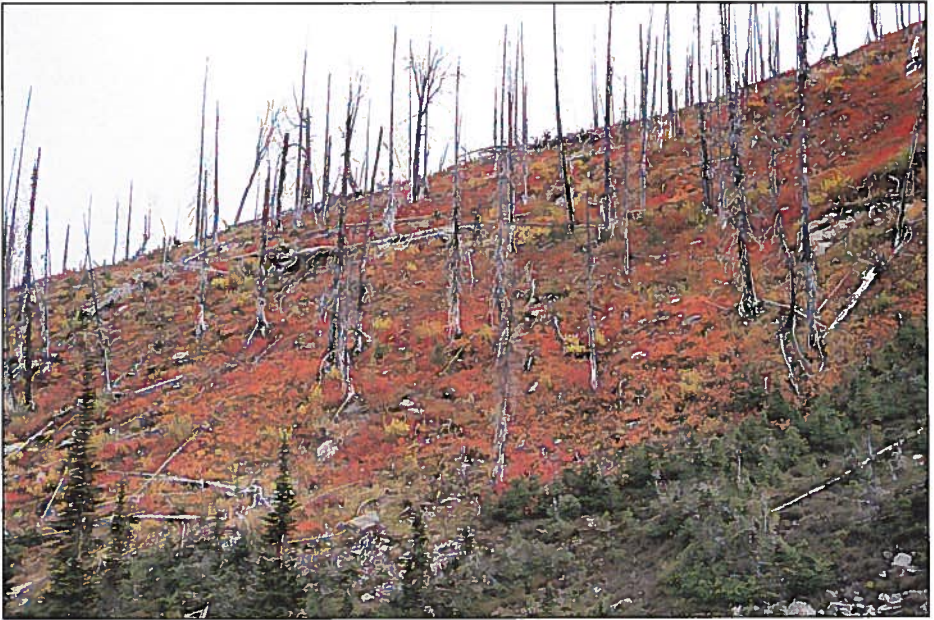


*A cinnamon coloured black bear. Credit Parks Canada.*



*Identifying an animal in the bush can be difficult. Note the distinguishing hump and the blonde tipped fur of a grizzly bear. Credit John G. Woods.*



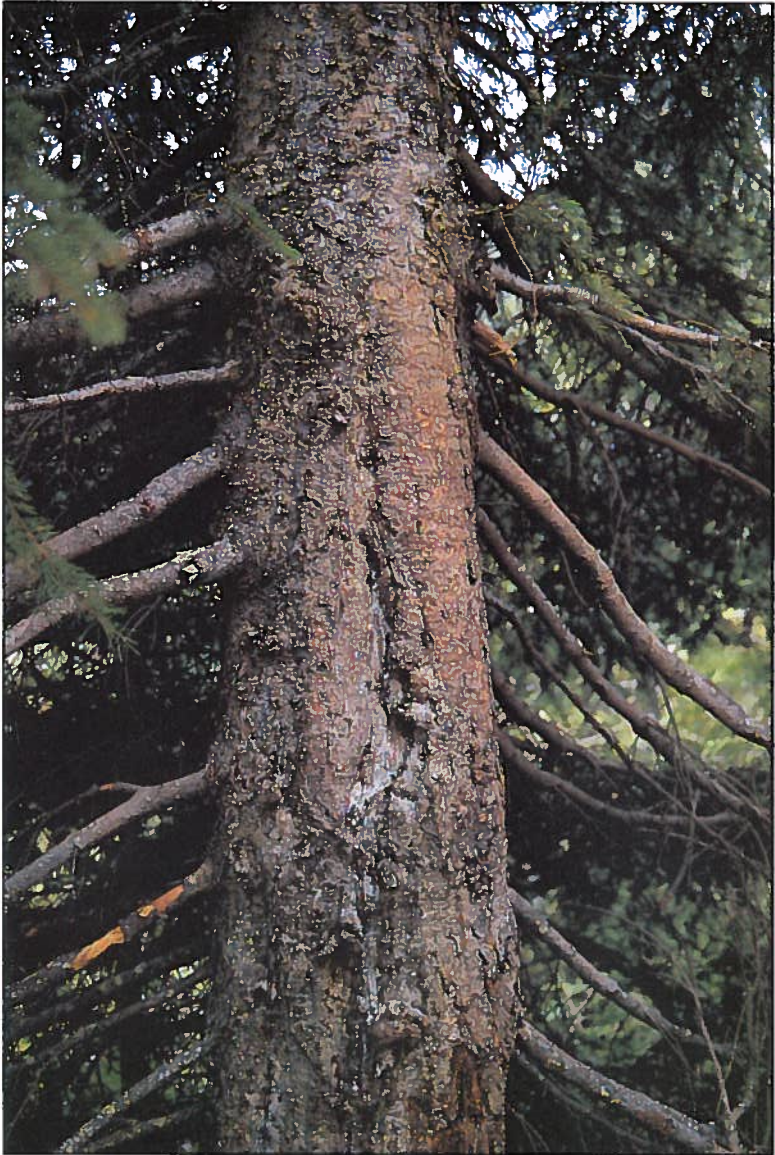


*Old forest fire sites produce the best berry crops. Credit John G. Woods.*



*Fresh diggings indicate recent bear activity. Credit David Pitt-Brooke.*





*Rub trees communicate a bear's presence to each other. Credit Michael Morris.*



*Cont. from page 9*

arch in the front pad and the claw marks are close to the toes. Grizzly track front claw marks are farther in front of the toes. The size of the track can not identify the species as there are small and large bears of both kinds. Tracks in snow will become larger as the snow melts.

The most frequent sign of bear activity is trampled vegetation in or between feeding areas. Look for these trampled vegetation trails in natural travel corridors and sites rich in succulent green vegetation.

In some areas, claw marks scar aspen trees. These become black with age and remain on the tree as a permanent scar. Black bears will feed on the buds of aspen and cottonwood during early spring. Look up when in this type of forest.

Bears communicate their presence to each other by leaving their scent on convenient trees on travel corridors which sometimes are also human trails. Look for prominent trees that protrude into the trail somewhat. Typically a bear will brush past it. Less frequently, it will stand and use it as a back scratcher. This action can leave behind a few hairs caught in rough bark or in pitch. Silvertipped fur reveals the presence of a grizzly. Note that hair roots can be light coloured too.

Both species of bears will scratch around and turn over rocks and logs looking for insects. Only grizzly bears will dig for bulbs to such an extent that some sites appear to have been tilled. Typically these are subalpine meadows rich in avalanche lilies. These showy yellow flowers are obvious in spring but take on an elongated form when the seed pod is ripe. *Cont. on page 10*



*Aspen bark scars are evidence of past bear activity. Credit Parks Canada.*



*Bears strip bark to taste the sappy cambium layer. Credit Michael Morris.*



*A grizzly bear track shows little arch to the toes relative to the pad. Credit Lyn Hardstaff.*



*Bears will flip over rocks and logs looking for insects. Credit Michael Morris.*



Check the dampness of the earth to gauge the freshness of the diggings. Again, the recent weather will have to be considered. Check to see the freshness of the vegetation under a clod of earth. If the flowers have yet to wilt, the digging is very fresh! Grizzlies also dig for ground squirrels, especially in the fall. These diggings can be a metre deep. These scars in a meadow can last many years indicating past bear use.



*Most bear problems stem from human carelessness with food. Credit Michael Morris.*

Bears will tear bark off subalpine fir trees and, to a lesser extent, spruce trees, and rake their front teeth along the cambium layer for a sticky treat. Typically, the resulting bark damage is pointed at the top end. These scars do not heal but weather to grey wood.

Bears move a lot. They are inquisitive by nature and capable of travelling large distances. When considering the activities of bears, think in terms of large areas with use varying with the seasons. ❖



Bears perceive their environment through their senses of smell, sound, and sight. When travelling in bear habitat consider if a bear could perceive your presence soon enough to avoid an encounter. A surprised bear can be aggressive especially if it is feeding. However, in the vast majority of instances, a bear that picks up on the approach of a person melts into the bush. Most people will never know how often they have passed such a bear without realizing it.



The most useful and easiest tactic a person can employ is to simply make noise. The human voice is a distinctly foreign sound. It does not matter what is said, **just say it loud!** Bells are frequently used for this purpose. Their high pitch carries poorly and they can be tiresome to listen to all day. It is more effective to use your voice. Hiking in groups works well in bear country as people in groups talk more.

Consider the environment in which you are travelling. Circumstances such as dense, wet vegetation absorb sound. Rushing streams or wind also cover human sound and scent. Make louder and more frequent sounds in these situations. Streams also cause air to flow down valley. Hikers walking up a trail along a rushing stream need to pay extra attention to making their presence known.

Always look around. When walking on rough ground hikers spend most of their time looking down. Make an effort to keep looking around, especially if you are first in line. Binoculars help in scoping out large open areas such as meadows before you enter them.

Avoid wearing perfumes or carrying especially smelly foods. Bears are curious because a new smell may mean a new food source.

When camping in bear habitat, consider the following:

- Choose a campsite that is off a natural travel corridor. Bears will use a path of least resistance.

- Plan to cook well away from your tent so if a bear does come by later to check out the inevitable cooking spills, you won't be there.

- Never bring food into your tent for a late night snack. Should food spill on your tent wash it.

- Carry 15 metres of small diameter line for hanging food. Remember black bears climb trees well, so hang it off a branch out of reach. Where there are only very small trees such as in subalpine areas, stash your food away from camp.

- Avoid campsites where litter is present. This could have been left by a bear who has learned to associate people with food.

Keep these precautions in mind when travelling in bear habitat.

- Stay alert and look around. Scope out large open areas such as meadows.

- Make your presence known. The best way to do this is with your voice.

- Most problems with bears stem from food. Keep a clean camp and learn to identify natural bear feeding signs.

- Should you encounter a bear, stay calm. Most likely nothing will happen. Do not approach the bear. Speak in a calm voice to let the bear figure out what you are. Back away slowly. Don't make eye contact.

- If you are charged: climb a tree if you have time, otherwise drop to the

ground with your knees tucked into your chest and clasp your hands behind your neck. This shows the bear you are not aggressive. Most charges are a bluff. If the attack continues from a black bear or small grizzly it may be predacious and you should fight back. Remain in the tucked position when attacked by a grizzly, particularly a mother with cubs. ❖



Guns are very effective at killing bears, if you know how to use one. However, hunters are injured more often by bears than unarmed persons. This could be attributed to a few factors. Hunters walk quietly in the forest and thus are more likely to disturb bears at close range. Hunters injure bears and are then attacked. Armed persons take more chances in bear habitat. Hunters have been attacked near carcasses that a bear has claimed.

Pepper spray is a non lethal weapon that has successfully repelled bears. However, it must be used at very close range. Few persons would have the speed and steadiness required in a sudden encounter. The spray would be useful in a camp situation where a bear showed increasing boldness over time. Removing the attractant is a better strategy.

Your best protection is awareness of bear activity and practicing avoidance techniques. ❖





## Conservation

Persons travelling in bear country should not take bear safety lightly. But the likelihood of a bear attack is low. You are more likely to be struck by lightning!

Of greater concern are the many thousands of bears killed each year in North America. While bears are protected in parks, few of these areas are large enough to encompass a bear's home range. Grizzly bear populations are particularly vulnerable and are now absent from much of their historic range. Whether or not bears exist in the future is up to us. How we behave in regards to bears will determine their fate.

Bears reproduce slowly. Their numbers are heavily affected by mortalities caused by hunting, poaching and nuisance kills. While bears generally avoid settled areas, they can be attracted to communities by garbage and food left out. Once

bears learn to associate people with food they lose their normal aversion to people and become a potential public safety concern. As a result, Conservation Officers in British Columbia kill about 800 black bears and 50 grizzly bears each year.

If you live in a community near bear habitat, make sure you are not attracting bears to your home, placing bears, your family and your neighbours at risk.

- Keep garbage in a secured building until pick-up day.
- Never leave fish or meat remains outdoors.
- Pick fruit as it ripens and clean up windfalls promptly.
- Clean barbecue grills or store them inside.
- Consider electric fences or simply eliminating bee hives, chicken coups, or compost piles if they are a continuing attractant. ❖

### Suggested Reading

- "Bear Attacks, their Causes and Avoidance", Stephen Herrero, Hurtig Publishers, 1985
- "Grizzly Country", Andy Russell, Alfred Knopf Inc, 1967
- "Bears - Majestic Creatures of the Wild", Ian Stirling, Editor, Rodale Press, 1993
- "Trees, Shrubs & Flowers to Know in British Columbia and Washington", C.P Lyons and Bill Merilees, Lone Pine Publishing, 1995







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