

Hunter Education

(Part B)



Acknowledgements

The **Atlantic Canada Hunter Education (Part B) Student Manual** was developed through the collaboration of the New Brunswick, Newfoundland and Labrador, Nova Scotia and Prince Edward Island provincial governments. This manual consists of curriculum used in the Hunter Education (Part B) course, which when combined with the Canadian Firearms Safety Course (Part A), makes up the Atlantic Provinces Firearm Safety/Hunter Education Program. This program is an educational requirement for all first-time hunters in the Atlantic Provinces.

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Hunting, like any recreational outdoor activity, has inherent risks. Hunters must be aware of these risks and practice safe and responsible behaviour consistent with applicable hunting laws at all times. This includes not only while in the field but also during training and in preparation for hunting activities. Hunting equipment and safety gear should always be used in accordance with the manu-

facturer's guidelines. Responsibility for safe hunting practices and behaviour rests with the individual.

Developed in partnership through the cooperative efforts of:

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- Newfoundland and Labrador Department of Fisheries and Land Resources
- Nova Scotia Department of Lands and Forestry
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- Saskatchewan Association for Firearms Education
- Alberta Hunter Education Instructor Association
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Atlantic Canada Hunter Education (Part B) Student Manual

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PO 6000, Fredericton NB E3B 5H1

www.gnb.ca

ISBN 978-1-4605-1606-5 (print)
ISBN 978-1-4605-1607-2 (online, PDF)

12419 | 2019.09 | Printed in Canada



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Moose aerial survey, Northern Peninsula, winter 2008. Photo courtesy of NL Wildlife Division.

Lesson 1: Introduction to hunter education

In the Atlantic Provinces, nearly 200,000 hunters take to the field each year.

We make this annual pilgrimage to woods and water so that we may experience the natural world and be an active participant in it. Since 1949, more than 35 million students have graduated from hunter education courses in Canada and the US. These courses have contributed to a significant decrease in hunting incidents and an increased understanding of the responsibilities each hunter accepts when purchasing a hunting licence.

In Atlantic Canada, hunter education is taught through the Firearm Safety/Hunter Education Program. This program consists of two courses:

1. Canadian Firearms Safety Course (Part A), and
2. Atlantic Canada Hunter Education Course (Part B).

The goal of the Firearm Safety/Hunter Education Program is to train hunters who are safe, responsible, and law abiding. Firearm Safety/Hunter Education training reduces the number of shooting related hunting incidents and other hunting injuries, and promotes responsible hunter behaviour including compliance with hunting laws and regulations.

This manual, coupled with the knowledge of instructors and your participation will result in an appreciation of hunting, safe firearm use and a code of ethics that you and all hunters can be proud of.

The Atlantic Canada Hunter Education Course (Part B) includes subject areas such as ecology and wildlife management, ethics and responsibilities, hunting laws and regulations, hunter survival skills and field techniques. In order to test your skills and knowledge of this information a classroom examination is given. Along with this technical knowledge and skill, we hope you develop an attitude and a code of conduct that adds to your hunting experience and protects our hunting heritage. The ultimate test for this is how you behave when afield.



We hope you enjoy the course and come to appreciate the role of hunters and the role of hunting in wildlife management and conservation.

We trust you will put into practice this Hunter Education information. We need, want and appreciate your help in using our wildlife resources wisely.

“As a researcher of both human and animal behaviour, I believe that if people can fully grasp the issues raised by hunting and apply this to their lives, the world will be a much more sane and peaceful place.”

— James A. Swan, *In Defence of Hunting* —

Review of Lesson 1

1. How many hunters take to the field in the Atlantic Provinces each year?
 - a) 200,000
 - b) 300,000
 - c) 400,000
 - d) 500,000

2. What is the goal of the Firearm Safety/Hunter Education Program?

3. Provide two reasons why Firearm Safety/Hunter Education training is important.

- 1) _____
- 2) _____

4. The Atlantic Provinces Hunter Education Course (Part B) includes subject areas such as:
 - a) Ecology and wildlife management, ethics and responsibilities, marksmanship, hunter survival skills and field techniques.
 - b) Ecology and wildlife management, calibre identification, marksmanship, hunting laws and regulations.
 - c) Ecology and wildlife management, ethics and responsibilities, hunting laws and regulations, calibre identification.
 - d) Ecology and wildlife management, ethics and responsibilities, hunting laws and regulations, survival skills and field techniques.

Lesson 2: Ecology and wildlife management

Introduction

Ecology is the science of the environment, the study of how the world works as a unit. It is about organisms and their home, the structure and workings of nature, and the relationships and interactions among living things and their surroundings.



It is important to understand the basics of ecology, because humans are only one of approximately 1,300,000 types of organisms that share the planet. This lesson will examine the basic principles of ecology, the way they affect plant and animal communities, and the basic principles and activities of wildlife management.

Wildlife management is a bewildering term to many people. Part of the reason for this is that the field, as we know it today, is relatively new. Why would a moose or a fox need to be managed? Can't we just let nature take its course? In a wilderness setting sometimes we can, but there is little true wilderness left. There are very few places where we have not changed our natural environment in some way and used the natural resources for our own purposes. The concept "wild" creates some problems, for wilderness and wild generally mean in the absence of humans. In attempting to manage wildlife, we unavoidably influence the resource. Wildlife management is a complicated field that involves the public, the users, private industry, government managers, and law makers.

History of wildlife management

Management of wildlife began in Europe where rulers owned the land and the wildlife. They had game keepers who took care of the animals and kept them healthy. There was no public hunting; only the ruler hunted and the keeper was his guide.

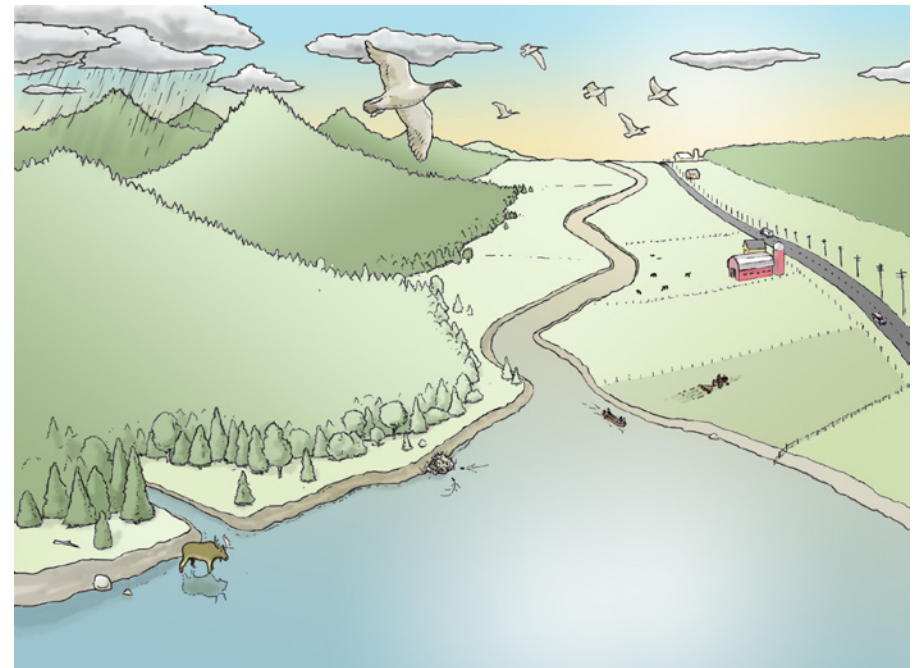
In North America, settlers began to use wildlife habitat for space to build their homes. They did not have hunting laws. Some hunters sold their game in the towns; too much of this led to a decrease in wildlife. Since there were no laws, the numbers of animals harvested could not be controlled. As a result some species such as passenger pigeons became extinct and very few wild buffalo remained.

People grew concerned about wildlife and passed laws to conserve and protect it. This eventually led to the development of wildlife management programs used by provinces and states in North America today. Although these programs differ from jurisdiction to jurisdiction, they share a common set of principles referred to as the *North American Model of Wildlife Conservation*. The underlying principles of this model are: 1) fish and wildlife are a public resource and every citizen has the opportunity to pursue them within legal limits, and 2) wildlife populations are sustained and scientifically managed by professionals who work with government agencies.

Ecological terms

Community: the populations of plants and animals living and interacting with one another in a given locality.

Conservation: the wise use of our natural resources.



Ecosystem: a community of living things interacting with one another and with their physical environment (air, water, soil, wind, etc.). An ecosystem can be a planet, a forest, a lake, or a fallen log.

Organism: refers to any living thing including plants, animals and humans. These living units include not only large organisms such as trees and whales but also simpler organisms such as fungi, bacteria, and protozoa.

Wildlife: a term that can have many meanings. One definition includes vertebrates and birds that are usually wild by nature. Such animals are normally not dependent on people for shelter or food.

Habitat terms and concepts

All living things have basic habitat needs, four of which are *food*, *cover*, *water*, and *space*. When these needs or habitat factors are in good supply, they contribute to the well-being of wildlife. If any factor is in short supply, it limits the number and distribution of wildlife and is called a “limiting factor”. An animal’s habitat or address must provide these four basic needs in proper “arrangement”, which is the fifth basic habitat need. Each species of animal has its own habitat requirements. Although they are keen to protect animals, many people do not understand the vital role of habitat. Without protecting habitat, protecting individual animals becomes meaningless.

Food, cover, water, space and arrangement

1. **Food:** all animals need food to meet their energy needs to grow, reproduce, escape predators, and survive chilling winters or long migrations. Each species selects particular foods from many items that are present in its environment— just any kind of food will not do.



For white-tailed deer or moose to survive, there must be enough browse to last the winter, and the browse must also have sufficient nutritional value. The quality of food, as well as the amount present, is important for survival. Food quality may vary with the season, or even the location. Food must also

be accessible to the animals. In winter, deep, crusted snows may bury much of the food supply. An important objective for wildlife management is to conserve important feeding areas, and to increase the amount and quality of food available for wildlife. Winter food shortage is the most important limiting factor for many wildlife species.

2. **Cover:** birds and mammals need shelter or cover to hide in, to raise young and to protect them from bad weather. Dense vegetation is the most common kind of cover, but cover may also include rock piles, burrows in the ground, holes in logs, or bodies of water. Some animals, such as beaver and muskrats, build their own cover in the form of houses. Plant cover is removed or altered by many modern land uses such as logging, cattle grazing, and open-pit mining.

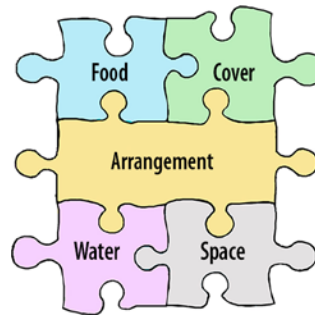
3. **Water:** all animals need water. Many of our wildlife species get enough water from the food they eat, such as succulent plants, but some also need to drink water. Fortunately, water is generally well distributed in the Atlantic Provinces and usually not in short supply.

4. **Space:** animals need space to survive. Overcrowding leads to severe competition for food and breeding sites and eventually to malnutrition and rapid spread of disease and parasites. Most animals are territorial to some extent and will occupy specific sites known as their “home range”. This territoriality tends to ensure spacing and prevent over-crowding. Because of the need for space, a given area will only support so many animals, no matter how much food, water or shelter they receive.



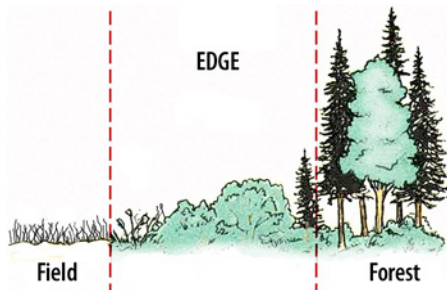
Many species have very particular needs for breeding sites. Dense forest cover is needed by moose to conceal newborn calves, and by tree-nesting birds to hide their nests. Bald eagles need large old trees to support their bulky nests and these trees must be near the shorelines where they feed. Hole-nesting birds need snags and old trees in which to excavate nests, falcons need cliff ledges, and seabirds that nest in colonies need secluded islands. Some mammals, like wolves and bears, need particular soil conditions for digging their maternity dens. Wildlife managers try to protect breeding sites and improve them where possible.

5. Arrangement: just as the arrangement of our homes, grocery stores, workplaces and needed services is important to us, the arrangement of food, cover, water and space is important in determining the numbers and distribution of wildlife. Unless they are in close enough proximity to one another, wildlife will not be able to make full use of the habitat value they provide.



Edge

Edge is the border where different plant communities or habitat types, such as field and forest, meet and overlap. Edges can be man-made, such as the border between a field and forest, or they can occur naturally, such as an area of shrubs found along a forest stream. Edges differ in size and shape. Some may be very narrow while others are wide or even patchy.



Edges are rich in the variety and types of plants they contain. For many wildlife species they represent areas where food and cover are found close to one another. As a result, edges often support a greater abundance and diversity of wildlife than adjacent areas.

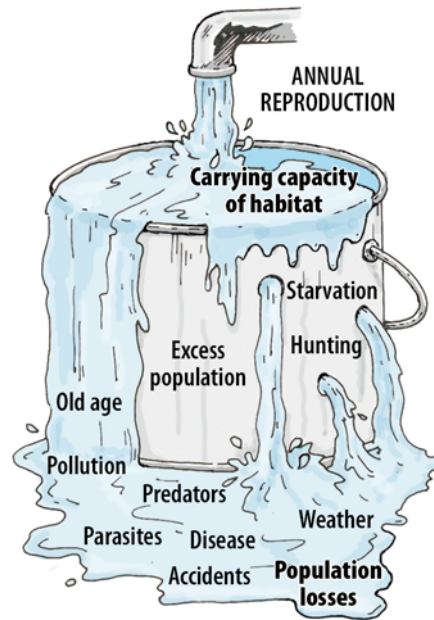
Many game animals rely on edge areas to meet their seasonal habitat needs. Ruffed grouse, for example, require mature hardwood forests with an abundance of buds for winter food, thickets of young trees as mating cover, and forest openings with herbs and shrubs for raising their young and for food in summer.

Carrying capacity

The number of animals of a given species that an area will support without damage to the habitat or to the animals is called the "carrying capacity".

No matter how good a habitat is, and no matter how much protection is given to the animals in it, a given area will only support so many animals. It is the task of the wildlife manager to control the numbers of animals at or below the carrying capacity.

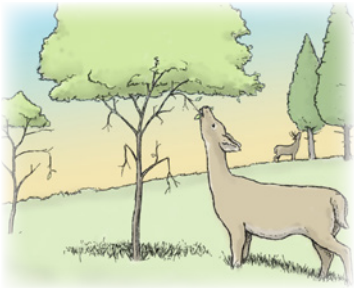
Carrying capacity is determined by limiting factors which are any factors that act to control or limit the number and distribution of a wildlife species. The uppermost limit on the size of a population is often determined not by the animals themselves but by the availability of food.



In general, the growth of plants depends on the supply of nutrients and sunlight. The quantity of plant material produced determines, in turn, the maximum possible population of herbivores (plant-eaters). The number of these animals will then set a limit to the number of carnivores (flesh-eaters).

There may be factors other than food limiting the growth of a population, and so the maximum size of the population may never be reached. There may, for example, be enough food to support a thousand birds in a certain area but suitable nesting sites for only one hundred.

Some birds and mammals can increase in numbers very quickly, and may temporarily exceed the carrying capacity of their habitat. This results in social stress, competition for food, starvation, greater exposure to disease, predation and parasites, poor reproductive success, and damage to the habitat.



The carrying capacity of many wildlife habitats is also determined by winter weather. There may be an excess of available food, cover, and space in summer, but not enough in winter. This is particularly true for species that eat plants because the vegetation dies back in winter, may be covered by snow, and is less nutritious.

It is the combination of available food and home range size which helps define the upper limit to population growth. Many animals occupy specific home ranges or territories in order to ensure that they have enough food, cover, and breeding sites to raise their young. This may be as small as 4 km² for moose or as large as 200 km² for wolves. The territory size reflects the carrying capacity of the habitat and often functions to limit the number of animals supported in an area.

Most animals are food (prey) for other animals, and when their population increases, so does the number of predators. Once the prey population has been reduced there may be less food for some predators, their numbers will decline and a balance may again be restored. An example of this “cyclic population” is the relationship between the snowshoe hare and lynx. Lynx, because of their large well-furred feet, are physically adapted to pursuing snowshoe hare and feed almost exclusively on them. Both populations follow a 10-year cycle of boom and bust. The cycle of lynx follows that of the snowshoe hare by one or two years. For example, when snowshoe hare numbers reach their low, the lynx population responds with a lower survival rate of young and a lower reproductive rate in females because of the reduced food source.

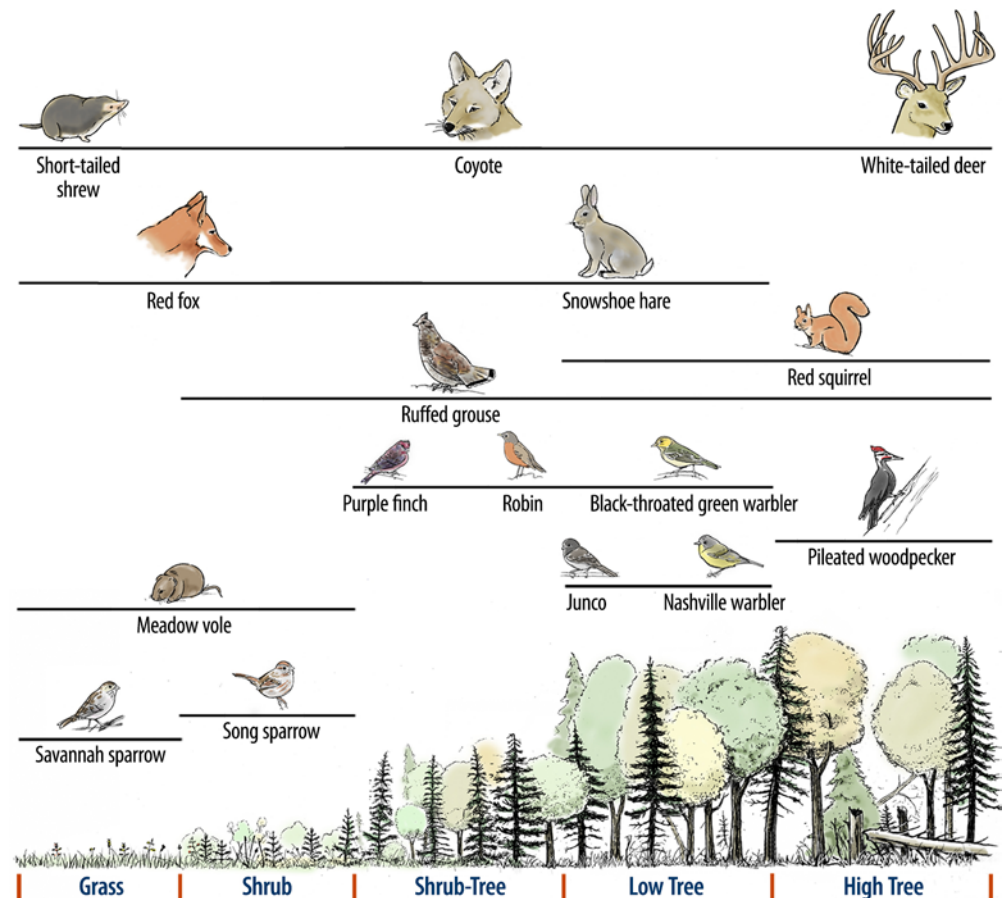
It was not too long ago that various creatures were classified as either beneficial or nuisance according to their supposed effect upon populations valued by humans. Ignorant of the role played by predators in regulating and maintaining prey populations, many agencies actively promoted widespread killing of predators. This resulted in the destruction of habitat by a prey species growing out of control. It soon became obvious that all parts of a community, including predators, were valuable.

Unfortunately, we often simplify the complex systems of nature for our own benefit and use. Wildlife agencies have begun to look at all aspects of the environment when developing management plans for wildlife. This integrated resource management approach will guide all management decisions in the future.

Succession

Succession is the orderly change in the types of plants and animals that occupy a given site over time. Succession normally starts after some type of natural or man-made disturbance to the natural environment such as forest fires, wind-throw, logging, and farming.

A common type of succession seen in the Atlantic provinces is old field succession. Abandoned farm land does not remain as field forever. Within a few years after grazing or cultivation ceases, grasses start to be replaced by weeds such as aster and golden rod. After several years woody shrubs such as wild rose, hawthorn, alder, and dogwood begin to reach a noticeable size. These shrubs provide cover for smaller tree seedlings and eventually the field will contain a mixture of shrubs and small trees.

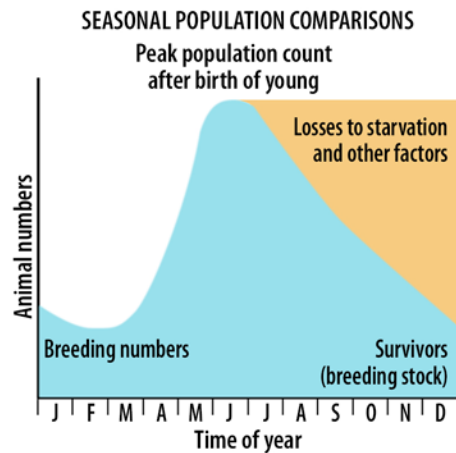


As trees outgrow the shrubs the old field will start to resemble a young forest. Shrubs become less common as they are shaded out by taller trees and eventually trees will dominate the site. Over time the trees mature. Eventually some may die creating openings where young trees begin to grow and start the process of succession over again. After many years it will be difficult to determine that the site was ever anything other than forest.

With changes in the types and forms of plants that occupy a given site over time there are also changes in the types of wildlife species that a particular habitat will support. Some wildlife species, such as the meadow vole, for example, are adapted to grassy open sites and will be found in old fields. As these give way to shrub-tree habitats, animals such as snowshoe hare become more common. Species such as pileated woodpeckers, on the other hand, require mature forests with dead standing trees where they can search for insect food and make nesting cavities.

Each species of wildlife has unique habitat requirements. Therefore, changes in habitat will change the kinds of wildlife associated with it.

Wildlife terms and concepts



Two major factors affect the population dynamics of wildlife—the birth rate and the death rate.

Population dynamics

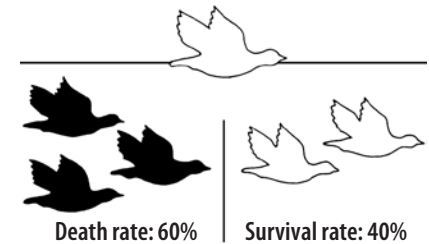
A population is a group of animals of the same species that occupy a particular area. Dynamics refers to motion or change from within. Population dynamics means the changes that occur in a population over time and happen seasonally as well as from year to year. Peak wildlife populations occur after spring birthing periods while population lows follow winter. Hunting removes a portion of the annual overproduction or “biological surplus”.

Birth rate

Most wildlife species have a high birth rate. Generally the smaller species of wildlife have higher birth rates than the larger species. The most important factors that affect the birth rate are:

- the age at which breeding begins,
- the number of births per year for each breeding female, and
- the number of young born per litter.

Birth rate: 5 young per female

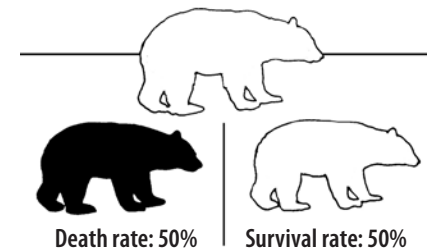


Death rate

The death rate of most wildlife species is high. The smaller species of wildlife have higher death rates than the larger species. The principal factors affecting the death rate of wildlife in Atlantic Canada are:

- the availability of food and cover,
- predation,
- weather,
- human activities,
- disease, and
- parasites.

Birth rate: 2 young per female



Principles of population regulation

An important principle in the regulation of wildlife populations is the role that density dependent and density independent factors play.

1. Density dependent factors

These are factors that act to regulate a wildlife population based largely on the density of the population. For example, if there is an overpopulation of a wildlife species factors such as an infectious disease or lack of available food may cause it to decline. On the other hand, if a population falls below a certain level, its birth rate may increase to bring the population back up.

2. Density independent factors

Density independent factors impact wildlife populations regardless of their density. For example, a severe winter with a prolonged period of deeper than normal snow depth levels would reduce the survival rate of affected deer regardless of their population size.

A second wildlife population principle, applicable to the death rate, is called the “Law of Compensation”. If one or more factors affecting the death rate decline, others will increase so that overall death rate will not significantly change. Over a given time period, the same number of animals in a population will die due to one cause or another. You cannot stockpile wildlife from one year to the next.

Wildlife values



Many people benefit from our diverse wildlife heritage. Wildlife, like forests, water, fisheries, and soils, is a natural resource. It is used directly by many people and influenced directly and indirectly by the numerous ways humans use other natural resources.

Classification of wildlife values

1. Recreational

The recreational value of wildlife is growing with people devoting increasing amounts of leisure time to hunting, fishing, wildlife photography, wildlife viewing, etc.

2. Food/Sustenance

Hunters derive food from the game they

harvest and share this with others. Wild game is not only nutritious but tends to be lower in fat than factory raised animals.

3. Commercial

The commercial value of wildlife has increased in recent years mostly because of increased interest. Millions of dollars are spent annually by hunters, fishermen and other wildlife oriented persons.

4. Biological

Many wildlife species are valuable in controlling harmful pests. On the negative side, some animals may become pests themselves around farms, homes and industries.

5. Scientific

Wildlife has value for providing animals for research purposes. The study of animal population behaviour helps in our understanding of the human species.

6. Social and cultural

Participation in traditional activities brings people together with a common interest in conservation and preserving cultural knowledge and practices for future generations.

Categories of wildlife

1. **Game animals** are defined by law and can be hunted legally. They are valued for food, for products such as hides or feathers, and for the hunting opportunities they provide. Game animals are generally abundant and have population levels that can be sustained. Small game animals include snowshoe and arctic hare. Big game animals include bear, caribou, deer, and moose. Upland game birds include ruffed grouse, spruce grouse, and ptarmigan. Migratory game birds include ducks, geese, woodcock, and snipe.



2. **Furbearing animals** are defined by law and are generally valued for furs. Examples of furbearing animals are coyote, pine marten, beaver, fox, muskrat, mink, raccoon, otter, and bobcat.

3. **Non-game animals** are those not hunted or trapped. Songbirds, predatory birds, small mammals, reptiles, and amphibians are included in this category. Examples are sparrows, hawks, eagles, mice and garter snakes.



4. **Nuisance wildlife** are animals found doing, or in a position where they may cause, damage to growing crops, livestock, orchards, or private property. An example are beaver that have plugged a culvert resulting in road damage.

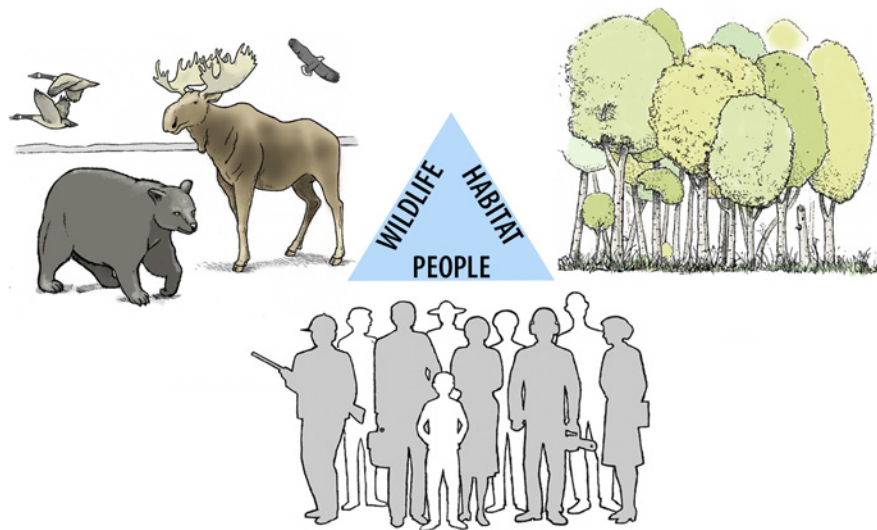
5. **Species at risk** are animals in danger of disappearing from the wild due to habitat loss and other environmental factors. In Canada animals at risk are categorized according to their level of risk. Categories include special concern, threatened, endangered, and extirpated. Examples include the piping plover, wood turtle, and polar bear. Classifications may vary regionally due to differences in local population levels.

6. **Extinct species** no longer exist, often as a result of habitat loss and/or unregulated harvesting. An example is the passenger pigeon.

Wildlife management

Wildlife management is the use of ecological principles to maintain and manage wildlife populations. Its purpose is to ensure the survival of both game and non-game species. There are three components to wildlife management.

1. **Wildlife:** game and non-game species.
2. **Habitat:** the place where an animal lives. Habitat determines the type and amount of wildlife any given area can produce.
3. **People:** includes many groups such as wildlife managers, hunters and anglers, the general public, private industry, and government.



Wildlife is one of our most valuable resources and, in this context, wildlife managers are really resource managers. A resource can be defined as any available supply that can be drawn upon when needed.

Natural resources are those resources supplied to us by nature, for example, plants, water, soil, minerals and wildlife. Some resources, once drawn upon and used, are then no longer available to us. Coal, gas and oil are examples of natural resources that cannot be replenished or replaced once they have been used. They are called “non-renewable resources”. Other kinds of natural resources can replenish themselves through natural means and thus continue to remain available for further use. These resources, such as vegetation and wildlife, are termed “renewable resources”.

Wildlife management goals

Over the past twenty years wildlife management goals for game species have been to:

- allow for continued consumptive use of game animals,
- distribute hunting pressure more evenly, and
- keep populations in balance with available habitat to maintain the integrity of the entire ecosystem.

Game management can be thought of as a field of applied ecology and is, in many respects, very similar to the practice of agriculture or forestry. A forester plants trees, allows them to grow and eventually harvests them. A farmer must continually remove and market animals from the herd to keep it within the carrying capacity of the farm. If a farmer did not do this, the yearly addition of calves to the herd would increase the number of animals to a point beyond the capacity of the land to support them.

Similarly, game managers try to control wildlife populations. A sufficiently high breeding population is maintained to maximize the reproductive potential of that population. As with the farmer, there is a need to remove or harvest a portion of that population to keep it within the ability of the habitat available to support it. In essence, game managers farm wildlife just as the farmer manages a herd. Through hunting, the wildlife manager crops portions of game populations just as the farmer removes and markets the surplus portion of the herd.

The science of game management is more than simply exercising control of population numbers by controlling the harvest. We manage not only the species but the ecosystem in which it occurs. By controlling the factors that affect game populations, game managers can influence the amount of hunting that can occur. This can generally be done by developing habitat to create more space, food, cover, or other critical components. Although primarily done to benefit a game species, the creation of new habitat will also benefit many other kinds of wildlife.



Wildlife management tools

Present wildlife management efforts focus on the conservation and continued existence of optimum numbers of wildlife and use several approaches to arrive at these goals including:

- Research
- Monitoring
- Reserves
- Management areas
- Seasons and bag limits
- Habitat management and conservation
- Hunting and trapping
- Public education
- Compliance (laws)



Research

Wildlife research involves the study of animals and their habitat. Game animal studies can be simple or very complex depending on the methods and technology being used. To control the amount of game animals being harvested, wildlife managers must understand a great deal of information about game populations.

First, wildlife managers use research to understand the general health, size and distribution of game animals. Wildlife managers also use research to determine the amount of available habitat that can support a population of game animals. Finally, research is used to determine the total number of game animals that can be harvested on a sustainable basis.

Monitoring

Monitoring game populations involves estimating the number of animals present in an area on a yearly basis. The term used to describe this process is called “inventory”. For example, biologists use aerial surveys to inventory most big game animals. When leaves have fallen from the trees and snow is on the ground, dark animals like moose are fairly easy to see from the air. The animals may be counted and classified on sample plots or entire winter ranges.



To be accurate, an inventory should also assess the land base that sustains the population. Our ability to inventory has been enhanced by aerial surveys using airplanes or helicopters,

by improvements in optics, primarily night-vision scopes, by the advancement of remote sensing imagery, and by the development of electronic technology, particularly computers and radio transmitters. It has also been enhanced through new knowledge about the game species, biology, behaviour, and habitat requirements. For many species, it is easier to measure and assess habitat components than to attempt actual population inventories. This is due to several factors such as the seasonal fluctuations of populations, the difficulty and expense of observing and/or tracking individual animals, and the complexities of external influencing factors such as predation and competition.

Wildlife managers need to base their management decisions on an appropriate mix of population and habitat evaluations. Once wildlife habitat is classified, surveys can be done to monitor population status and provide density estimates. Long-term monitoring of wildlife populations can be done through a combination of habitat assessment, periodic population surveys and information from hunters. The hunter’s assistance in monitoring wildlife populations is a necessary contribution to an important management tool.

Reserves

Many provinces have passed wilderness and ecological reserves legislation. Wilderness reserves are large areas, few in number and designed to protect significant portions of our wild landscape. They are areas which people can go to hunt, fish, travel, or otherwise experience and appreciate a natural environment. Ecological reserves are generally much smaller, but more plentiful in number. They provide, among other things, areas for scientific research and the conservation of habitat for rare or endangered plant and animal species. They are also a standard by which development in other areas may be measured. A seabird sanctuary is a good example of an ecological reserve.



Reserves provide refuge for one or more species to reproduce without harassment from human activities. Reserves may also be established to provide protection for land areas that exhibit unique vegetation or geological formations. Some reserves have laws that allow harvesting of animals to prevent over-population and damage to habitat. Moose and deer, for example, may exceed the carrying capacity of the reserve and exhaust their food supply and damage the habitat.

To be effective in the conservation of habitat and wildlife, reserves must be used with other management tools as part of a complete management plan.

Wildlife management areas

Wildlife management areas are individual zones created within an agency's jurisdiction which allow for these areas to be managed separately from one another. They may be based on habitat, species, remoteness, hunting pressure or any other factor which managers feel requires a certain area to be managed separately. By breaking a larger area into smaller management areas, biologists can better gauge population levels, habitat conditions, and hunting pressure.



Seasons and bag limits

The ability to set seasons and bag limits is an important part of managing game populations. A season, in this context, is the time period when a particular species may be hunted. Seasons and bag limits are set only after considering all factors affecting that population. If a game manager feels a need to increase or decrease a particular population, seasons can be lengthened or shortened to help reach the desired number. Seasons also help protect animals during critical breeding stages.

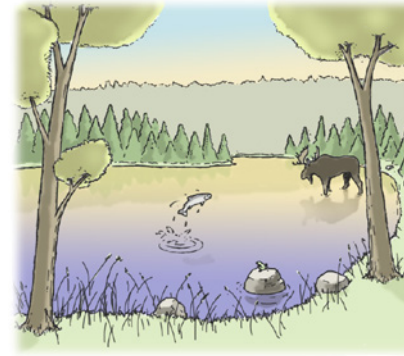
Hunting seasons are generally set for the fall. One reason for this is to remove excess animals from a given population before winter, when competition for food becomes a limiting factor. After spring births, some species have exceeded the carrying capacity. Hunting in the fall decreases chances of starvation and habitat damage.

Habitat management and conservation

Habitat is the combination of soil, water and plants, commonly called "cover" in which wildlife exists. The relationships between soil, water, plants and the species of wildlife dependent on them are many and varied.

Humans and their activities can cause profound and often irreversible changes to habitat, usually to the detriment of wildlife. In order to maintain productive wildlife habitat, sound planning programs concerning man's use and the future

of habitat components are necessary. Both short term and long term planning for use of our land and water resources must include a recognition of the need to maintain suitable habitat if wildlife is to continue to flourish. Agriculture, timber harvesting, extraction of coal, oil, and gas, as well as our use of water must be based on and guided by sound land and water use planning. Both the



private sector and the many agencies of government, including wildlife resource managers, are cooperatively working and planning to minimize our effect on habitat and the wildlife dependent on it.

In Atlantic Canada much wildlife habitat has been lost or altered due to hydro-electric developments, transmission lines, road construction, mining and forestry activities.

The single greatest threat to wildlife today is the loss or degradation of habitat. Without healthy habitat no wildlife can survive.

Habitat, like wildlife, cannot be preserved forever in a particular stage or condition. In any natural system, changes are constantly occurring. Plant food used by wildlife germinates, grows, matures and is replaced by other plants. Each stage in the series or succession of changes that occur constitutes a different kind of habitat and results in an accompanying change in the wildlife found there. An area that is diverse in habitat, which offers a variety of different kinds of cover, will maintain the greatest diversity or kinds of wildlife. Habitat provides more than food. It also provides protection and means of escape from predators or harsh weather.

Once research has identified the habitat requirements of a game species and an inventory has determined the abundance of that habitat, wildlife managers can decide whether to alter or manipulate habitat using various techniques. One method creates a particular successional stage of cover for the wildlife species desired and maintains that stage as long as possible. The provision of such habitat increases the carrying capacity of the area and game populations increase accordingly.

Hunting and trapping

Regulated hunting and trapping also make it possible to harvest animals when populations are at, or close to, their highest numbers over the year. Hunting and trapping remove a portion of the annual surplus before it is lost to natural causes. This is called the harvestable surplus.

The “Law of Diminishing Returns”, coupled with wildlife regulations, prevents the over-harvesting of game animals. As a population decreases, the remaining animals become more wary, widely separated and harder to find. It then takes more effort on the part of the hunter to find game. Beyond a certain level of effort required, most hunters will lose interest and turn to hunting other species, or move to other areas. Even at low population levels, the animals taken by hunters are a part of the harvestable surplus. For example, grouse populations may be reduced by 70 percent or more due to winter mortality and other factors, whether they are hunted or not.

Much of the funding needed for wildlife management programs is provided by hunters and trappers through the sale and purchase of game and furbearer licences. Many provinces in Canada also have direct funding programs which are supported by hunters and contribute enormously to habitat enhancement projects and conservation education programs. These programs are administered by conservation groups like Ducks Unlimited Canada, Wildlife Habitat Canada and other provincial wildlife organizations in cooperation with provincial government wildlife agencies.

Regulated hunting has never led to the extinction of a wildlife species or caused any species to become rare or endangered.

Public Education

There is much public concern about hunting and a fear that hunting will deplete a species to the point where it becomes endangered or even extinct. In reality, it is the destruction of habitat by man’s activities that puts a species at risk.

Public understanding, acceptance and support is essential if wildlife management programs are to be successful. This will only happen if people are educated about wildlife and its needs.

Compliance (Laws)

Wildlife management involves creating wildlife laws that are based on sound biological information which benefit wildlife and also are designed to ensure public safety and support.

The creation and enforcement of wildlife laws is an important management tool. To be effective, these laws must be flexible to cope with changes in wildlife populations, habitats and the needs of people. They must also be based on biological fact and complement other management practices. For example, a hunting season is a law enforced by conservation officers. Wildlife managers set the season based on sound biological information and in the best interests of the game species. If wildlife laws provided complete protection without allowing the use of management tools, it is doubtful that any species would be better off. In cases involving rare or endangered species or sensitive breeding sites, complete protection from harvesting may be required but some management or at least study is often still essential.

Conservation officers enforce laws related to sex specific licence types, not simply to be difficult but rather to support the concept of selective harvest, a sound, beneficial wildlife management practice.

To determine how many either-sex and other type licences, such as buck-only, should be issued, the success rate of each group of hunters and the sex ratio (numbers of males to females) in the population is investigated. The emphasis is on protecting the adult, breeding, female segment of the herd. This is known as selective harvesting and allows for the maximum total harvest while maintaining the overall health of the population.

Poaching can have an influence on wildlife game populations because it removes animals that could be legally harvested. It can even contribute to the decline of some populations. Legitimate hunters must take this crime very seriously because it could result in the lowering of licence quotas or the closing of some management areas to hunting. Poaching is stealing, and because everyone owns the resource, poachers are stealing from all of us.

Hunting and conservation

Hunters support the conservation of our wildlife resource in several ways.

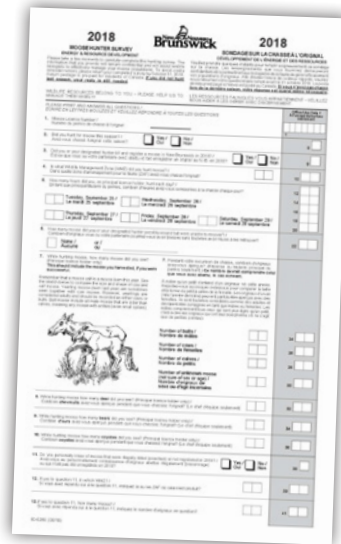
1. **Hunters provide wildlife managers important information about the condition of the wildlife resource through hunter licence returns, biological data, and submitting parts of game.**

This information is used in part to determine the population size and relative health of game species and thus how many animals can be harvested on a sustainable basis.

Hunter licence returns

On licence returns, or post-hunt surveys, hunters are asked, among other things, the number of days hunted and the number of animals seen.

There is a strong relationship between the number of animals seen per days hunted or the length of time it takes a hunter to get an animal and the density of the population. This type of data is called trend data and when analyzed over a period of years it indicates whether a population is increasing, decreasing or remaining stable.



Biological data

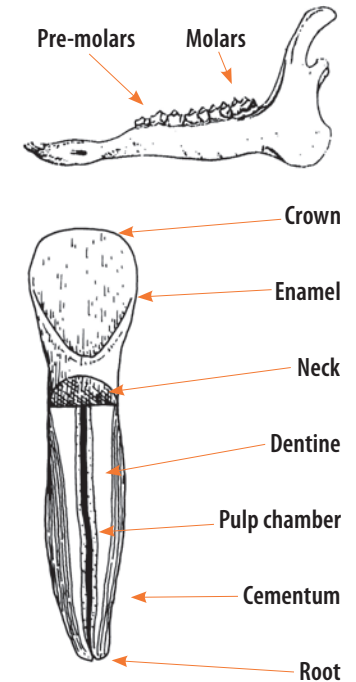
Wildlife biologists are constantly studying wildlife to learn more about this natural resource. Marking and tagging programs help provide wildlife management personnel with migration and movement data necessary to understand and manage wildlife. Hunters are asked to report locations where tagged game is taken. Information from leg bands or neck collars taken from any harvested game should be reported to the nearest appropriate wildlife office.



The success of any of the marking programs depends on hunters returning bands and collars and providing whatever additional information is requested.

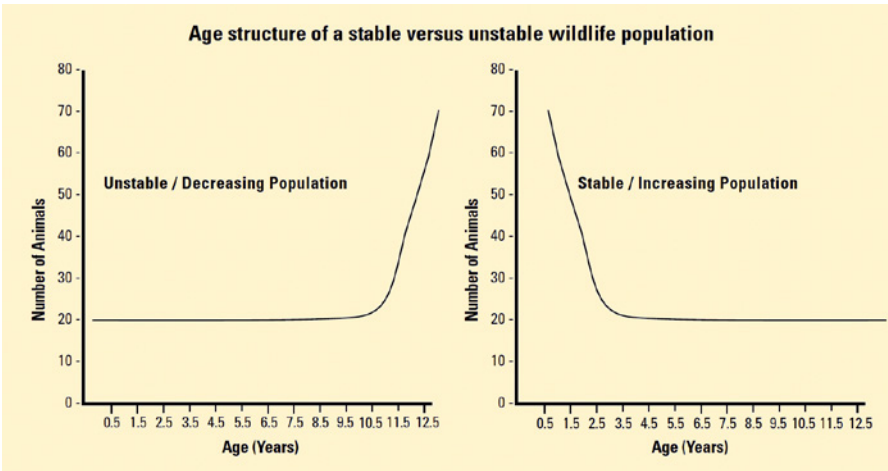
Submitting parts of game

Hunters may be asked to provide body parts from any game taken, such as deer or moose jawbones, bear teeth, duck wings, etc. Information obtained from examining these parts helps in managing wildlife successfully. For example, the lower jawbone of some big game animals (caribou, deer and moose) may be submitted in order to determine the age structure of the population. Jawbones are aged by two methods—“wear aging” and “cementum aging”. In wear aging, an estimate of age is made by observing tooth development and by the amount of wear on the cheek teeth. In cementum aging, the layers of cement (bony material) deposited each year on the root of the tooth, like rings in a tree, are counted. This gives an accurate age of the animal.



Using jawbones and teeth analysis, wildlife managers are able to understand the age structure and general health of a big game population. The graphs on the following page show the results of jawbone and tooth analysis from two different big game management areas which were submitted by hunters at the end of a hunting season. The graph showing an Unstable/Decreasing Population represents a population that has a low recruitment of younger animals and a greater proportion of adult animals. This generally means that the overall population is experiencing potential problems that wildlife managers would need to correct. One of the measures to correct this problem may include a possible reduction in the harvesting quota for the population in that area for the following year.

On the other hand, the graph showing a Stable/Increasing Population represents a population of animals that has a very high birth rate or recruitment rate of young and fewer adult animals. This means that the population is relatively healthy and is growing. In this case, maintaining a similar harvest quota or possibly increasing the quota slightly would be okay for the following year.



2. Hunter's contribute financially to wildlife conservation.

Wildlife Trust Funds

Some jurisdictions have Wildlife Trust Funds, which consist of funds generated by special fees placed on the sale of hunting and other wildlife licences. This money is used to support conservation education, wildlife research, and habitat enhancement projects.



Federal Duck Stamp

Proceeds from the sale of the Canadian Wildlife Habitat Conservation Stamp, also known as the duck stamp, help fund conservation efforts of Wildlife Habitat Canada. More than \$30 million has been raised through the duck stamp in Canada during the last 20 years.



3. Hunting is an effective wildlife management tool that is used to keep wildlife populations in balance with their available habitat.

Special hunting opportunities are sometimes made available to help prevent the overpopulation of game species. One example of this is the New Brunswick Grand Manan Island Special Archery Hunt.

Archery Hunters are permitted to take an antlerless deer on Grand Manan Island without this deer counting against their limit of deer on the mainland. This additional opportunity to hunt deer on Grand Manan serves to regulate the deer population there thus preventing over population.

4. Hunter's benefit wildlife through their membership in wildlife organizations. These organizations are involved in projects that directly benefit wildlife. Many also propose and support legislation that protects wildlife resources.

- **Ducks Unlimited Canada:** supporter of wetland conservation and youth waterfowl education programs.
- **Delta Waterfowl:** supporter of wetland conservation, research, and youth waterfowl programs. Delta Waterfowl promotes hunting as an integral part of waterfowl management.
- **Ruffed Grouse Society:** involved in habitat enhancement education programs for woodlot owners designed to benefit grouse.
- **Partridge Forever Society:** a volunteer non-profit organization of Newfoundland and Labrador dedicated to influencing wildlife policies and practices that will increase and maintain healthy provincial partridge and other small game populations.



- **Provincial Wildlife Federation(s):** sponsor programs at a provincial level which are designed to increase awareness of and appreciation of our natural resources. These may include Youth Mentorship Programs, Becoming an Outdoors Woman, Outdoor Heritage Camps, etc.



- **Local Fish and Game Clubs:** sponsor programs at a local level designed to enhance wildlife habitat and increase participation in outdoor activities. These may include stream enhancement projects, sponsoring of youth to take conservation courses, etc.

Review of Lesson 2

1. Match the following with the proper definition.

- | | | |
|--------------------|-------|---|
| a) Wildlife | _____ | Vertebrates and birds that are usually wild by nature. Such animals are normally not dependent on people for shelter or food. |
| b) Organism | _____ | Refers to any living thing including plants, animals and humans. |
| c) Community | _____ | Limits the number and distribution of wildlife. |
| d) Limiting Factor | _____ | A group of living things interacting with one another and with their physical environment. |
| e) Ecosystem | _____ | The populations of plants and animals living and interacting in a given area. |

2. What are the five basic habitat needs of wildlife?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

3. The most important limiting factor for many wildlife species is

_____.

4. Because of the need for space, a given area will only support so many animals, no matter how much food, water or shelter they receive.

True False

5. The number of animals that an area will support without damage to the habitat or to the animals is called

_____.

6. The carrying capacity of many wildlife habitats is determined by winter weather.

True False

7. Define cyclic population.

8. What is succession?

9. Changes in habitat will not change the kinds of wildlife associated with it.

True False

10. What are the three most important factors that affect birth rate?

- 1) _____
- 2) _____
- 3) _____

11. What are the five principal factors affecting the death rate of wildlife in Atlantic Canada?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

12. Wildlife, forests, water, fisheries, and soils are all natural resources.

True False

13. What are the six classifications of wildlife values?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

14. Match the following terms with their proper definition.

- | | | |
|-----------------------|-------|--|
| a) Game animals | _____ | Animals that are in danger of disappearing from the wild due to habitat loss or environmental factors. |
| b) Furbearing animals | _____ | A species that no longer exists. |
| c) Non-game animals | _____ | Defined by law, are abundant, and are generally valued for food. |
| d) Extinct species | _____ | Defined by law and are valued mostly for furs. |
| e) Nuisance wildlife | _____ | Animals not hunted or trapped. |
| f) Species at risk | _____ | Animals that cause damage to crops, livestock, orchards, or private property. |

15. Wildlife management is about managing:

- 1) _____
- 2) _____
- 3) _____

16. Wildlife is a non-renewable resource.

True False

17. Over the past twenty years our management goals for game species have attempted to:

- 1) _____
- 2) _____
- 3) _____

18. The two central principles which the North American Model of Wildlife Conservation is based upon are:

- 1) _____
- 2) _____

19. Biologists use aerial surveys to inventory most big game animals.

- True False

20. Estimating the number of animals present in an area is called:

_____.

21. Individual wildlife management areas or “zones” created within an agency’s jurisdiction allow for these areas to be:

_____.

22. Why do we have seasons and bag limits?

23. Hunting seasons are generally set for the fall to remove excess animals that would die during the winter.

- True False

24. What is habitat?

25. The single greatest threat to wildlife today is the loss or degradation of habitat.

- True False

26. Regulated hunting has never led to the extinction of a wildlife species or caused any species to become endangered.

- True False

27. In North America, wildlife is considered a privately owned resource.

- True False

28. What effect does poaching have on wildlife?

29. Describe two ways of determining the age of a big game animal such as moose, caribou or deer using the lower jawbone.

- 1) _____
- 2) _____

30. Describe four ways hunters play a role in the conservation of our wildlife resources.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Lesson 3: Ethics and responsibilities



Introduction

People are judged by their actions. How we behave and how we follow rules affects other people. As a hunter, you must be aware of how your personal behaviour and activities, as well as the actions of your companions, will affect others.

When driving a car we are expected to drive carefully, following the rules of the road. When we play any sport we are expected to follow the rules of the game. Hunters, too, are expected to behave responsibly while hunting and to hunt according to the rules, both written and unwritten.

Can you imagine what it would be like, if every person driving a car made up his or her own rules? Can you picture any sport if players did whatever they pleased? Few people would enjoy living together under such circumstances.

Definition of ethics

Ethics are standards of behaviour or conduct which are considered to be morally right. Ethics begin with the standard of behaviour of an individual. Each individual must make a personal judgement about whether certain behaviour is right or wrong.

Very often, groups of people share the same ethical beliefs. When a group of hunters have similar ideas concerning ethical hunting behaviour, they often form a hunting party, club or association which expects its members to act according to the group code of ethics. In this situation, ethics are similar to laws. The ethics are written down and each member of the group agrees to abide by this code. Any member who violates the ethics agreed upon may be asked to resign their membership in the group or be penalized in some manner.

Sometimes ethics are made into laws by provincial governments or the Government of Canada. When a majority of the people believe an ethic or standard of behaviour is right for all, that ethic may become law.

Most hunters have a personal code of ethics which is very similar to the laws which are associated with hunting. Usually, hunters agree that the hunting laws are fair and just, and find these laws easy to obey. But occasionally, a hunter's personal code of ethics may differ from one of the hunting laws. For example, while hunting, a hunter may come upon a doe with a broken leg. According to their personal code of ethics, the hunter believes it is morally right to kill a seriously injured animal in order to end its suffering. However, according to law, it is illegal to hunt or kill antlerless deer except during an open hunting season and with a valid permit.

What should the hunter do? One ethical course of action is to advise the nearest Fish and Wildlife office as quickly as possible that there is an injured animal and describe its exact location. Wildlife officers will then attend to the problem quickly.



A hunter's personal code of ethics, the ethics of others, and ethics which are laws sometimes differ widely. These differences of opinion can make some decisions very difficult for a hunter.

Personal code of ethics

Personal ethics are "unwritten rules" which govern your behaviour at all times—when you are with others, and when you are alone. They are your personal standard of conduct. Your personal code of ethics is based upon your respect for other people and their property, for all living things and their environment, and your own image of yourself.

Aldo Leopold, a pioneer in the field of wildlife management and a respected hunter said, *"The hunter ordinarily has no gallery to applaud or disapprove conduct. Whatever the acts, they are dictated by conscience rather than by a mob of onlookers."*

The basis of a personal code of ethics is a sense of decency. You must ask yourself repeatedly, *"What if others behaved the way I am? Would I respect them?"*

Chances are you will have developed a personal code of ethics long before you became a hunter. Because you want the respect of your parents and family, your friends and neighbours, you developed a certain standard of acceptable behaviour. If you have been on hunting trips, even before you were old enough to hunt game yourself, you gained important insight into how you are expected to act while hunting and learned some hunting ethics. These, and other experiences, will guide your behaviour in the future and can help you earn self-respect and the respect of other hunters.

Hunter behaviour stages

Your personal code of ethics and your hunting behaviour may change through the years. It is usual for a hunter to go through five behaviour stages.

1. **Shooter stage:** a time when shooting firearms is of primary interest. In this stage anything is fair game and "putting lead in the air" gives this hunter great satisfaction. Young or novice hunters often initially fall into this group, especially if they have not received adequate training. Quite often anything is a target, including highway signs, hawks, owls and other protected non-game species. Hunters in this category may be responsible for landowners posting their land as "NO HUNTING".

2. **Limiting-out stage:** when the hunter wants, above all, to bag the legal limit of game they are hunting. In this stage, hunter satisfaction is gained through limiting out on the game being pursued. The success of each hunt is gauged by how close the daily bag is to the legal limit. A "limit" is bragging material. Some hunters never seem to outgrow this stage and always want just one more bird than everyone in the hunting party.

3. **Trophy stage:** the hunter is selective, primarily seeking out trophy animals of a particular species. Bagging a trophy animal is the determining factor in hunter satisfaction. This hunter will not shoot until he spots what may be a trophy animal. Often, trophy hunters will wait until the last day of the season before filling their tag with a smaller animal if they don't get "the big one".

4. **Technique stage:** the emphasis is on how rather than what is hunted. Hunter satisfaction, at this stage, comes from outwitting the game in its natural element. The "Fair Chase" principle of hunting where the hunter goes one-on-one with the animal is very important to the shooter in this stage. The hunter may take great satisfaction from successfully decoying a flock of Canada geese or from tracking a deer or moose on a one-on-one basis.

Knowledge of the terrain, the animal being pursued, and how the hunter is positioned for a shot become the determining factors in the hunt. The kill is secondary or not important at all. These hunters match themselves against the game and take great satisfaction in outwitting the quarry. In some cases primitive equipment such as bows and muzzleloaders may be used.

5. **Mellowing-out stage:** this is a time of enjoyment derived from the total hunting experience including the hunt, the companionship of other hunters and an appreciation of the outdoors. When a hunter has reached the mellowing-out stage of development, bagging game will be more symbolic than essential for satisfaction. A day in the field becomes its own reward.

Which of the above categories do you fall into? Why do you want to hunt? Do you just enjoy wildlife? Would you be as happy with a camera in your hand as with a gun? What gives you the most satisfaction at the end of a hunting day? Sort out the answers to these questions and take a look at the behaviour of your hunting companions. If you were a non-hunter or a landowner, how would you judge their actions? If you are not satisfied with the way someone hunts, chances are a non-hunter or landowner will not be either.

The hunter's personal code of ethics will change with passage through each of these five stages, often becoming more strict and imposing more constraints on behaviour and actions when hunting.

These self-imposed restrictions, however, will add to the enjoyment of the hunting experience, for the ethical hunter appreciates hunting most. Only the ethical hunter understands the new sense of freedom and independence that comes from hunting legally and ethically.

Ethics for consideration

Various people have proposed ethical standards which they feel should be adopted by all hunters. These are presented for your consideration in the remaining sections of this lesson. Consider each ethic carefully. Decide whether it is right or wrong in your view. If it is right, incorporate it into your personal code of hunting ethics and practice it when afield. Your standards of conduct while hunting will be the true indicator of your personal code of ethics.

Hunter-landowner relations

Each year many new "NO HUNTING" signs appear on land which was once open to hunting. The reason? Some hunters who go afield leave their sense of ethics and regard for the law at home. They think a hunting licence grants them the right to hunt what, when and where they please. The result? There is gradual decrease in available hunting land and the creation of a negative hunting image amongst the non-hunting public.



Principles of hunter-landowner relationships

- Always ask for permission to hunt. Plan ahead and obtain permission before the season opens. Get permission for everyone that might hunt with you. One or two companions are usually acceptable; more than that is pushing it.
- Hunt only in the areas designated by the landowner. Find out when and how you may hunt an area.
- Control your hunting dog. Don't disturb livestock.

- Respect fences. If it is necessary to climb over them, climb over near a post. Always leave gates as you find them. If you feel another hunter may have left a gate open, inquire at the house. You may save the farmer considerable trouble in searching for strayed animals. In any event, they will appreciate your concern.
- Leave their fruit and crops alone. If you want some, buy them from the farmer. Don't drive or walk through standing crops.
- Stay out of fields or areas where people are working. Find out where it is safe to hunt.
- Don't shoot towards buildings, stock or field workers.
- Don't leave your rubbish behind. If you carry it in, you can carry it out. Clean up your eating-place or campsite and take all necessary fire precautions.
- If successful, offer to share your game with the landowner. Limit the amount of game taken on the landowner's property to less than the bag limit. The landowner may accept one hunter limiting out but two or three taking their limit is greedy.
- Pick up your empty cartridges or shells.
- Do not block driveways, roads to fields, etc.

Ethical hunters realize they are guests of the landowner while hunting on private land. They make sure they are welcome by asking the landowner host for permission before hunting. On the rare occasions when permission is denied, they accept the situation gracefully.

If successful in obtaining permission, thoughtful and considerate hunters often offer to spend some time helping the landowner with chores. If the offer is accepted, they cheerfully pitch bales, mend fences, fork manure or do whatever else is required. They may even use their special skills, as a plumber, mechanic, carpenter, etc. to assist the landowner.

If they own property elsewhere such as a farm, ranch or lake-cottage, ethical hunters will invite their hosts to use them. They note the name and address of the host and sometime later, perhaps around Christmas, send a thank-you card expressing appreciation for the land-owner's hospitality.

Remember, a landowner has no respect for those who trespass. For the time it takes to ask, why not feel welcome and know you may be granted an opportunity to come back again?

The landowner's position

- Their livelihood is at stake when closed gates are left open or property is damaged.
- They are concerned about the safety of their family and their personal possessions.
- You, as the hunter, are a guest and an ambassador for all other hunters.
- You assume full responsibility for your actions.
- Every time a hunter loses the respect of the landowner, at least one other hunting area is lost.

Regard for other people

When hunting on public lands, ethical hunters show the same respect for other users and their possessions as they show for landowners on private land.

Ethical hunters hunt in areas where their activities will not conflict with other people's enjoyment of the outdoors. And they treat the land with respect, being careful not to litter the back country or seriously damage its vegetation. They limit their use of vehicles to travel to and from the hunting area, always remaining on trails or developed roadways.



They know that the use of recreational drugs such as alcohol or cannabis seriously impairs a hunter's motor skills and judgment and avoid their use completely while hunting. This is not just for their own safety but for the safety of their hunting companions and others who participate in outdoor work or recreation.

An ethical hunter recognizes that many people are offended by the sight of a bloody carcass tied over the hood of a car or a gut pile lying in full view of the road. Their senses may be shocked by a vehicle full of hunters, with a gun rack full of firearms, parading through a campground or the streets of a community. Realizing these things and having respect for the feelings and beliefs of others,

ethical hunters make a special effort to avoid offending non-hunters. They are constantly aware that many of these people are friends, neighbours, relatives or even members of their immediate family.

Hunters appreciate that, for a variety of reasons, many people do not hunt nor do they want to hunt in the future. Also, we understand that some people are opposed to hunting for one reason or another and we should respect their opinions. We accept the fact that non-hunters and anti-hunters are just as sincere in their beliefs, as we are about hunting.

We appreciate that many others abide by their own code of ethics. People commonly leave their cabins unlocked in back-country areas so someone who is in trouble may use them in a time of need. However, those doing so are expected to replace anything they use as soon as possible and advise the owner of their actions. Ethical hunters will never abuse this privilege nor will they tamper with the equipment of others.

Relationships with other hunters

Ethical hunters show consideration for their companions and avoid doing anything that will interfere with another's hunt.

All sports are played within established rules and procedures. Officials and referees are used to enforce these rules, and participants who choose to break them are penalized, and often removed from the game. In such cases, the infraction is often the result of "unsportsmanlike conduct".



Hunting also has rules for good conduct and sportsmanship. There are certain do's and don'ts that all hunters must consider with respect to their manners in the field. More importantly, they have the responsibility for self-enforcement. There's no referee in this game, only you and other hunters! Sure, there are enforcement officers but they can't be everywhere.

In most cases, courtesy and sportsmanship are related to safety. The hunter who edges in on another in hopes of getting an extra shot is being

discourteous, unsportsmanlike and dangerous. Such action causes haste and haste breeds carelessness. The same applies to greedy hunters who just have to get some game. In trying to get the first shot off, they'll make mistakes which could lead to their own injury or the unnecessary wounding of an animal. And most of the time, they'll miss!

Courteous hunters will give their companions the breaks. They never claim game when there is some doubt as to who made the shot. They never hog another's territory, and shoot only in their agreed upon zone of fire. They never shoot at game on the skyline, nor will they take a shot out of range.

Courteous hunters will sight-in their rifle before coming into the game area. Whether actually hunting or not, they move quietly through the woods, so as not to disturb other hunters or scare off game. They are willing to do their share of work around the camp, and will pay their share of the expenses.

The ethical hunter can best be described by the "Golden Rule" of hunting— you always treat others as you would want your companions to treat you. Courtesy, sportsmanship, and safety are the things to remember.

Self-respect

Ethical hunters realize it is their responsibility to know how to take care of themselves in the outdoors and they respect their limitations.

They never place their lives or that of others in jeopardy by failing to notify someone where they intend to hunt and how long they expect to be gone. If plans change once afield, they leave a note on their vehicle designating destination, time of departure and expected time of return.

To cope with unexpected outdoor emergencies, an ethical hunter learns and practices the basic skills of first aid and survival and understands how to recognize and deal with hypothermia.



Respect for wildlife

Ethical hunters are also naturalists. Their interest in wildlife extends beyond game animals to the variety of other living things that inhabit the outdoor world. They are just as thrilled by the sight of a goshawk as a big game animal. They know and study nature's ways and realize that wildlife can be enjoyed year round, not only during the hunting season.

When hunting, the pursuit of game is governed by the principle of "Fair Chase". This principle, or ethic, requires that a hunter balances their skills and equipment with the ability of the animal to escape. Standards of fair chase are defined by hunting laws, regional preferences, and personal choice.



The expert hunter may use more restrictive and less effective techniques than the novice hunter. Fair chase shows respect for wildlife and emphasizes self-restraint and the development of hunting skills.

Through considerable practice before a hunt, ethical hunters will learn the distance at which they can be most confident of killing game cleanly. They will ensure that a firearm is accurately sighted-in and determine the most effective bullet weight or shot size for the game they are hunting.

Once afield, they will expend extraordinary effort to retrieve and dispatch wounded game, even if it means interrupting their hunting to help another hunter locate a wounded animal. When possible, they will use a trained hunting dog to retrieve wounded game birds.

If it appears that a shot has missed, an ethical hunter will always carefully inspect the area where the quarry stood, to ensure the animal was not hit.

Ethical hunters show as much respect for game after it is taken as before the shot. They display game in a respectful and responsible manner and take tasteful photographs. Only as much game that can be used or shared is harvested and meat or other usable parts of the animal are never wasted.

Respect for laws and enforcement officers

Ethical hunters obey all laws which govern hunting activities. Although they may occasionally disagree with a specific law, they will not deliberately disobey it. Instead, they will work through their elected representatives or local Fish and Game Association to change laws which they feel are unjustified.

Ethical hunters will not condone law breaking by ignoring illegal acts they observe when afield. They rightfully insist that all members of the hunting party obey the law and they report law breaking by other people to the appropriate law enforcement agency. If asked to serve as witnesses, they accept their responsibility to do so.

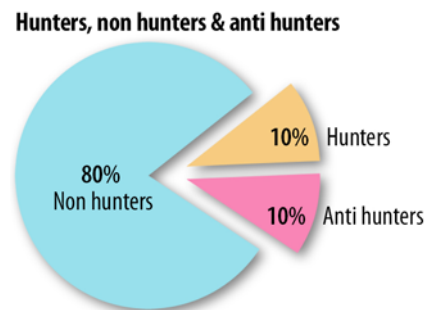


When meeting a wildlife officer checking hunters in the field, they are cooperative and provide the information that is requested concerning their hunting activities.

Hunter image

The majority of the non-hunting public actually support hunting, even if they choose not to participate. These people believe that hunting is a legitimate activity that promotes the efforts of sound game management. This group can become an ally in the preservation of our hunting heritage. However, an important and relevant trend within this group is that while most tend to agree with hunting, they are becoming increasingly opposed to unethical and irresponsible hunting activity. This type of activity decreases their support for hunting and creates a negative image of hunters and hunting. Non-hunters have strong opinions, write letters to the media, vote and spend finances supporting causes in which they believe. Therefore, it is extremely important that hunters carefully examine the image they portray.

The opinion of the non-hunting public about hunters is based on what they see and hear. Whether this opinion is formed by first-hand observation, through social



Source: Natural Resources

media (i.e. Facebook), or from traditional media (i.e. television, newspapers) it is the rare yet irresponsible acts of a few that all hunters are judged by.



Without question, there are very few so-called hunters who purposely take advantage of our hunting privileges and commit irresponsible acts. However, because the non-hunting public judges hunters by what they see, it is vital that the actions and attitudes of all hunters present an image beyond reproach.

Future opportunities to enjoy hunting will depend upon the hunter's public image. If hunters are viewed as slobs who shoot up the countryside, vandalize property, indiscriminately kill animals, and disregard the rights of landowners and citizens, they will lose the privilege to hunt on private land and public land as well. However, positive actions by responsible hunters lead to a more positive image of hunters by the public. The result can be greater acceptance and support for hunting as well as greater awareness and interest in becoming a hunter.

Hunter responsibilities

The possession of a firearm and a valid hunting licence does not make you a hunter. Hunting is a privilege, not a right, and it involves taking certain responsibilities. When you decide to hunt, you have a responsibility to:

1. **The resources**
You are in partnership with other hunters, with landowners and the province to help maintain game levels. They need your help.
2. **The animal**
Improve your shooting, tracking and game care skills, out of respect for the animals you harvest.
3. **The landowner**
You owe a debt to the landowners whose lands produce a large part of our game crop. You must hunt their lands as a guest. If you forget this, or your hunting manners, landowners may post their lands against all hunters.
4. **The public**
You must share in the responsibility for preserving the privilege of hunting, for making your community and your province a better and safer place to hunt.

5. **Other hunters**

Obey the laws of hunting. This will ensure a fair chance at game for everyone for years to come.

6. **Yourself**

You have a responsibility to yourself to behave in ways that allow you to be proud of yourself.

Hunting is a privilege

The single, most important fact for the hunter, is that hunting is a privilege— something you must work at to protect. Protecting it means knowing and understanding all the responsibilities you accept when you buy a hunting licence and take to the field. Furthermore, you must accept these responsibilities with personal conviction. You must believe in their importance and not take the attitude, *“Why should I knock myself out, no one else does!”* As a matter of fact, just knowing that such “don’t care” attitudes exist should be all the more reason for the hunter to take on these responsibilities, and then some. You should want to do that extra something to make up for the person who contributes little or nothing. All hunters are often tarred with the same brush. What one does is credited to all or blamed on all. The possibility exists to outweigh bad with good if we work at it.



Natural values of the hunt

There are many values to be gained from a hunting trip other than the actual hunting and killing of game.

- The pleasure starts with the anticipation and proper planning of the trip.
- Companionship, or the feeling of being on your own.
- Taking time to study your surroundings in nature and the wildlife of the area in which you hunt.
- The actual stalking and trying to outsmart an animal that has avoided hunters for many years.
- Learning to make a difficult shot is more thrilling than many easy ones.
- A hunter is one who enjoys all aspects of the hunt, even cleaning up around the camp.
- The many pleasant hours of reliving and talking over the hunt.

- Considerable pleasure can be gained by calling ducks, geese and some animals such as deer and moose. It is to the hunter’s advantage to know the habits of the game that is to be hunted.
- The spiritual value of the hunt. In the act of hunting, hunters become part of nature and are one with the animal they hunt.

Basic hunting techniques you should know

- Know your hunting area.
- Have proper equipment for the time of year and for the area you are going to hunt. Some hunters have died from exposure because they have not been prepared for a sudden change in weather.
- Know the effective range of your firearm. Do not shoot out of range. Always try for a clean kill.
- When shooting game animals, know the vital areas.
- Take it easy. You will see more game.
- Do not be a road hunter. The satisfaction comes from getting out of your vehicle and stalking and flushing your game.
- A well-trained dog is a big asset to bird hunters, not only in locating game but in finding a dead or crippled bird.
- Do not give up too easily when trying to find downed game or tracking a wounded animal. Each hunter has a responsibility to see that wounded game is not left to suffer.
- Sight-in your rifle before the hunt and be thoroughly familiar with it. There are designated shooting ranges or suitable areas in most communities for sighting in your firearms.
- Hunting is a science and must be studied. Experience is a good teacher but it is wise to go with an experienced hunter.



A hunter's A-B-C's

Always practice safe firearm handling.

Be considerate of the landowner; you are a guest.

Conduct yourself as an ethical hunter should.

Don't be a game hog.

Educate others in the principles of ethical hunting.

Favour the person who is hunting with you.

Give wildlife a break and work for its conservation; practice environmental citizenship.

Have the location of your hunting partner always in mind.

Influence others to hunt safely.

Join organizations that promote ethical hunting.

Keep the firearm muzzle pointed in a safe direction.

Leave the woods the way you found it. Don't litter.

Make sure of your target before you shoot.

Never leave a crippled animal to suffer or go to waste.

Obey the game laws to the letter.

Put yourself in the other person's place.

Quit complaining about game shortages and do something about it.

Represent hunting at its best.

Share your game with the landowner.

Take every opportunity to teach hunting techniques and values to others.

Unite others in a common effort to provide better hunting.

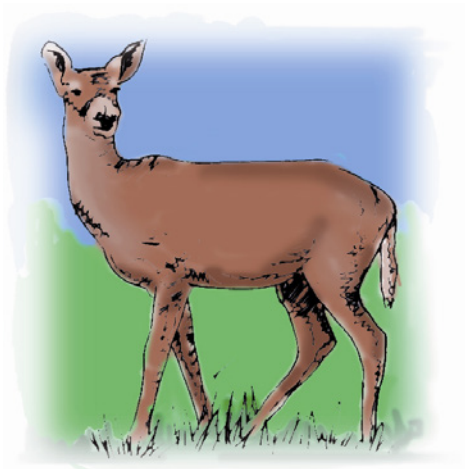
Value and protect your privilege to own firearms.

Work for all sound game management measures.

X may mark the spot if you mix gunpowder with alcohol and drugs.

You are responsible for Canada's hunting future.

Zero in your firearm and practice with it, before the season opens.



Review of Lesson 3

1. What are ethics?

2. What is a personal code of ethics?

3. Write five points to start your own personal code of ethics.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

4. Put the following behaviour stages in proper order.

- a) Trophy Stage _____
- b) Shooter Stage _____
- c) Mellowing-out Stage _____
- d) Technique Stage _____
- e) Limiting-out Stage _____

5. Which behaviour stage do you think you presently belong?

6. Why do you want to hunt?

7. Why do "NO HUNTING" signs appear on land that was once open to hunting?

8. List three principles of hunter-landowner relationships.

- 1) _____
- 2) _____
- 3) _____

9. Hunting on private land is a privilege.

True False

10. The use of alcohol, cannabis, and even certain prescription drugs can impair a hunter's motor skills and judgment, leading to serious injury and death.

True False

11. Which of the following best describes a responsible hunter when in the public eye?

- a) Driving proudly through a busy street with a deer carcass tied to the hood of your car.
- b) Wearing your hunting clothing while out shopping.
- c) Putting your firearm in its case and out of view.
- d) Discarding remains of game animals alongside a public road.

12. Courteous hunters will sight-in their rifles before coming into the game area.

True False

13. State the "Golden Rule" of hunting.

14. Ethical hunters are NOT naturalists.

True False

15. What is the "Fair Chase" principle?

16. What should an ethical hunter do, even if it appears that their shot has missed the intended game animal?

17. What should a hunter do if there is a specific law he/she does not agree with?

- a) Deliberately disobey it.
- b) Work through elected representatives to change laws they feel are unjustified.
- c) Complain to their neighbours.
- d) All of the above.

18. Future opportunities to enjoy hunting will depend upon the hunter's _____.

19. Your actions as a hunter affect only yourself.

True False

20. The possession of a firearm and a valid hunting licence makes you a hunter.

True False

21. As a hunter you have a responsibility to:

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

22. Hunting should be viewed as a _____

and not as a _____.

23. There are nine natural values of the hunt listed in your student manual. Can you think of another possible value to the hunt?

24. There are many things that a hunter should know about hunting techniques. Ten are listed in your student manual. List them in order of importance for yourself.

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

8) _____

9) _____

10) _____

25. Read and understand the Hunters A-B-C's and list the three that are most important to you.

1) _____

2) _____

3) _____

Lesson 4: Hunting laws and regulations



Introduction

Prior to European existence in North America, hunting by Aboriginal people and earlier settlers was not governed by written laws or legislation but did involve having traditional knowledge and a necessity to use wildlife to survive in an undeveloped land where few people existed. Hunting practices were not believed to have any significant negative impact on wildlife populations.

With the arrival of Europeans and new technology such as steel traps and firearms during the 18th and 19th centuries, came a noticeable change. Early explorers, fur traders and settlers commonly abused the opportunity to hunt and trap in a land where game was plentiful and laws were nonexistent. The right to hunt freely without restriction imposed by laws or landowners was one of the basic freedoms sought by settlers in the New World. Considering many of these pioneers were denied the privilege of hunting in their former homeland, perhaps abuses were to be expected. Even today in most European countries, hunting opportunities are restricted to a small group of wealthy and influential people.

In North America, the drastic decline in numbers of many species was due to changing land use. The over-exploitation of wildlife to help support larger human populations also prompted governments to enact laws to protect and conserve wildlife populations. In many instances, wildlife populations had already been significantly reduced, extirpated (localized extinction) or became extinct because of over hunting and disregard for wildlife laws.

By the early 20th century, the need for laws to regulate hunting and manage wildlife was generally accepted. Since then, numerous laws have been enacted to ensure the safety and welfare of people, protect and conserve wildlife and ensure everyone an equal opportunity to hunt. Today hunters realize that obeying these laws is the most important step towards becoming a responsible hunter.

The legal process

In our society, laws are defined as rules governing human conduct, established by a governing authority and enforced by the courts.

Legislation is the process of making or enacting laws. In Canada, three levels of government make laws which affect hunting:

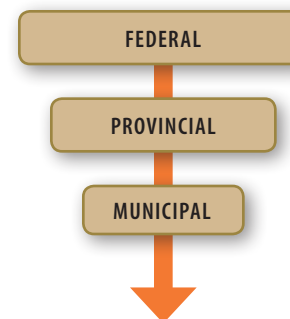
1. Federal parliament
2. Provincial legislature
3. Municipal councils



Levels of government

The federal system of government in Canada divides the powers of government between the federal parliament in Ottawa and the governments of the individual provinces or territories.

The Provincial governments in turn have delegated certain law-making authority to municipal and county councils which govern important local activities.



Each level of government has been given specific responsibilities. The Federal Government has authority to make laws concerning matters which affect all Canadians, such as national defense, foreign affairs and criminal activity. The provinces have authority over issues of provincial concern such as natural resources, education and civil matters. Municipal governments make by-laws specific to their municipality.

In cases where jurisdiction overlaps, federal law cannot be replaced or countered by provincial or municipal laws. For example, there are laws under the *Firearms Act* which govern the possession and use of firearms. These laws apply and must be obeyed in every province and territory. However, additional laws may be made by other governments.

The provincial government has passed additional rules that govern the use of firearms while hunting and in some areas, such as in cities, municipal governments have passed bylaws which further restrict the use of firearms.

Most game laws are a responsibility of the provincial government. To administer provincial laws governing wildlife, the provincial government created agencies to deal with all matters related to the wildlife resources within the province. Some wildlife, however, does not stay within the provincial boundaries. For example, ducks and geese are migratory birds. In this case, the federal government has retained legislative authority and has passed legislation entitled the *Migratory Birds Convention Act*. This Act to protect migratory birds involves cooperative agreements by the Canadian, American and Mexican governments.

The *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act* requires that hunters obtain an export permit before transporting game interprovincially or to a place outside the province where it was hunted. The *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES) has been established to regulate trade in specific species of wildlife and plants as well as parts of them.

The purpose of hunting laws

The purpose of most laws which govern hunting is to protect human life and property, protect and conserve wildlife, and prescribe certain standards of conduct for hunters.

Examples of laws from these categories include:

Laws to protect human life and property

- It is unlawful to discharge a firearm within (X) metres of a dwelling, school or place of business.
- No person shall have a loaded firearm in or on a motor vehicle.

- No one shall hunt while impaired by alcohol, cannabis, or other drugs.
- No one shall hunt during the hours between one-half hour after sunset and one-half hour before sunrise.
- It is unlawful to hunt migratory game birds using a rifle or a shotgun loaded with a single bullet.
- Upland and big game hunters must wear an exterior garment (vest, coat, etc.) and hat of solid hunter orange. NOTE: This is not a law in all provinces.

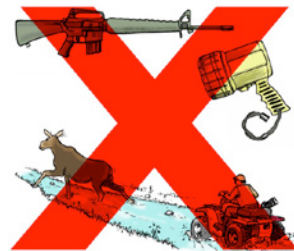


Laws to protect and conserve wildlife

- All regulations pertaining to hunting seasons and bag limits are intended for this purpose.
- No one shall hunt in a wildlife or bird sanctuary without a permit to do so.
- No one shall hunt using an aircraft. This includes drones or other remote controlled flying devices.
- It is unlawful to release any exotic wildlife to the wild.
- Certain game animals must be registered with the appropriate authority so that biological data necessary for wildlife management may be obtained.



Laws governing hunter behaviour



The concept of "Fair Chase" provides the basis for most regulations in this category. It is unlawful to hunt using:

- poison or drugs,
- a night light,
- any fully automatic firearm,
- vehicles to chase game, and
- live decoys.

Understanding hunting laws

It is the responsibility of every hunter to know the federal, provincial and municipal laws which apply when hunting.

As a hunter it is your responsibility to know the laws that apply when hunting. One of the best sources of information about hunting and firearm laws is the hunting regulation “summary” published by your provincial government. The types of information you will find in a hunting summary include:

- how to obtain a hunting licence,
- season dates and legal hunting times,
- legal firearms and hunting methods,
- hunter orange requirements,
- bag limits and other restrictions on taking game,
- tagging, transporting and reporting requirements,
- trespass laws, and
- training and other licence requirements.



In addition to provincial summaries, the federal government publishes a summary of migratory game bird regulations for each province and territory of Canada. Information contained in hunting summaries is updated annually to reflect changes to hunting laws. It is the hunter’s responsibility to obtain and review their provincial and federal hunting regulation summaries each year before going hunting.

Information about hunting and firearm regulations can also be found on provincial and federal wildlife agency web sites. Often these web sites provide links to hunting summary documents. Some feature online training courses and electronic licensing systems that allow hunters to purchase hunting licences online.



If you have a question about your province’s hunting regulations which may not be answered by its hunting regulation summary or web site, or if any information is unclear, contact your nearest provincial, territorial, or federal wildlife agency for clarification.

Creating or changing laws

Only elected governments have the legal capability to create or change laws. However, avenues are available to the public to influence legislation. If you want to see a new law enacted or an existing law changed, you should make your elected representative aware of your thoughts.

If you are convinced the law is wrong, work to change the law but do not disobey it. Many people have found that as they considered their reasons for wanting a law changed, the purpose behind the law became evident. Studying the law will provide an in-depth understanding of why the law is in place.

Enforcement of hunting laws

Hunting laws are enforced through various government agencies. Conservation officers have the primary responsibility to enforce laws which apply to wildlife.



However, in some provinces, other enforcement staff including RCMP, Forestry Officers, Parks Officers, and persons appointed as game wardens also have authority to enforce hunting regulations.

When hunters are caught breaking the law, they are either warned of the offense or charged. A charge is an accusation in

legal terms. If charged, they may be taken into custody, ticketed, or advised of the date when they must appear before a judge.

If they appear before a judge, the judge will then hear the charges made by the enforcement officer and hear the pleas of the person charged (guilty or not guilty). After hearing the evidence from both sides, the judge will make a decision. If the person is guilty, a penalty will be established for the violation as provided for by the legislation applicable to the offense. The penalty will usually involve the payment of a fine and perhaps the loss of hunting privileges. It may also include seizure of equipment used in the offense and in some cases where serious offenses have occurred, time in jail.

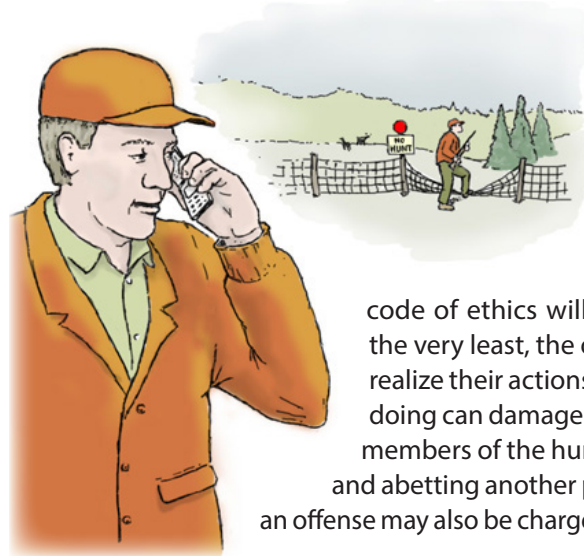
In summary, governments make laws, enforcement agencies enforce them, a judicial system establishes guilt or innocence and a penal system administers penalties.

Legal responsibilities

It is the duty of every citizen to obey laws governing his or her own conduct and to see that laws are upheld by others. Responsible hunters should set a good example for others to follow. Adherence to all laws by all hunters will assure the opportunity to hunt in the future.

Report law breaking

It is the responsibility of every hunter who sees someone breaking the law to report the offense. A person who reports a violation can remain anonymous and will not be required to attend court and testify unless voluntarily agreeing to do so. Many of the charges laid against offenders have been the result of information provided by responsible hunters.



It can be particularly difficult to report a lawbreaking incident when the person who has committed the offense is a member of your own hunting party, perhaps even a relative.

An individual's personal code of ethics will determine what to do. At the very least, the offender should be made to realize their actions are wrong and that wrongdoing can damage the reputations of the other members of the hunting party. A person aiding and abetting another person in the commission of an offense may also be charged with the principal offense.

Accidental violations

Each year some hunters are involved in accidental violations such as inadvertently killing two big game animals or shooting an antlerless deer with an antlered deer-only licence. The accident should be reported as soon as possible to the appropriate authority who will attempt to determine what degree of negligence was involved. If undue negligence is not apparent, charges may not be laid.

Ignorance of the law

Ignorance of existing laws is not an acceptable defense in a court of law. If people play hockey and break a rule of the game, they are penalized. They are expected to know the rules of the game and to abide by them. The same thing applies to hunting. When people decide to hunt, they are expected to know the laws governing hunting and must obey them.

Registration of game

Hunters may be required by law to personally register their game animal. Check the provincial hunting summary to find out what animals must be registered and how it must be done. Sometimes a questionnaire is supplied with a hunting licence which should be completed and returned by the hunter. Questionnaires may also be sent to hunters whose licence numbers have been selected at random.

Trespass

Under Common Law, a person who owns or legally occupies property has a right to take legal action against any person who enters that property without permission. Trespass legislation also states that if any person enters someone's property they may be asked to leave.

All landowners have protection against trespass. Regardless of the legal status applicable to a given piece of land, be sure to respect the rights of the landowner or leaseholder.

Interpretation of the law

Laws should be written so that everybody interprets them the same way. However, in practice, this is very difficult to accomplish. Because people may interpret some laws differently or rely on misinformed sources of information, they can become confused about what the law allows and what it does not. If you have questions about any law, contact the agency responsible.

Review of Lesson 4

1. What are laws?

2. The three levels of government that make laws which affect hunting are:

1) _____

2) _____

3) _____

3. The purpose of hunting laws is to:

1) _____

2) _____

3) _____

4. List four examples of "Laws to protect human life and property".

1) _____

2) _____

3) _____

4) _____

5. Which of the following is NOT a law to "Protect and conserve wildlife"?

- a) No one shall hunt using an aircraft.
- b) It is unlawful to release any exotic wildlife to the wild.
- c) No one shall hunt in a wildlife or bird sanctuary without a permit to do so.
- d) No person shall have a loaded firearm in or on a motor vehicle.

6. From the examples of "Laws governing hunter behaviour", name four things unlawful to use while hunting.

1) _____

2) _____

3) _____

4) _____

7. State five types of information that you can find in a wildlife agency's hunting regulation summary.

1) _____

2) _____

3) _____

4) _____

5) _____

8. What should you do if you are convinced a hunting law is wrong?

9. List two causes of decline in wildlife populations in the 18th and 19th centuries.

1) _____

2) _____

10. It is the responsibility of every hunter who sees someone breaking the law to report the offense.

True False

11. What is an accidental violation?

12. Ignorance of existing laws is an acceptable defense in a court of law.

True False

13. All landowners have protection against trespass.

True False

14. Who should you contact if you have questions about any law?

Lesson 5: Hunter survival skills



Introduction

Survival is the ability to cope with an emergency situation that occurs in the outdoors. Knowing how to cope with emergencies is essential for hunters. Basic survival techniques should be learned and practiced by every hunter before going into the field.

Fire drills are a regular practice, even though a real fire seldom happens. But should there ever be a fire, you'll know what to do. Similarly, practicing survival techniques makes good sense. If an emergency happens while hunting, you'll know what to do. You will be able to cope with the situation if you become lost or disabled.

A survival situation usually lasts less than 72 hours and seldom longer than five days. Organizing and conducting searches can take time and you'll need to rely on your own resources to survive until help comes.

If you are in trouble, stay calm. Accept the fact that immediate help may not be available. Resist the urge to travel further, seeking safety if you're lost. Stay put! Collect your thoughts and put the survival procedure outlined in this lesson into practice. This procedure is designed to sustain life with as little discomfort as possible until help arrives.

Planning a hunting trip

Outdoor safety begins with good preparation. If you are prepared you will reduce the possibility of a serious emergency occurring while hunting. The three "P's" of outdoor safety for hunters are:

1. Plan your trip.

A productive and safe hunting trip begins with good planning. Who will be going with you and what type of game will you be hunting? When will you be leaving and when do you intend to return? Where is the hunt to take place and what will the terrain and conditions be like? You'll also need to consider how you'll conduct the hunt and get your game out.

2. Prepare yourself.

Be mentally and physically ready to hunt. Deal with problems before you leave home, know your health and fitness level, and learn about safety and first aid. Besides yourself, you also need to prepare your equipment. Put together your basic gear including a survival and first aid kit and know how to use them.

3. Practice safe behaviour.

Make sure your firearm is in good working order and properly sighted-in. Consider short outings to test your equipment and yourself prior to the season. Hunt with a partner and tell someone where you are going and when you will return. Be as specific as you can.



Preparing yourself

Experienced hunters prepare themselves before each hunt. This preparation can be basic or made more thorough by taking courses. You should prepare yourself in these areas:

1. Mentally

Know your capabilities and develop a calm, alert frame of mind. Deal with any personal problems so you are not distracted by them on your hunt.

2. Physically

Exercise on a regular basis for at least a month before your hunt. Hunting requires a lot of energy, strength, and endurance. You will be walking long distances carrying a pack and firearm and you may have to carry heavy loads through dense bush or over hills. Bad weather is always a possibility. If you are fit, you will be able to handle these situations.

3. Medically

Make sure you have no serious medical problems. Have a checkup before you go. This can prevent problems from developing while you are in a remote area. Treat small problems such as a cold or a blister to prevent them from developing into serious problems on your hunt.

4. Safety and first aid

Learn all you can about safety and first aid. Take a first aid course. Read books and manuals. Practice making a fire, building a shelter, reading a map and compass, first aid techniques and other safety activities. With practice, you will be able to perform these activities more easily if an emergency occurs.

5. Know the region

Learn all you can about the area where you are going to hunt. Study a map of the area and locate good areas to camp. Know the terrain and identifiable landmarks. Is it hilly? Are there rivers or streams? What is the vegetation like? What will the weather be like? This information will guide you in choosing your equipment and improve your chance to have a successful hunt.

6. Plan with your hunting companions

Choose your hunting companions carefully. Are they skilled, safe, and reliable? Will they make good companions in camp conditions? Are they prepared mentally?

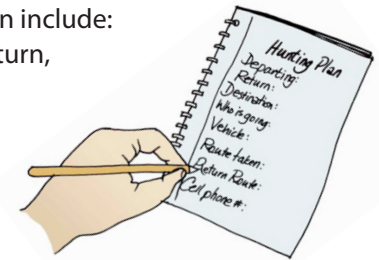
The hunting plan

A hunting plan is a written record of your hunting trip. Having a written hunting plan is especially important for hunting trips that involve travel or if you plan to stay overnight. Even if you are planning to hunt close to home you should always let someone know where you are going and when you will be back.

Leave a copy of your hunting plan with family or friends so that they will know where to look for you in case you become lost, sick, or injured. A well planned hunt is also usually more successful.

Items that should be part of your hunting plan include:

- when you are leaving and when you will return,
- your destination,
- vehicle description,
- who is going with you,
- route and method of travel, and
- your cell phone number.



Survival kit

A survival kit is a compact, weatherproof kit that contains a number of items which are very useful in an emergency. The ideal survival kit is small enough to fit in a jacket pocket or waist pack so that it is always carried rather than left behind because it is too heavy or bulky.

Although many excellent survival kits are available from commercial outlets they do not always meet the particular needs of an individual. Besides, you may want to make your own. The following list includes components for a survival kit that you may wish to put together. Feel free to alter the kit to meet your needs.

When making your survival kit, you should include:

- material for shelter construction,
- fire starter,
- signaling device,
- method to sterilize water,
- emergency food,
- navigation device (i.e. map and compass), and a
- personal first-aid kit.

To give you confidence in the kit, practice using each item before you take the kit on a trip.



Common survival kit items

Container: an empty tin or tobacco can, or a sealed plastic container, of a convenient size. (NOTE: a metal container may also be used for cooking). Paint the container lid a bright colour so it can be found if lost. Small holes should be drilled near the top of the container and wire handles attached for cooking.

Nails: 4 assorted sizes.

Pencil and paper

Snare wire: 3 metres of copper or brass wire for snares, repairs.

Oxo cubes: 4

Tea bags and/or cocoa in foil packets

Signal mirror: with signalling instructions.

Tape: 1 metre black electrician's tape for repairs and to seal the kit.

Candle: light, fire starter.

Metal spoon

Heavy-duty aluminum foil: two 30 cm squares for reflectors, cups, bowls, etc.

Survival blanket: personal shelter.

Plastic whistle ("pealess" type): can be heard at greater distance, saves energy and voice.

Plastic garbage bag (orange or yellow): by making a hole in the bag for the face and putting it on over the head, it will keep you dry and warm.

Extra compass

Signal flares (small pencil type)

Matches: wooden, strike-anywhere matches, waterproofed with shellac, paraffin or nail polish.

Flint and steel

Fire starter tablet: burns for approximately 6 minutes.

Absorbent cotton and/or steel wool (extra fine or 000): excellent tinder, easily ignited.

Knife: small pocketknife with 2 blades.

Fishing equipment: 2 spoons, 2 dry flies, 2 wet flies, 2 snelled hooks, 4 lead split-shot, 4 metres of monofilament line (4 kg) test.

Safety pins: 4 assorted sizes.

Needle and thread

The lost individual

Becoming lost can be a very frightening and alarming experience for any individual regardless of their skills in the outdoors. However with a few simple steps, a search and rescue for a lost individual or group can be highly successful if the situation is reacted to immediately. At the very instant that a person or group of people become lost, a good rule to remember is based on the acronym **STOP**.



STOP as soon as it is apparent that you have become separated from your group, are lost, or in trouble. Further attempts at travel usually reduce chances of survival. Those who stay put within a short distance of the last seen point are almost always found alive, while those who try to find their way back to civilization suffer a higher risk of death. This is because traveling even a relatively short distance greatly reduces the probability of being found by searchers. A circle with a 1.5 km radius has an area of about 7.1 km². At a radius of 3.0 km, the area increases to 28.3 km². It is true that most people do find their own way out. However, among the 20 percent or so who do not, fewer than half are found alive by searchers. In most cases, the odds are far better if you stay put, especially if someone knows exactly where to begin looking and will start a search quickly. The solo hiker who did not file a trip plan or failed to stick to the expressed route may have no option but to travel.

THINK things over carefully. What just happened? How did you arrive here? From where? What time is it? Survival depends upon rational behaviour and the will to survive. The natural and almost universal response to being lost is anxiety verging on panic. Fear of the unknown, of wild animals, of impending discomfort, and of death comes early, and later is often exceeded by loneliness, boredom, and despair. Sitting down really helps. It is harder to panic when you are sitting! Anxiety is the greatest danger. It impairs logical reasoning, and, because it interferes with the efficient production of metabolic heat, predisposes the anxious individual to hypothermia. Simple relaxation techniques such as rhythmic breathing, counting, or hard tensing of the body followed by relaxation can help.

OBSERVE your surroundings and assess all of your gear and clothing carefully. In a remarkable number of tragic cases, victims have been found with, or near,

supplies that could have saved their lives had they had the presence of mind to make use of them. Make noise and make it easy for people to see you. Three of anything, such as three mirror flashes, yells, or whistle blasts constitute the equivalent of "SOS". Early signaling can help the group of hunters relocate its missing member before a full-scale search is required.

PLAN and prepare a shelter. Staying warm and dry is the key to survival. Long before dark, locate the most sheltered site nearby and begin building a shelter, gathering insulation and collecting fuel. **Allow at least three hours to do this!** Do it while you have time, energy, and daylight in your favour. Mark the area well so that searchers will not miss it in the dark. Know how to build emergency shelters in the areas you frequent. Each area lends itself to different possibilities, from pole and bark structures or bough piles to a host of snow shelters (quinzees, caves, trenches, and igloos), each suited to certain conditions. Do not rely totally upon being able to construct a shelter of native materials. Items from your survival kit such as a knife and string will be invaluable in the construction of an emergency shelter.

Stay put for the reasons previously discussed and to conserve energy. If you need to travel, move only in daylight and if you are sure of your goal. One exception to daylight travel may occur during very hot weather, when it may be necessary to rest during the day, to avoid the drying effects of extreme heat and low humidity.



If you find a trail, it may not be the one from which you strayed. Beware of taking the wrong trail or taking a trail in the wrong direction! A cardinal rule for lost persons is never, ever leave a trail or road except to follow a larger or more heavily used trail or road!

The survival situation

There are six basic requirements to most wilderness survival situations:

1. Mental self control
2. Shelter
3. Fire
4. Water
5. Food
6. Help signal

1. Mental self control

Mental self-control is crucial in an emergency survival situation. Panic is a killer! Your ability to think clearly and avoid panic is your most important survival skill. It will be influenced by survival factors such as pain, cold, thirst, hunger, fatigue, boredom, and fear. No matter how severe these feelings are, they can be overcome when you know how to deal with them.



Pain

Pain is nature's way of telling a person that something is wrong. Attend to any injuries immediately, using appropriate first aid treatment and available materials.

If your mind is busy making plans to cope with your situation, you'll feel pain less and may even forget about it for a while. If you give in to the pain, you might stop trying to survive.

Cold

Cold is a serious threat to survival. Victims of cold often lose the ability to function normally and will find it hard to think about anything other than becoming warm. Exposure to cold, wetness and wind, even in temperatures that are not considered severe, can lead to hypothermia.

To survive in the outdoors, the hunter must find ways to maintain body temperature by staying dry, building a fire and constructing a shelter for protection from the weather.

Thirst

Don't think about how thirsty you are. A person can survive for two or three days without water if they are in normal health.

Instead, keep your mind active and busy with plans for coping with the situation at hand. Such activity may even make you forget, for a while, how thirsty you are. Later, you can easily locate water near your survival camp or collect it when it rains or snows.

Hunger

Though hunger will make you feel uncomfortable, it is not a serious factor in most survival situations. Your body fat will supply energy to enable you to survive two weeks or more, if your health is normal.

Fatigue

When you are tired you do not think clearly and can become careless. Extreme fatigue can even destroy a person's desire to survive.

Though over-exertion is the usual cause of fatigue, lack of sleep and boredom may contribute to it. Try to rest as much as possible and avoid over-exertion. By making a comfortable shelter you will be able to sleep soundly and avoid fatigue.

Boredom and loneliness

Boredom and loneliness creep up on you when nothing happens and nobody comes to rescue you. You may act irrationally and your actions could make matters worse.

Your reaction to boredom and loneliness can often be more of a problem to your survival than any physical factors such as pain, cold, thirst or hunger.

Boredom and loneliness can be overcome by:

- making decisions and acting on them,
- adapting to your situation and improvising solutions to problems,
- tolerating solitude,
- avoiding panic and keeping calm,
- thinking positively and planning ways to overcome problems,
- being patient, and
- keeping your hands busy— even by whittling a stick.

Fear

Fear is a normal reaction. Everyone has been afraid.

Fear affects the way you behave and, if not overcome, it can become your greatest obstacle to survival. In a survival situation, you may experience:

- Fear of death
- Fear of punishment
- Fear of being alone
- Fear of personal guilt
- Fear of weakness
- Fear of animals
- Fear of discomfort
- Fear of the unknown
- Fear of ridicule
- Fear of darkness

The best way to deal with these ten basic fears is to prepare yourself mentally to:

- identify which fears you are feeling, and
- try to understand why you are afraid and use common sense to deal with and overcome each particular fear.

Fear of death

Until faced with a life or death situation, most people seldom think about death. If you follow the survival procedure outlined in this chapter, your chances of staying alive are excellent.

Fear of the unknown

Fear of the unknown is by far the most common fear of any we experience. Practicing survival skills and thinking about how to cope with new and unusual situations, should they arise, will prepare you to handle most unknowns. Reading other people's accounts of their survival experiences and trying to place yourself in their shoes will better prepare you to deal with this fear.

When an unexpected emergency arises, the immediate questions that flash through a person's mind are *"What is going to happen to me? Will they find me?"* It helps to know you are not lost but just "misplaced". Someone will find you.

Fear of animals

Most animals are wary of humans and will stay out of their way. Learning about wildlife and their habits will help you overcome this fear. Don't let your imagination conjure up dangers from wildlife that are not real.

Making noise around your camp and keeping a fire going at night will make animals such as bears, coyotes or wolves shy away from you.

Fear of being alone

We are seldom alone in our daily lives. Being alone is almost an unknown experience for many. Solitude and solving problems for ourselves is something every outdoors person must learn to cope with through solitary outdoor experiences. Spend time on your hunting and fishing trips getting away from your companions to learn what it's like to be alone in the outdoors. You should learn to view wildlife positively. Animals can be a potential source of food to you and they also provide interesting company.

Fear of darkness

When it is dark, we depend more on hearing than seeing things around us. We often hear sounds in the darkness and imagine all sorts of threats to us. Most of us have experienced this fear at some time. Practicing being alone in the dark will help overcome this fear.

Fear of weakness

People are stronger than they realize. Countless experiences have proved that people acting under stress can accomplish superhuman tasks. Be confident that you can cope with any physical or mental problem if you think about it logically. Plan a step-by-step approach for solving the problem and then act.

Fear of punishment

Because most of us are used to meeting time commitments such as being home for supper, we get concerned about being late. When you're lost and alone, don't worry about missing appointments. Being late will alert your friends to the fact that you are lost and they will begin to search for you.

Fear of ridicule

Normally, getting yourself lost will embarrass you and you will worry about what your companions will think about you. You're afraid they'll think you are dumb for getting into such a predicament. Don't worry – each and every one of them will likely have been in a similar situation and they'll understand how it happened to you. If you explain how you coped with the situation, they will envy you rather than ridicule you.

Fear of discomfort

If you follow the basic steps of survival outlined in this lesson, there is no reason why you should experience severe discomfort.

Fear of personal guilt

In a survival situation, blaming yourself for the situation will accomplish nothing. It is not what you did wrong to get into trouble that counts; it's what you do right from now on that will make the difference. Think positively at all times.

Helplessness and hopelessness are two factors that increase fear. Through training and putting into practice survival techniques, your fears will be overcome by confidence in your ability to handle a survival situation.

2. Shelter**Natural shelters**

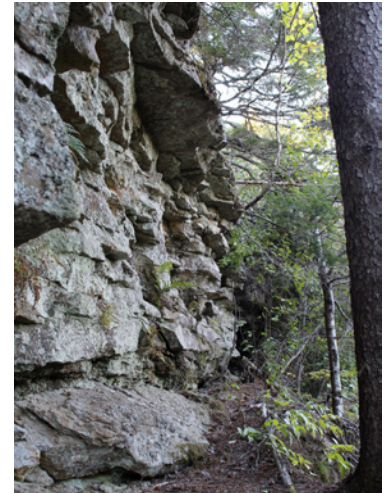
Natural shelters are created by nature but require additional work to make them weather proof. An overhanging rock shelf, for example, can sometimes be used for shelter. Check to make sure that the rock is stable and will not fall on you.

A fire built in front of such a shelter will reflect heat to you and keep you warmer than a fire built in the open.

A quick and easy shelter can also be made under the trunk of a "blowdown" or fallen tree. Strip the branches off the underside of the trunk and use these and branches from other trees to thatch the roof. Do not cut too many branches supporting the tree. Always make sure the tree is secure before using it as a shelter.

In deep snow, locate a spruce or balsam fir tree and remove snow from the around its base. Branches at snow level form a natural roof. These can be thatched with other branches.

Regardless of which type of natural shelter used, cover its floor with a thick layer of evergreen boughs to create a mattress and to insulate you from the cold ground.



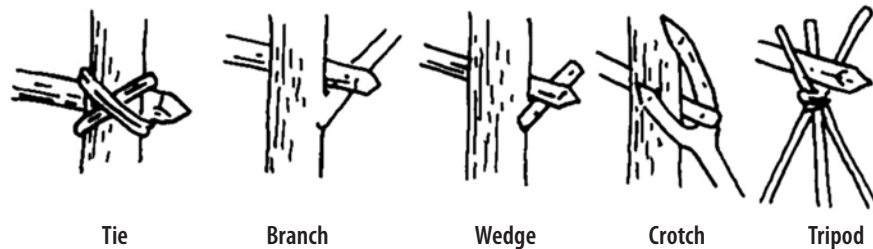
Man-made shelters

A lean-to can easily be made in forested terrain. Support from a horizontal bar or "ridgepole" about 1 metre from the ground is the only major requirement. A lean-to 1.0 to 1.3 metres high provides more openness but one 45 to 60 cm high is more heat-efficient. Look for crotches in nearby trees or stick poles upright into the ground or snow. Lean small trees or branches butt-end down against the horizontal bar. Interweave branches to thatch the shelter. This will secure it, make it stronger and more water resistant. Mark the location of the shelter very clearly.

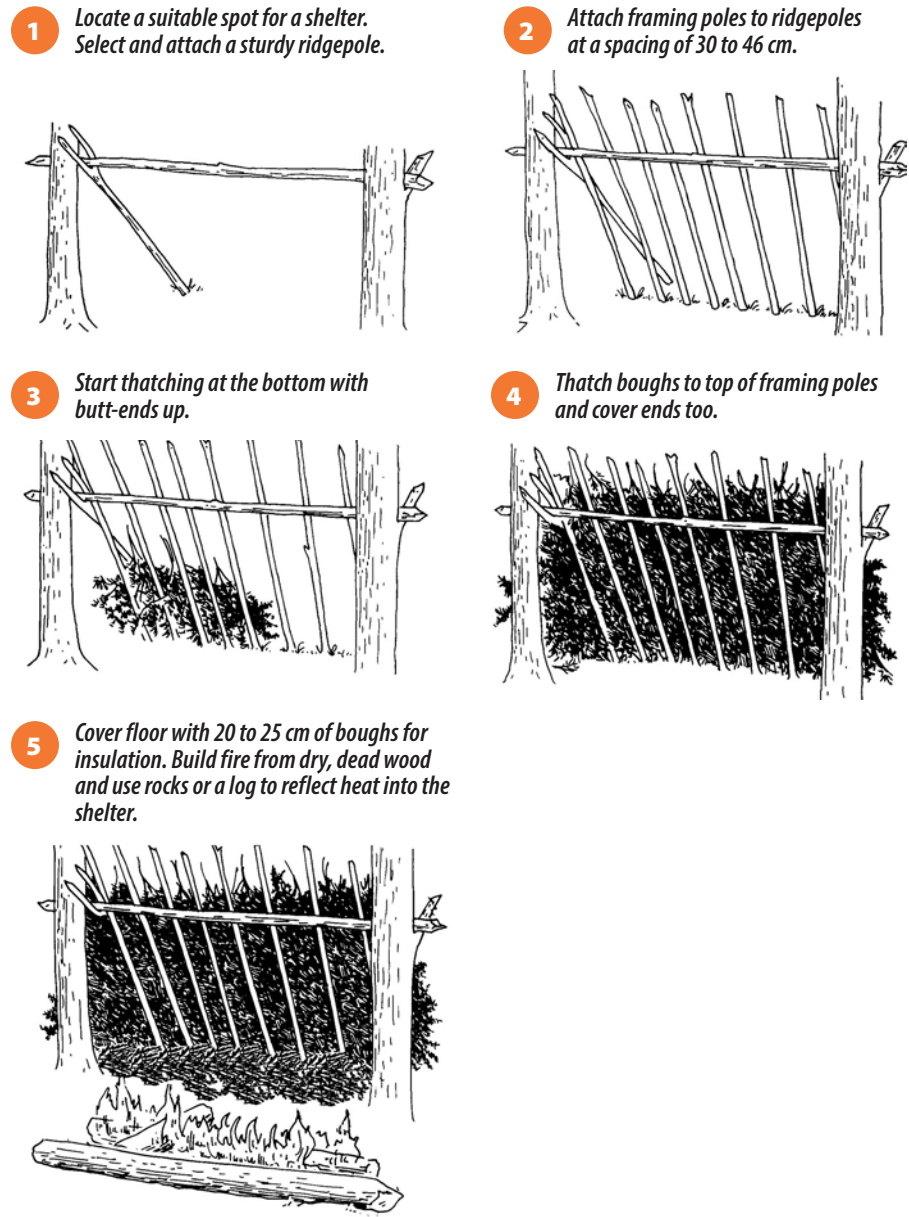
Construct your shelter with the wind coming from the back and at a slight angle. This prevents smoke blowing into the lean-to. Cover the floor with 20 to 25 cm of boughs to act as a mattress and as insulation.

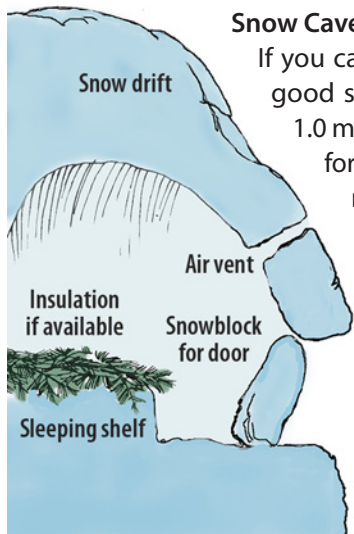
A sheet of plastic, covering the roof, will make it waterproof. Snow placed on the shelter will insulate it. In late fall or winter construct your shelter on the leeward sides of ridges, protected from the wind, as opposed to valleys. Build a fire between your shelter and a heat reflector made of logs or stones.

RIDGEPOLE ATTACHMENT METHODS



LEAN-TO CONSTRUCTION METHOD





Snow Caves

If you can find a snow drift, chances are it will make a good snow cave. A one-person cave should be dug 1.0 metres wide by 2.5 metres deep and high enough for comfort. Place a 10 to 15 cm diameter hole in the roof to maintain ventilation. Use a snowblock to cover the entrance. Construct a sleeping ledge about 30 cm above the floor and cover it with boughs. Arching the inside of the roof helps water run down the sides instead of dripping on you. Snow caves may use a lot of energy and be hard to dig. It is difficult not to get wet while digging in the snow. These problems make the snow cave less desirable than other forms of shelter.

Plan for the worst when you first build your shelter. Conserve and build upon all resources available from the beginning. You may be faced with greater emergencies. To be safe from the elements, disregard the possibility of an early rescue when you build your shelter. Set yourself to building a shelter which is secure and comfortable. It should be constructed so it will require as little maintenance as possible once it is finished. The importance of doing the job well, while you are able to do it, cannot be over-emphasized.

3. Fire

Fire provides security, comfort and has a way of putting fear and worry out of the mind. With a fire, you can warm yourself, dry your clothing, signal for assistance, cook a meal and enjoy a safe and comfortable night. When hunting always carry the means to light a fire.



Building a survival fire

Carefully prepare your location for the fire. First, build a platform of logs or stones if building the fire on snow. Avoid wet porous rocks as they can explode when heated. Brush all grass, leaves and tinder away if the ground is dry. Never build a fire under a tree. Sparks can easily catch branches on fire, or heat from the fire can melt snow on overhanging branches and get everything wet. Build your fire against a rock-wall or logs which can reflect the heat into your shelter.

Tinder, kindling and fuel

Fires will not usually start burning directly from a match. Small twigs, wood shavings, birch bark, lichens, dry leaves, grass, tissue paper and other easily flammable materials are needed to get the fire started. Pile the tinder in a low pyramid. Powder from a cartridge, sprinkled over the tinder may help it to burn. The lower dead branches from the trunks of spruce and balsam fir make excellent kindling. Spruce and fir blowdowns can also be good sources of kindling.

Larger branches as well as sections of tree trunks make the best fuel for keeping a fire burning, especially overnight. You should stockpile fuel for your fire so that you do not have to search for it after dark.



Tinder



Kindling



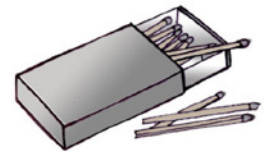
Fuel

Ignition source

A butane lighter that is reliable and windproof can solve many of your fire starting problems. Long wooden matches of the "strike-anywhere" variety are the most practical matches for lighting fires. A waterproof, unbreakable container will keep your matches dry. Matches should be tested before going into the field as not all makes of matches will be useful in harsh conditions, particularly windy or rainy weather.

To prevent matches from accidentally catching fire inside the container:

- Place half of the matches upside-down to keep their heads from rubbing together.
- Dip the matches in paraffin wax. This will also waterproof them and make them burn longer.
- Pack cotton batting into the container to keep them from striking against each other. The cotton will also make good tinder.



A Metal Match and steel wool from your survival kit can also be used. Light the steel wool and blow softly on the flame. Add kindling gradually. Use care not to smother the fire.

A flint and a piece of steel provide another fire starting method. If you don't have flint, look for a piece of rock that will spark when struck with steel. Direct the sparks towards the tinder.

Remember these hints

Store kindling and fuel in the shelter to keep it dry. Don't waste matches trying to start a fire if you haven't properly prepared the location and material for the fire. Lighting cigarettes wastes matches. To conserve fuel, keep your fire small.

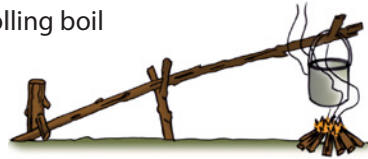
4. Water

Water is generally more vital than food in an emergency survival situation. Your survival time without drinking water is normally three days or less whereas healthy people can survive three weeks or more without food.

Though finding water is not a problem in the Atlantic Provinces, you must sterilize it. There are three types of water sterilization methods.

1. **Boil water:** water should be brought to a rolling boil

for at least one minute. To improve taste, add a small piece of charcoal to the boiling water. Let it stand for 30 minutes. Strain. Aerate water by shaking vigorously.



2. **Chemical methods:** water purification tablets such as iodine and halazone can be used to purify drinking water. Follow directions on the label and be aware that the tablets may deteriorate over time and not be effective. Iodine can also be added as a liquid but generally gives water a strong iodine taste.
3. **Filtration:** there are a variety of portable filtration systems that remove bacteria, viruses and protozoa. Follow instructions.

As long as your body has water, it will utilize stored food reserves, which even a lean person possesses. Without food a person will naturally feel weaker than under normal conditions, especially if they are doing much physical activity. For this reason, lost persons having neither rations nor immediate means of securing food should concentrate on doing the essential tasks as soon as possible, before energy starts to lessen. Then they can rest and conserve energy for jobs like signaling and keeping watch. Resting, they can survive for many days without feeling too uncomfortable, and can, by an effort of will, hang on for weeks in average weather.

Survivors of such ordeals report that the worst periods are at the accustomed mealtimes, especially during the second and third days. After that, the body apparently adapts itself somewhat to the lack of food, and gets, as it were, a second wind. However, the chances of going this long without being found are remote, provided you take care to keep a good look-out and keep signal fires and ammunition ready.

5. Food

The time of year will have considerable bearing on which types of food are available in the woods. You should therefore look for those things, which can be expected at that season. Always positively identify potential foods before you eat them. Don't assume that because a bird or animal can eat something that you will be able to. Consider the following list with care.



- **Spring/summer:** young plants, fish, eggs, young animals, birds and frogs.
- **Fall:** nuts, acorns, cranberries, wintergreen berries, clams, snails, fish, animals and birds.
- **Winter:** inner bark from trees, tender shoots, roots, tree seeds found in cones, animals and birds.

Space does not permit describing in detail here what things not to eat, but a few pointers can be given. A cardinal rule is to never eat wild mushrooms—even if you are starving and they are abundant, unless you are absolutely sure they are of a non-poisonous kind. If you should be reduced to eating tree bark, and some bark is fairly nutritious, avoid that of the cherries. The cherry species, Black, Pin and Choke, all contain dangerous amounts of cyanide in their leaves, twigs and barks. The fleshy fruit, however, is harmless. Avoid plants having white berries.

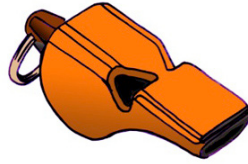


6. Help signal

During an emergency survival situation you must be able to signal searchers your location. The two basic types of signals are noise signals and ground to air signals. As a general rule, signals of three are considered a universal signal for help when lost.

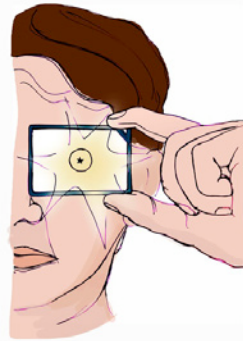
Noise signals

Firing three shots, three yells, or three whistle blasts are examples of noise signals that lost hunters or others in a survival situation can use to alert others of their need for help. As a general rule a whistle will be heard farther than yelling. Firing three evenly spaced shots will be heard the farthest distance but you may wish to conserve at least some of your ammunition in order to harvest game for food. Also, firing three shots can be mistaken for hunting activity.



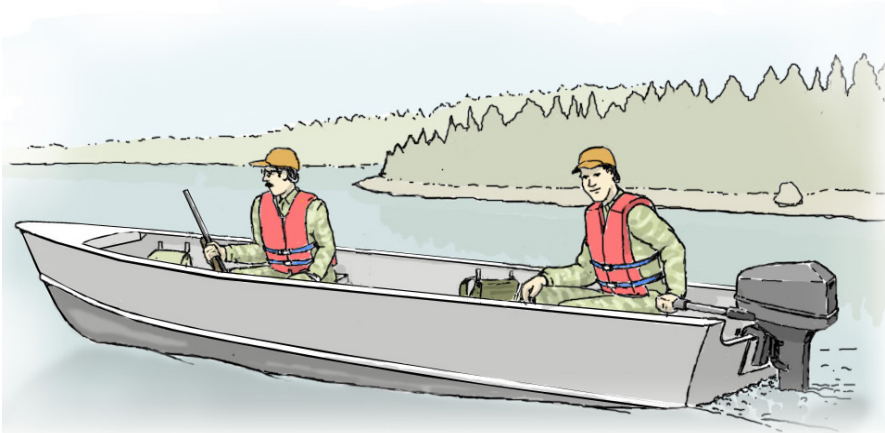
Ground to air signals

Mirror signals, fires, emergency flares, SOS signals made from brush or stomped in the snow, and waving brightly colored clothing in the air are all examples of ground to air signals that have helped searchers find lost hunters from the air. Signals made in the open are the most likely to be seen. If using a fire, keep the ground around the fire clear of woody debris and other fuels that could start a forest fire. Have a supply of conifer brush handy to put on the fire as it will create a considerable amount of smoke. Make yourself and your signals as large as possible.



Boating safety

Every year hunters are injured or die in boating related accidents. Reduce your risk when using a boat by following these guidelines:



Always wear a Canadian-approved life jacket or personal flotation device (PFD).

A properly worn life jacket or PFD will keep you afloat in water, reduces your risk of drowning, and delays the onset of hypothermia. Wearing one could save your life if you end up in the water! PFDs are available in a range of types, sizes, and colours. Generally vest style PFDs offer hunters better protection from hypothermia than do inflatable PFDs. Regardless of which type you choose make sure it fits properly and is the appropriate size for your body weight.



Know the basic safe boating rules.

Going out on the water requires you have an understanding of basic safe boating rules. In Canada it is a legal requirement that persons who operate a motorized pleasure craft have successfully completed a boater safety course.

The most commonly accepted proof of competency is a Pleasure Craft Operators Card. This card is obtained by taking the Canadian Safe Boating course which covers topics such as types of safety gear, water buoys, boating regulations, how to share waterways, and what to do in case of an emergency. Further information about this course and how it can be taken is available by contacting Transport Canada.

Make sure you have the proper safety gear on board.

You must have the right safety equipment on board your boat in case of an emergency. It's important that you know where your safety gear is located, how to use it, and that it is in good working order. In Canada, it is mandatory to have specific types of safety equipment on board at all times. This equipment is described in the **Safe Boating Guide**, a publication produced by Transport Canada. The equipment you must have on board will depend on the type and length of your boat. However, certain items, such as a life jacket or PFD for each occupant of the boat, are mandatory for all boat types.



Transport Canada's safety requirements should be considered a minimum and you may wish to carry additional items. If using an outboard motor, for example, carry a spare propeller, shear pins, sparkplugs and a tool kit. If hunting on large bodies of water such as along an ocean coastline be sure to carry a compass and GPS (Global Positioning System) unit as well as a supply of fresh water.

Don't overload your boat.

Overloading your boat with people or equipment is dangerous. Too much weight will cause it to ride low in the water and increases the risk that a wave may come on board. If your boat has a "Compliance Notice" tag, check it to determine the manufacturers' recommended weight limits and do not exceed them.

It's important to keep the weight evenly distributed and make sure all gear is secure. If you have a hunting dog, do not allow it to move around in the boat.

Monitor the weather.

Before you head out get the latest weather forecast for the area where you will be traveling. Marine forecasts are available through Environment Canada online or by radio. Keep a lookout for changing weather patterns and if storm conditions occur, head to shore.

Tell someone where you are going and when you will be back.

A trip or "sail" plan includes the route you intend to travel and a description of your boat. Leave your plan with someone you trust so that searchers will know where to look in case you do not return. If you are on a long trip you should plan to make contact each day especially if you change your intended route.

In case of an emergency...

If your boat capsizes or you are thrown into the water, stay with the boat unless it is in danger. Conserve your energy by moving as little as possible. Don't remove clothing. Air trapped in clothing will help you float and it will help reduce heat loss. Keep your cap on even if it gets wet. Grab a piece of equipment to help you float. Place decoys inside your clothing but free their anchor lines if necessary. Hold onto gas containers. Oars can also help. If you have only one, put it under your chin and spread your arms along its length. If you have two, roll on your back and put one oar under your knees and the other under the back of your

neck. Stretch your arms along its length. Keep the toes of your boots out of the water. They will float at the toes. Float on your back, face-up and use a gentle back stroke. **WARNING:** Hip or chest waders should never be worn in boats.

If you are wearing your PFD or life jacket, you have a much better chance of surviving. Keep as much of your body out of the water as possible to conserve body heat, especially the head, neck and chest. If possible, climb out of the water onto the overturned boat or floating debris. If you must stay in the water, assume the **HELP** (Heat Escape Lessening Posture) or **Huddle** position to lessen body heat loss. Remember, make every attempt to conserve energy. Many drowning victims die as a result of hypothermia. A survival suit significantly increases your survival time in cold water.

Wait until help arrives. If you reach land, build a fire immediately and dry your clothing. Stay by the fire until someone comes or you are thoroughly dry and know you can get to shelter unassisted. All waterfowl hunters should take boating and swimming courses.

To use either the HELP or huddle position you must be wearing a PFD or life jacket.



HELP position

Hold upper arms securely to your sides and keep legs together to protect armpits, sides and groin.

Huddle position

Huddle with two or more people to extend your survival time 50 percent longer than swimming.





Ice safety

The most important rule when it comes to ice safety is to stay off the ice. If you find yourself in a situation where you must cross ice, it should be at least 8 to 10 cm thick for a person walking. Clear ice is generally stronger than ice that contains snow or slush. Keep in mind that the presence of underwater springs, moving water, and objects frozen in the ice can significantly reduce ice thickness and strength.

If you do break through, face the direction you were travelling from because this ice held you until that point. Extend your arms flat on

the ice surface and kick your feet to the surface of the water. Try to squirm the upper part of your body onto the ice. Roll quickly to one side away from the edge. Once you are out of the water, immediately get to shore and build a fire to warm yourself and dry your clothing.

ATV and snowmobile safety

Travel using an ATV (all-terrain vehicle) or snowmobile is a common practice while hunting in many parts of Atlantic Canada. ATV or snowmobile users should always be cautious and know the limitations of their equipment. Travelling on frozen bays, lakes or ponds can be particularly hazardous if ice conditions are poor. When travelling in groups it is always important to use a buddy system to ensure that no member of the group gets lost or left behind if a breakdown or emergency occurs.

Some safety practices to consider when travelling on ATV's or snowmobiles are:

- always wear a helmet,
- know how to properly operate your equipment,
- always carry a tool kit, spare spark plugs, pull cords, fuel, tire repair kit and pump (ATV's), etc. in case of a breakdown,
- never overload equipment, and
- know the ATV and snowmobile regulations for your province.



First aid

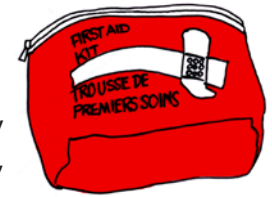
First aid is emergency medical assistance given to someone immediately after an injury or their becoming ill but before they receive full medical treatment.

In most cases injury victims can be saved by the first person on the scene, if that person is properly trained. Hunters should have the first-aid skills necessary to treat life threatening injuries that could occur while hunting. These include heart attacks, drowning, broken bones, cuts and bleeding, tree stand falls, burns, firearm related accidents, and hypothermia.

All hunters should take a first aid course offered by an accredited first aid training agency such as the Canadian Red Cross or St. John Ambulance.

First aid kit

You should never go into the field without a first aid kit. The size and shape of the kit will depend on how it will be carried. Larger, hard case first aid kits are more suitable for the camp or vehicle while smaller fanny pack types should be carried with you in your backpack, jacket pocket, or on your waist.



Kit Contents

Your first aid kit, like your survival kit, should be completely familiar to you. Know what it contains and how to use each item properly.

In addition to basic first aid items, your family doctor may suggest that any needed personal medication be included in your first aid kit. First aid training will familiarize you with your kit contents and their proper uses. Common first-aid kit items include:

- First aid handbook
- Band-aids (6 to 12)
- Butterfly bandages (6 to 12)
- Roll of gauze (2.5 cm)
- Petroleum gel
- Razor blade
- Small mirror
- Aspirin
- Mole skin
- Surgical gloves
- Sterile dressings (10x10cm)
- Triangle bandages (2)
- Adhesive tape
- Antiseptic
- Small scissors
- Crêpe bandage
- Safety pins
- Antibacterial soap

Hypothermia

Hypothermia is a condition that occurs when a person's inner body temperature drops more than two degrees below normal. The body becomes seriously cold, loses heat faster than it can produce it and, as a result, cannot keep itself warm.

Factors that contribute to the onset of hypothermia include:

- exposure to the cold or cool temperatures,
- wind,
- becoming wet,
- exhaustion, and
- poor planning.

When people begin to lose heat from exposure, they will shiver and exercise to stay warm. These actions drain energy and slowly lead to exhaustion. The body's energy reserves will be depleted and the body core temperature will drop further. If untreated, exposure leads to hypothermia, the number one killer of those who participate in outdoor activities.

Hypothermia defenses

You have three defenses against hypothermia:

1. Avoid exposure

Stay dry. Wet clothing loses about 90 percent of its insulating value. Put on rain gear before you get wet. Put on wool clothes before you start shivering. Wool helps hold body heat even when wet. Wear a hat and gloves. Beware of the wind, which greatly affects temperatures. It may be 4° C outside with the sun shining but a 32 km wind lowers the temperature to -8° C. Most hypothermia cases develop in air temperatures between -1° C and 10° C. Most people don't believe such temperatures are dangerous.

2. Terminate exposure

If you can't stay dry and warm under existing weather conditions, get out of the wind and rain. Build a fire. Construct a shelter. Make camp before you are tired.



3. Detect hypothermia

If your party is exposed to wind, cold and moisture, think hypothermia. Symptoms to watch for include:

- uncontrollable shivering (may be absent in later stages),
- vague, slow, slurred speech,
- memory lapses, confused or unusual behaviour, lack of judgement,
- lack of coordination, fumbling hands, numbness, stumbling, lurching gait,
- drowsiness and apparent exhaustion, and
- body temperature below 35° C.

Treatment of mild or moderate hypothermia

1. Remove any wet clothing and dry the casualty.
2. Warm the casualty gradually by wrapping them in blankets, putting on dry clothing and moving him or her to a warm place.
3. Apply available heat sources such as a hot water bottle or heating pad if the victim is dry, or normal body heat from another person.
4. Give warm liquids to an alert casualty.
5. Do not rewarm too quickly.
6. Handle gently.



If the victim is in an advanced state of hypothermia he or she will appear semi-conscious or unconscious with bluish-grey skin, rigid muscles, shallow breathing and weak pulse.

1. Do not attempt to rewarm. Do not rub or massage the victim's skin. Warming will cause cold blood from the extremities to return to the core of the body, further lowering body-core temperature that may lead to death.
2. Place the victim in dry clothes, blankets or a sleeping bag to prevent further heat loss.
3. Do not permit the victim to walk. Transport to a medical facility immediately. Advanced hypothermia requires special rewarming methods. If the victim appears dead from hypothermia and drowning, start mouth-to-mouth respiration immediately and continue during transport. Do not give up. Drowning victims taken from cold water sometimes take several hours to respond.

Frostbite

Frostbite is a type of cold emergency occurring in specific body parts exposed to the cold. In superficial frostbite the skin is frozen but not the tissues below. In deep frostbite both the skin and underlying tissues are frozen.

Actual thermometer reading (°C)	WIND CHILL INDEX										
	10	4	-1	-7	-12	-18	-23	-29	-34	-40	
Equivalent temperature (°C)											
Estimated wind speed (km/hr)	calm	10	4	-1	-7	-12	-18	-23	-29	-34	-40
	8	9	3	-3	-9	-14	-21	-26	-32	-38	-44
	16	4	-2	-9	-16	-23	-29	-36	-43	-50	-57
	24	2	-6	-13	-21	-28	-36	-43	-50	-58	-65
	32	0	-8	-16	-23	-31	-39	-47	-55	-63	-71
	40	-1	-9	-18	-26	-34	-42	-51	-59	-67	-76
	48	-2	-11	-19	-28	-36	-44	-53	-62	-70	-78
	56	-3	-12	-20	-29	-37	-46	-55	-63	-72	-81
	64	-3	-12	-21	-29	-38	-47	-57	-65	-73	-82
Wind speeds greater than 64 km/hr have little additional effect	Little danger (to properly-clothed person)			Increasing danger (exposed flesh may freeze in 60 seconds)			Great danger (exposed flesh may freeze in 30 seconds)				

Signs and symptoms of frostbite

- Lack of feeling in the affected area.
- Skin that appears waxy.
- Skin that is cold to the touch.
- Skin that is discolored (flushed, white, yellow, blue).

Treatment of frostbite

1. Cover the affected area.
2. Handle the area gently and never rub it because this causes further damage.
3. Warm the area gently by immersing the affected part in water warmed to 40° C. If possible, use a thermometer to check the water. If not possible, consider the water to be too warm if it is uncomfortable to your touch.
4. Keep the frostbitten part in the water until it looks red and feels warm.
5. Bandage the area with a dry, sterile dressing. If fingers or toes are frostbitten, place cotton or gauze between them. Avoid breaking any blisters.
6. Get the casualty to a doctor as soon as possible. Do not thaw the frozen part if there is a possibility of refreezing. Frozen areas must not be allowed to refreeze.

Prevention of cold emergencies

Frostbite and hypothermia can usually be prevented with common sense and by following these guidelines:

- Avoid exposing any part of the body to extreme cold.
- Wear a hat and layers of clothing made of tightly woven fibers, such as wool, that trap warm air against your body. Keep vulnerable areas such as the fingers, toes, ears, and nose protected and covered.
- Drink plenty of warm fluids to help the body maintain its temperature. If hot drinks are not available, drink plenty of plain water. Avoid caffeine and alcohol, which hinder the body’s heat-producing mechanisms.
- Take frequent breaks from the cold to let your body warm up to better withstand brief periods of exposure to extreme cold.
- Avoid being outdoors in the coldest part of the day.

Diseases

Hunters should learn how to minimize their risk of contracting diseases when handling or preparing game, or just being in the outdoors. The following precautions can greatly reduce your risk of infection:

- Always examine any game you kill for obvious signs of disease. Although sick animals are relatively rare, you should be in the habit of doing both an external and internal check of harvested game for signs of disease. Diseased animals should be reported, not eaten.
- Use good hygiene practices when cleaning game. Wear waterproof gloves (rubber, vinyl, latex) and protective clothing such as waterproof coveralls, rubber boots, and glasses. Avoid direct skin contact with meat, blood, urine, feces, etc, of game animals during field dressing, especially if you have a scratch, cut, or other open wound. Wash and disinfect your hands and cleaning tools thoroughly before and after dressing out game.
- Use proper field dressing procedures. Eviscerate or gut the carcass as soon as possible. Avoid cutting the intestinal tract (gut) and thus contaminating meat with fecal matter. Take care not to cut or scratch yourself while cleaning game. Keep the carcass cool in the field and refrigerate or freeze as soon as possible.
- Cook all wild game well until there are no pink areas left, meat juices run clear, or to an internal temperature of 80°C. Note that preparation and processing



methods such as freezing, curing, drying, and smoking do not ensure wild meat is free of disease-causing organisms.

- Avoid contact with wild animals that are acting strangely. Do not pick up or handle any dead animals that you may find. Report sick or dead animals to your provincial Health Department. If you should be bitten or scratched by an animal, wash the wound thoroughly and see your family physician at once.
- Minimize insect bites, especially those of mosquitoes, by wearing clothing that keeps as much of the skin covered as possible and by using repellents. Check yourself for ticks, especially after traveling through areas of heavy vegetation and remove any ticks found immediately with tweezers.
- Never drink water from lakes, rivers or streams without first sterilizing it, no matter how clean it looks. Heating water to a rolling boil for at least one minute can kill most water-borne disease causing organisms.
- If you use a dog to hunt make sure it is properly vaccinated, especially for diseases that are transmittable to people such as rabies. Avoid letting your dog run unsupervised. If a wild animal should bite your dog, seek veterinary assistance for it immediately.
- Keep a clean camp. Make sure garbage and other wastes are properly disposed of. Keep camp foods sealed and out of reach to avoid attracting animals. Close any entrances on the inside and outside of your camp to keep mice, bats, etc, from entering. Wash cooking utensils thoroughly and remember to practice good personal hygiene.
- Be aware of wildlife diseases. Review the following summary and follow the recommended practices to reduce your risk of infection. For additional information, contact your provincial Health Department.

DISEASE SUMMARY

Disease	Infectious agent	Method of infection for people	Symptoms	Prevention
Hantavirus Pulmonary Syndrome	Virus <i>Sin Nombre Virus</i>	Inhaling air contaminated with particles of infected rodent urine and feces, in particular that of deer mice.	Begins as a flu-like illness. Fever, muscle pains and fatigue progress within a few days to coughing and shortness of breath. Lungs fill with fluid and a respirator is often needed. Potentially fatal.	Hunting camps must be completely sealed to prevent mice from entering. Do not leave food out where it will attract mice. When cleaning up mouse droppings, air out your camp for an hour or two before beginning. Avoid sweeping up or vacuuming mice droppings, which can release viral particles into the air. Instead use rubber gloves and a wet cloth and wet the material with bleach or similar disinfectant.
Giardiasis	Parasite <i>Giarda intestinalis</i>	Contact with mouth, usually by drinking contaminated water. Parasite is passed on via feces of infected animals such as man and beaver. Disease may also be contracted by putting something in your mouth that has come in contact with the parasite.	Diarrhea, cramps, upset stomach.	Sterilize all drinking water while outdoors, properly clean uncooked food especially vegetables, and practice proper hygiene.
Lyme Disease	Bacterium <i>Borrelia burgdorferi</i>	Bite of infected black legged tick (deer tick).	Reddish “bulls-eye” rash around the bite, nausea, dizziness, fatigue, memory loss, heart disease, temporary or chronic arthritis.	Dress to minimize exposed flesh when travelling through heavy vegetation. Apply tick repellent to clothing. Check for and remove ticks found on your body after outdoor excursions.
Rabies	Virus <i>Rabies</i>	Contact with saliva of infected animals through bites, scratches. Also contact with mucous membranes of the eyes, mouth and nose.	Fever, headache, confusion, agitation, and eventual fatal infection of brain and spinal cord. Usually fatal once first symptoms appear.	Avoid contact with wild animals acting sick or strange. Keep pet vaccinations up to date. See your physician immediately if bitten or scratched by any animal.
West Nile Virus	Virus <i>West Nile</i>	Mosquito bites. Also direct contact with the blood of infected animals.	Fever, headache, body aches. may develop into lethal encephalitis or swelling of the brain.	Wear gloves when cleaning game and cook all meat thoroughly. Reduce mosquito bites by wearing protective clothing and using insect repellents.
Trichinosis	Parasite <i>Trichinella</i>	Eating raw or undercooked pork and wild game products, particularly bear, wild boar and seals infected with <i>Trichinella</i> .	Nausea, diarrhea, vomiting, fatigue, fever, muscle pains. Death is possible in severe cases.	Cook meat products well. Clean meat grinders and utensils thoroughly if you process your own meat. Avoid infecting pets by feeding them raw meat.
Tularemia	Bacterium <i>Francisella tularensis</i>	Handling infected animal carcasses, especially rodents, rabbits and hares. Also from the bites of infected ticks and deerflies and by consuming contaminated food and water.	Skin ulcers, swollen lymph glands, inflamed eyes, sore throat, pneumonia.	Wear gloves when cleaning or handling animal carcasses, especially hares. Practice proper hygiene.

Review of Lesson 5

1. List the three "P's" of outdoor safety.

- 1) _____
- 2) _____
- 3) _____

2. State three reasons why a hunter should develop a hunting plan.

- 1) _____
- 2) _____
- 3) _____

3. List five items to start your survival kit.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

4. Describe four steps a hunter would take upon discovering they are lost.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

5. What are six basic requirements of a wilderness survival situation?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

6. Hunger is a serious factor in all survival situations.

True False

7. Mental self-control is crucial in a survival situation. Name five survival factors that will affect your ability to think clearly in a survival situation.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

8. Why should you make noise if you become lost?

- _____
- _____
- _____

9. Suggest three ways of making yourself visible to searchers if you become lost.

- 1) _____
- 2) _____
- 3) _____

10. How long should you allow for building a shelter, gathering insulation and collecting fuel?

_____ hours

11. A cardinal rule for lost persons is never, ever leave a trail or road except:

- _____
- _____
- _____

12. Name the attachment methods for a ridgepole when building a shelter.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

13. State four benefits of having a fire during an emergency survival situation.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

14. What three means of starting a fire could you carry in a survival kit?

- 1) _____
- 2) _____
- 3) _____

15. What five points would you consider in preparing a location for a survival fire?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

16. Signals of four are considered a universal signal for help when lost.

- True False

17. What are some possible foods you could eat in the spring, fall and winter?

<i>Spring</i>	<i>Fall</i>	<i>Winter</i>

18. State five guidelines that you should follow to reduce your risk of drowning or injury when using a boat to hunt.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

19. State the importance of wearing a life jacket or personal flotation device when hunting on the water.

20. Why is it important to use the “HELP” or “huddle” positions?

21. The first rule of ice safety for hunters is?

22. Travel using an ATV or snowmobile is a common practice while hunting in many parts of Atlantic Canada. List five safety practices when using such equipment.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

23. State three examples of outdoor emergency situations where it would be important for a hunter to have first aid training.

- 1) _____
- 2) _____
- 3) _____

24. List five factors that can contribute to the onset of hypothermia.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

25. With a temperature of -29°C and a wind speed of 40 km/hr, what is the wind chill index?

26. List four things you can do to reduce your risk of contracting a bacterial, viral, or parasitic disease while handling and preparing game, or just being outdoors.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Lesson 6: Field techniques

Introduction

Safe and successful hunting requires knowledge of certain field techniques. These include preparing for the hunt, species identification, hunting and game tracking methods, field dressing, and care of game meat.

Hunting trip equipment

You will need basic equipment on any hunting trip. Plan ahead. Know what to expect in the way of terrain, weather and shelter, and plan for these conditions. Your equipment is important for day trips or long backpacking trips. Equipment can be added or varied to meet the needs of specialized hunting trips. Basic equipment includes:

- appropriate clothing,
- compass and maps,
- survival kit,
- first aid kit,
- firearm and ammunition, and
- appropriate licence and/or permits.

Hunting clothing

Your choice of hunting clothing is very important to your well being and safety. When dressing for the hunt it is very important to:

- **Choose the right type of material.**

Clothing that is waterproof yet breathes to allow perspiration to escape is preferred. Wool and Gore-Tex, for example, are good choices. Wool garments, in fact, will keep you warm even when wet.

Denim and cotton do not provide the same level of insulation or waterproofing as Gore-Tex or wool. Jeans, for example, will become wet even walking through wet grass due to the wicking quality of denim. Cotton shirts are suitable in mild weather but may not provide adequate warmth in cold weather or when wet. Nylon serves as a suitable windbreak material but tends to be noisy and is not a breathable material. In general, your choice of clothing material should keep you warm, be lightweight, noiseless, and tough enough to protect you from cuts and scratches.

- **Dress in layers.**

Layering allows you to add or remove clothing as weather conditions warrant. In cold weather, long thermal underwear is a must.

- **Carry a change of clothes.**

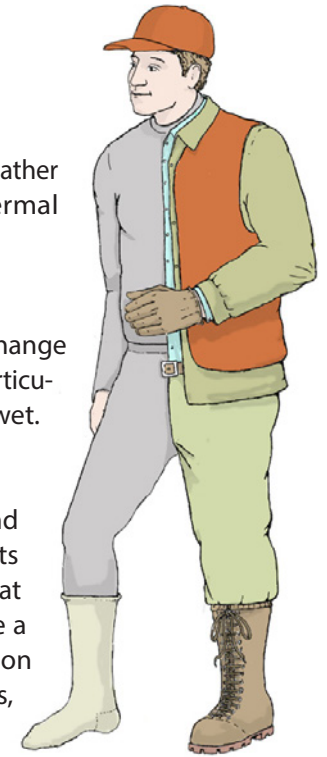
Carrying extra clothes means you will be able to change into dry clothes as needed. A change of socks, in particular, will be very useful if you should get your feet wet.

- **Break in new clothes, especially boots.**

Your boots and socks are very important. Care and conditioning of the feet and proper fitting boots are essential to the hunter's well-being. Boots that fit poorly can cause painful blisters which can be a major injury when walking far from camp. Friction from boots that are too large, loosely laced boots, or lumpy or wrinkled socks can cause blisters. Wear two pairs of wool socks to keep your feet warm and soak up perspiration. Break-in a new pair of boots before you go hunting by wearing them on short hikes. Lace your boots snugly around your foot, but less tightly around your ankle. To do this, lace the boot firmly to the top of the instep and tie a reef knot there to hold the tension. The laces can then be comfortably laced from the instep to the top of the boot.

The weight of your boots is very important. Even a few ounces of extra weight carried for many miles can be equal to several hundred pounds of physical exertion. Boots should be sturdy, with strong soles that will not slip and slide on rocky trails. Avoid wearing boots heavier than you need.

Hunting boots should be a full size larger than your regular shoe size to allow room for thick socks and inner soles and for some swelling of your feet which is normal during hard walking.



- **Wear a hat and gloves.**

A hat should be included with your hunting gear. In cold weather, it is very important to wear a hat since body heat is lost faster through the head than anywhere else. Your hands and feet will remain warm longer if your head is covered and warm. In bright sunlight, a hat shades your eyes and protects you from sunburn. Your hat should fit well so it cannot be easily knocked off or nudged over your eyes by tree branches.

Gloves are a necessary part of a hunter's gear. They help keep you warm and protect your hands from cuts, blisters, splinters, and other injuries.

- **Meet any hunter orange requirements.**

The use of hunter orange is mandatory in most provinces and allows you to be more easily seen and identified as a person. Wearing hunter orange clothing reduces the risk of hunting related shooting incidents. In some provinces you must wear both a hunter orange hat as well as vest or coat. Know and follow the hunter orange requirements for your province.

Map and compass



A map and compass should always be carried when hunting. In some provinces it is mandatory.

All hunters should familiarize themselves with the area they are hunting. If you don't know the country at all, go with someone who does.

When entering the woods from a road, check your compass at the point where you leave the road. A topographical map used in conjunction with your compass will help you to recognize landmarks such as streams, roads and other features as you walk. The average walking speed is about 4 km/hr, so noting the time you've traveled will give you an idea of distance covered. However, in rough terrain you may walk considerably slower.

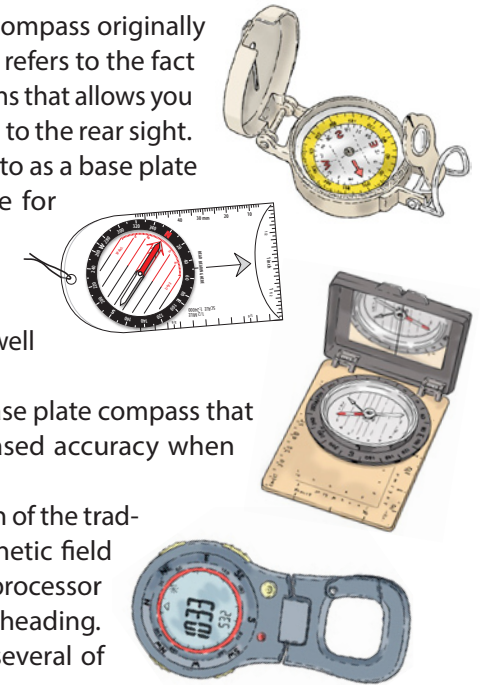
A compass is a necessary part of any hunter's equipment, particularly if you expect to travel in unfamiliar terrain. Even though you may know the country, cloudy or stormy weather may conceal familiar landmarks. Just carrying a compass is not enough – you must know how to use it.

Compass

Compasses are navigational instruments used primarily for finding direction of travel.

There are many types of compasses available. They range from a simple pocket compass, which shows general directions, to complex models with sights and sighting lines, useful for sketching a rough map or navigating exactly to specific locations.

- **Lensatic compass:** an older style of compass originally developed for military use. "Lensatic" refers to the fact that the rear sight is provided with a lens that allows you to read the dial while your eye is close to the rear sight.
- **Orienteering compass:** also referred to as a base plate compass, this is the preferred type for the sport of orienteering. It is also commonly used by hunters and other outdoor enthusiasts. Its key feature is a transparent base plate that makes it well suited for using with maps.
- **Mirror compass:** a variation of the base plate compass that features a sighting mirror for increased accuracy when determining or following bearings.
- **Digital compass:** an electronic version of the traditional compass. These contain magnetic field sensors that provide data to a microprocessor which in turn calculates the correct heading. Digital compasses can be found in several of the high-end GPS units.

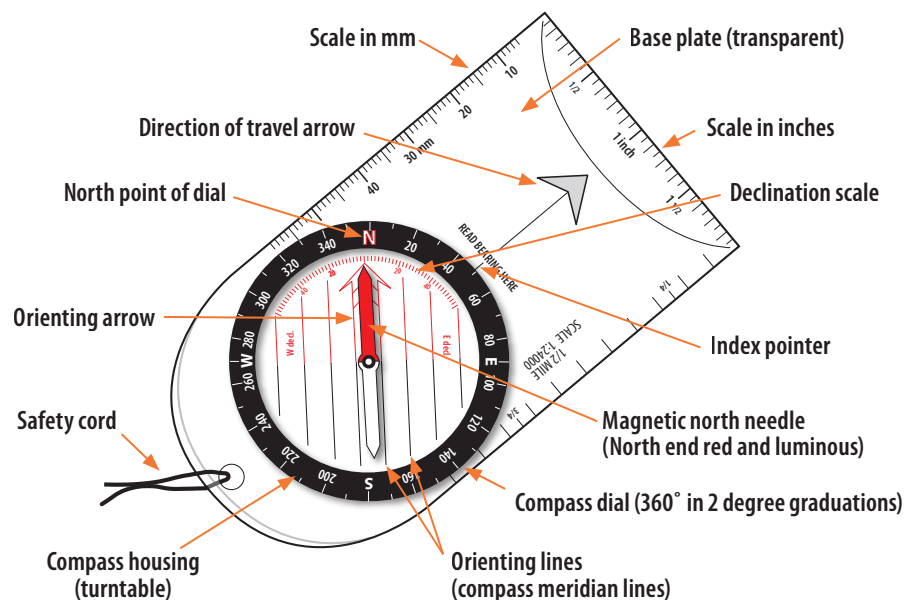


The important part of a compass is its magnetized needle, balanced on a pinpoint and free to swing around. When left to itself, the needle always points to the magnetic North, which is the northerly direction of the earth's magnetic force lines. This end of the needle is usually marked with the letter "N", shaped like an arrowhead, or coloured so you can tell which end of the needle is pointing north.

The compass dial is divided into 360 parts. These divisions are called degrees and each degree represents a bearing or direction. The degrees are measured clockwise from North, which is called 0° or 360° on an orienteering compass.

The four cardinal directions, North, East, South, and West, are at right angles to each other (i.e. N-0° or 360°, E-90°, S-180°, and W-270°).

Parts of a compass



Base plate: the transparent rectangular plastic base to which the compass housing is attached.

Scale: located along the edge of the compass. They are used for measuring distances on maps and may be indicated in English units, metric units, or correspond to a specific map scale (i.e. 1:24,000).

Declination scale: a scale found to the left and right of the orienting arrow and marked either W or E declination. Represents the difference in degrees of the angle between true and magnetic north.

Index pointer: a line engraved in the base plate from which bearings are read. The index pointer is sometimes also shown on the compass dial and may be indicated by the words "READ BEARING HERE".

Magnetic north needle: a needle located in the compass housing and mounted on a pivot so that it may swing freely. The magnetic needle points to the magnetic north pole and its north end is usually painted red.

Compass dial: the rim of the compass housing, essentially a circle divided into 360 parts or degrees. Each line on the dial represents 2°. Note that the four cardinal directions— North, East, South, and West are indicated on the compass dial. Readings or directions taken from the compass dial are referred to as bearings.

Orienting lines: a series of parallel lines located on both sides of the orienting arrow that are aligned with grid lines on a map when determining a bearing from a map.

Compass housing: circular, rotatable, liquid filled, and attached to the compass base plate. Contains the magnetic north needle.

Safety cord: a cord for attaching the compass to your clothing or to wear the compass around your neck.

Orienting arrow: an arrow located on the underside of the compass housing. The compass needle is aligned with this arrow in order to orient the compass to a specific bearing.

North point of dial: one of the four cardinal directions indicated on the compass dial.

Direction of travel arrow: located in the centre of the base plate. When the compass is properly aligned, this arrow tells you the direction in which to travel.

Using a compass

Three common uses of a compass without a map include:

1. To determine a bearing.
2. To follow a bearing.
3. To return to a point of departure after traveling on a bearing (reverse bearing).



Determine a bearing

The modern orienteering compass gives directions and bearings quickly. To find a bearing with this type of compass:

1. Hold it level in your palm at about waist height in front of you.
 2. Turn and point the compass so that the directional arrow is pointing in the direction you want to go. If the compass is not held level, the needle may show an inaccurate reading.
 3. Turn the compass housing until the North end of the orienting arrow in the housing is under the North end of the magnetic compass needle.
4. Read the bearing in degrees where the tail of the direction of travel arrow on the base plate meets the degree scale on the housing. Some compasses have other indicators to show where you read the bearing.

Follow a bearing

To follow a bearing set on your compass:

1. Rotate the dial of the compass to set the direction you wish to travel.
2. Holding the compass level in the palm of your hand, turn yourself until the north end of the orienteering arrow is directly under the north end of the compass needle.
3. The direction of travel arrow is now pointing in the direction indicated on your compass dial. To follow this bearing walk in the direction indicated by the direction of travel arrow. This is done by sighting and then walking to a specific landmark in your line of travel. Once it is reached, a new landmark is sighted on the same bearing and the process is repeated until your destination is reached.

Return to a point of departure after travelling on a bearing (follow a reverse bearing)

A reverse bearing is a bearing that is opposite to the direction you had been travelling in. Reverse bearings are useful when you want to return to a baseline which will then tell you your location. When camp has been set up beside a baseline such as a river, road or railway, you can easily find your way back to camp with a compass. If you are hunting north of a baseline, you know that as

long as you don't cross that baseline, all you need to do to find your camp is walk south from where you are and you will eventually come to some point on that baseline. Referring to a map, you should know if you are above or below the camp.

The rule of thumb for determining a reverse bearing is:

- If you were travelling on a bearing of less than 180° , add 180° to your current bearing. For example, if you had been travelling at a bearing of 20° , your reverse bearing would be 200° .
- If you were travelling on a bearing greater than 180° , subtract 180° to your current bearing. For example, if you had been travelling at a bearing of 280° , your reverse bearing would be 100° .

Once you have determined what your reverse bearing is, you set this bearing on your compass and travel in this direction sighting from landmark to landmark as described in the **Follow a bearing** section.

Maintaining your bearing

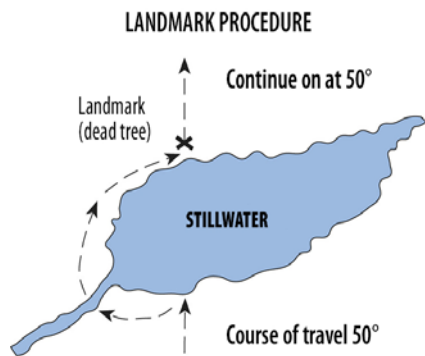
A landmark should be chosen that is on the course of the hunter's ultimate destination and will be visible until it is reached. On reaching the marker, the hunter chooses another landmark off in the distance and checks the bearing again with the map and compass.

In a forest, lining up two trees and walking directly toward them can maintain a straight course. As the first tree is reached a third tree is lined up, beyond and in a straight line with the second. This procedure is repeated each time another of the trees is reached.

A common mistake when using a compass is to look at the bearing too often. Renew your bearing only as often as the distance between good landmarks dictates. This distance will vary with the terrain, cover and visibility, ranging from 3 to 20 metres in thick brush or fog to 0.5 km or more in open country on a clear day. Remember too, that a compass gives you the direction you want to travel, but does not tell you where you are. You should have a general idea where you are before you try to use a compass. Therefore, before entering the woods, always take time to check the bearing of the road you are leaving and the direction you are traveling. Then, if you get "turned around", the reverse bearing will take you back to the road you started from.

Because a compass is equipped with a magnetic needle, be careful to keep it away from all iron-bearing metal and electric currents. This includes axes, knives, guns, fishing rods, bridges, railway and fence lines, cars, rings on fingers, watches, etc. Sometimes even the zipper on a jacket may cause the needle to change direction. Standing underneath power lines may do the same.

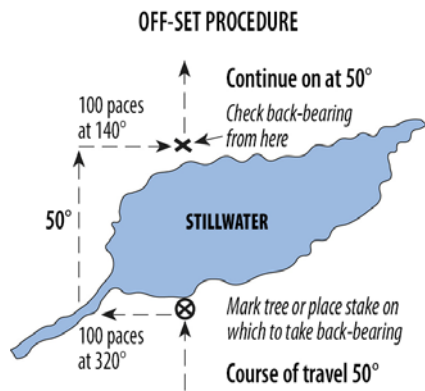
Maintaining a bearing while avoiding large obstacles



a) Landmark procedure

To continue a journey along your compass bearing, when you come upon a large obstacle such as a body of water:

1. Pick a prominent landmark on the other side of the water that is in line with the intended course of travel.
2. Walk around the body of water to that landmark, for example a large, dead tree, and continue from there on the original course.



b) Off-set procedure

Upon reaching a barrier with no landmark on which to sight, “off-set” the compass at right angles to the direction of travel, (50° in the example provided). Swing left from 50° to 320° and, counting paces, walk along the new bearing to the farther end of the water. On reaching that position, swing back to 50° and travel in that direction to reach the other shore. Then place the compass on 140° and count the same number of paces back to the imaginary point where you

would continue the old line of travel. Placing the compass on 50°, check the “reverse bearing”, 230°, to see if it points to a previously chosen object at the place where you first came out to the water. If it does, then you know you will be continuing along the original line of travel when facing 50°.

Practice with your compass before you go on your hunting trip. The time to orient yourself using your map, compass, and landmarks is when you leave camp. If you wait until you are lost, it will be too late.

Maps

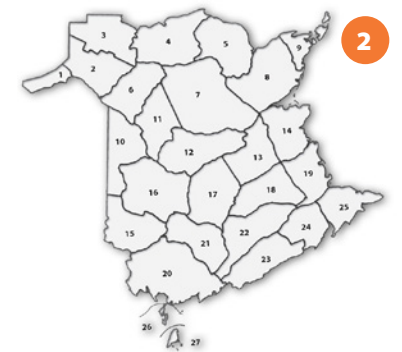
A map can be defined as a diagram of a portion of the earth’s surface viewed from directly above. Have a map of the area in which you plan to hunt and study it in advance. Familiarize yourself with common map types and know how to use them.

1. **Road maps:** show location of highways and roads. Road maps are not always drawn to scale and often lack sufficient detail to be of use for anything but a highway and road guide.
2. **Wildlife management zone maps:** show the various wildlife management zones within a province.
3. **Provincial map book (atlas):** show location of highways including forest roads, watercourses, private and crown land ownership.
4. **Topographical maps:** detailed maps showing elevation of hills, valleys, as well as landmarks such as roads, lakes, and buildings.

Some hunters also rely on hand-drawn maps that they, or other hunters, prepare. “Mental maps” are based on your memory of the direction and distances you have traveled. These should not be chosen over other map types.

The preferred map for most uses is the National Topographic Series at a scale of 1:50,000. These are detailed maps showing the elevations of hills and valleys and landmarks such as ponds, vegetation, swamps, roads, and buildings. Key elements of topographical maps include:

- **Legend:** a listing of symbols shown on the map and what they mean.
- **Scale:** provided as a ratio. For example, on a 1:50,000-scale map, one unit on the map equals 50,000 of the same units on the ground.



- **Contour lines:** a contour line shows the outline of a hill at one elevation. Widely spaced lines indicate a gentle slope. Closely spaced lines indicate a steep slope.
- **True and magnetic north arrows:** indicate the direction of true north and magnetic north. Most maps are oriented so that true north is at the top of the map sheet. A compass, however, points to magnetic north.
- **Grids:** a series of vertical and horizontal lines that mark the map off in a grid system. Topographic maps show both geographic (latitude/longitude) and Universal Transverse Mercator or UTM grids (kilometres) that make it possible to determine your precise location.

In the Atlantic Provinces topographical maps are available from various private and government sources. A listing of topographical map distributors can be found online at <http://maps.nrcan.gc.ca>

Using a map and compass

A compass used alone is a valuable asset in unknown territory, but use it with an up-to-date, detailed map and a solid grasp of map and compass principles, and you have the next best thing to a local guide.

Individually, a map and compass are valuable tools for navigation. Together they extend the limits of each, allowing us to determine the direction and distance to a destination and our ability to reach it.

Two map and compass skills of use to hunters are:

1. Measuring distance from a map.
2. Determining a bearing from a map.

1. Measuring distance from a map.

The approximate on-the-ground distance from one point to another can be determined by using your compass to measure the corresponding distance on a map. This works with any unit of measurement, however, the metric system is the most convenient.

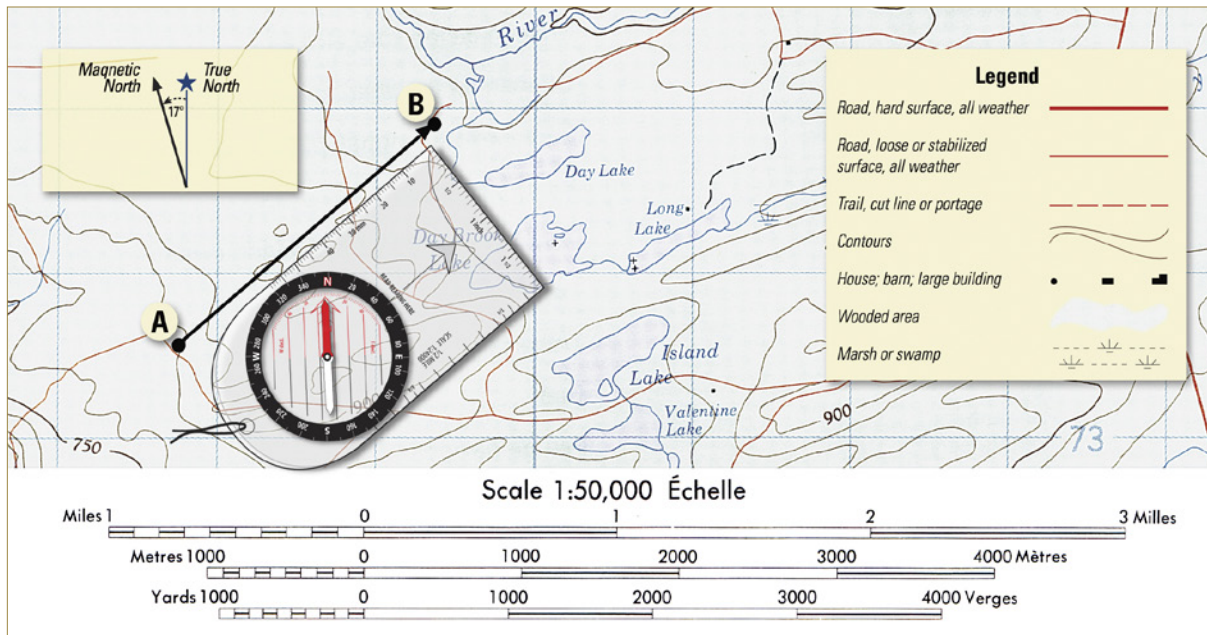
This measurement is then converted to distance in the field by means of the map scale. For example, a measurement of 1 cm between two points on a 1:50,000 scale map would be equivalent to a distance of 50,000 cm or 500 metres in the field.

2. Determining a bearing from a map.

To find the direction or bearing between two points on a map:

- a) Draw a line between your starting point and your destination (A–B).
- b) Lay the baseplate edge of the compass along this line. Make sure the direction of travel arrow is pointing in the direction you wish to go.
- c) Holding the compass base steady, turn the compass housing so the orienting lines in the compass housing are parallel with any meridian (North-South) lines on the map. Make sure that North on the compass housing is pointing toward North on the map.
- d) Read the bearing on the compass housing at the base of the direction of travel arrow. Using the example in the figure on page 65 you would obtain a reading of 50°.
- e) Make an allowance for declination. Do this by checking the margin of your topographic map to determine the angle of declination for the location shown by the map. In Eastern Canada declination is added to bearings taken from maps. In the example provided, declination is 17° westerly. Your bearing taken from the map would thus be:

$$\begin{array}{r}
 \text{Map bearing} = 50^\circ \\
 \text{Declination} = 17^\circ \text{ W} \\
 \hline
 \text{Actual bearing} = 67^\circ
 \end{array}$$



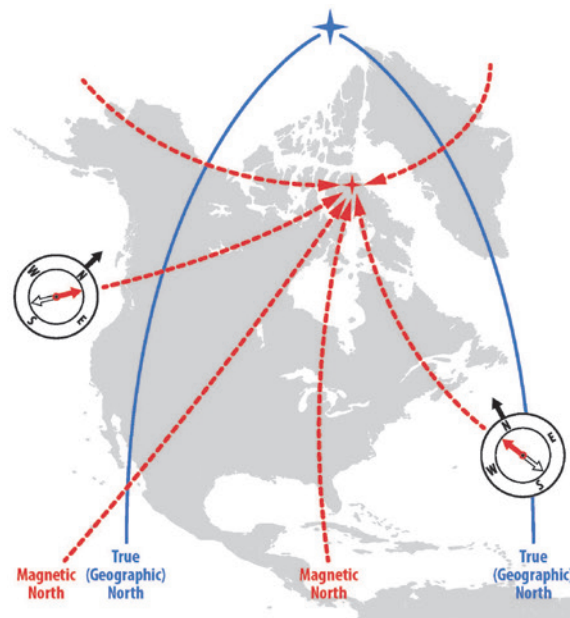
Magnetic declination varies depending on your specific location. For the Atlantic provinces it currently ranges between 15° and 20°. As you go westward it decreases since the magnetic needle does not swing as far from true north in order to line up with magnetic north. At the point where a line drawn north from your position would pass through both the magnetic North Pole and the true North Pole, magnetic declination is zero. East of this line, the declination is added to map bearings. West of this line it is subtracted.

Declination may be ignored when you use your compass to determine field bearings without any reference to maps. However, when using a compass with a map or in connection with bearings taken from a map an adjustment must be made for declination. Magnetic declination is generally shown in the margin of topographic maps.

Magnetic declination

What is magnetic declination and when do you need to make an allowance for it? To understand this term it is important to realize that there are actually two North Poles. One is the true North Pole which is the geographic north upon which maps and directions are usually based. The second is the magnetic North Pole which is where the earth's magnetic lines of force come together and where your compass needle points.

Magnetic declination, or "variation", is the angle between true North (the direction of the North Pole) and magnetic North (the direction of the magnetic pole). The magnetic North Pole is currently located north of Baffin Island several hundred kilometres south of the true North Pole. The location of the magnetic north pole moves several kilometres each year and is currently drifting eastward towards Siberia.



Global Positioning System (GPS)

GPS is a satellite-based radio-navigation system developed and operated by the US Department of Defense. Development of this system started some time in the 1980's. It permits land, sea and airborne users to determine their three-dimensional position, speed, and time of day, in all weather and anywhere in the world with great precision and accuracy. Although developed primarily for scientific and military purposes, GPS units have also entered the regular consumer market. Small hand-held units are available for hunters, hikers, geocachers, travelers and ground search and rescue teams. The type of data GPS Units provide continues to grow. Some of the more common uses include:

- Determine your exact location (latitude, longitude, and elevation).
- Mark or locate specific "waypoints".
- Calculate the distance and speed you have travelled.
- See your location and route traveled on a digital map.



Using a GPS unit with a topographic map or marine navigation chart can be very useful to hunters. In fact, a variety of digital maps can now be purchased for downloading directly onto GPS units.

There are many GPS units available on the market and users are advised to consult the owner's guide for precise information on operating the different units. Hunters are reminded that GPS units are an electronic device and have limitations. As a general rule, they work best in unobstructed areas. Always carry spare batteries and a map and compass as a backup when relying on a GPS unit for navigation.

Knives

Some hunters prefer a fixed-blade knife while others opt for a folding knife. The blade of any knife should be of good quality steel so it will keep its edge for a reasonable time. With regular use around camp, a knife needs to be sharpened every three or four days. Knife blades should not be used to pry, chop or bore holes.

For hunting purposes, a knife blade should be no longer than 10 cm. Longer knives are clumsy and not as versatile as a 10 cm blade which is a length well suited for field dressing and skinning.

Fixed blade knives

Fixed blade knives, or "sheath knives", are rugged and easy to clean but are generally bulkier than folding knives. For safety reasons they should remain in their sheath when not in use.



Folding knives

Folding knives are very popular with hunters and consist of a blade that folds back and locks into the knife handle. This type of hunting knife is usually smaller and easier to carry than a fixed blade knife. Some models feature specialized saw or gut hook blades in addition to the knife blade.



Scents, lures and game calls

Scents and lures

A wide variety of scents and lures are available to today's hunter. Scent products are available as attractants, cover scents and scent eliminators.

1. Attractant scents work in different ways. Some replicate the odor of a tempting food source while others simulate the scent of a breeding female. Doe-in-estrous lures for example, are a urine based lure designed to attract buck deer during the fall rutting period.
2. Cover scents disguise human odor by covering it with a natural scent, such as the smell of soil or vegetation.
3. Scent eliminator products are designed to eliminate human odour making it difficult for game to detect the hunter. They come in a variety of types including sprays, soaps, shampoos and laundry detergents. Some manufacturers sell specialized scent eliminating clothing designed to trap human odour.



Game calls

Effective game calling requires practice and proper timing. When correctly used, game calls can improve your odds of hunting success. The types of sounds game calls make fall into four categories:

1. Locator calls indicate the location of a flock or group member.
2. Distress calls, such as a squealing rabbit, indicate to a predator that prey may be caught nearby.
3. Aggression calls imitate the sounds of males asserting their dominance during the breeding season.
4. Mating calls imitate the sounds of game animals during their mating period.

Game calls commonly used in Atlantic Canada include:

- Mouth-blown calls are held to your mouth and require you to blow air into the call to produce a sound made by the vibration of a reed. Usually made of plastic or wood, this type of call is small enough to carry in your pocket or wear around your neck. Most waterfowl calls are this type. Another example is the deer grunt tube.
- Birch bark moose calls are used by hunters like a megaphone to amplify or direct the call they make with their own voice.



- Bleat cans are turned upside down to produce the estrous bleat of a doe.
- Rattling deer antlers together imitates the sound of two fighting male deer and is a technique used to attract buck deer.
- Electronic calls play recorded animal sounds and are more expensive and bulkier than other calls. Most models feature a hand held remote that the hunter uses to activate the device from a distance. Some models also include a visual attractant such as feathers or fur that serve as a motion decoy. Electronic calls are used primarily for attracting predator species such as coyotes and may not be legal for certain game animals. Always check with your provincial game management agency to make sure you follow applicable hunting regulations with respect to game calls.



Other equipment

A wide range of hunting accessories are available to hunters. The specific type of equipment you find most useful will be determined by where and when you hunt, your hunting methods and preferred type of game.

Not all gear will have the same value. If in doubt about the usefulness of a certain type of hunting gear talk to another hunter or research the topic online. As a general rule, a small day pack containing a few essential items will be more useful to you than loading yourself down with bulky or expensive gadgets.

Examples of commonly used hunting accessories include:

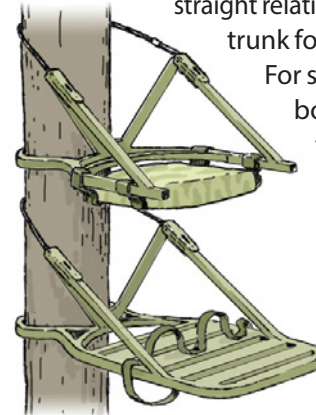
- Back pack
- Extra socks, gloves
- Rain gear
- Emergency food
- Binoculars
- Flashlight
- Head lamp
- Flagging tape
- Game call(s)
- Map and compass
- GPS
- Knife
- Axe

- Folding saw
- Portable stove
- Rope
- Game camera
- Shooting rest i.e. sticks, bipod
- Portable gun cleaning kit
- Gun sock
- Range finder
- Scent attractants
- Scent elimination products
- Portable first aid kit
- Survival kit

Tree stands

The use of tree stands is popular with many big game hunters. Tree stands raise the hunter above the level of their prey making it more difficult for them to be seen or scented by game animals. Tree stands also provide the hunter a better view of their surroundings and make it easier for them to spot their prey. With the proper equipment and technique, this can be a safe and practical hunting method.

1. **Permanent tree stands:** usually constructed of wood. This type of tree stand can be large and sturdy but unless properly maintained quickly become unsafe.
2. **Self-climbing tree stands:** consist of two parts. The hunter uses their hands and feet to “walk” the stand up the tree. This type of stand is bulky and requires a tree with a straight relatively limbless trunk for installation.



For safety reasons, both sections of the self-climbing stand must be attached to one another. Self-climbing stands should not be used on trees covered with ice or snow.

3. **Strap-on tree stands:** are also known as “fixed” or “hang-on” tree stands and generally consist of a seat, foot rest, and chain or strap by which the stand is attached to the tree. This type of stand can be used in any tree sturdy enough to hold your weight. They require a portable ladder, climbing sticks, or screw-in steps to install and climb into. Of these methods, screw-in steps are the least desirable since they can damage the tree in which they are used.



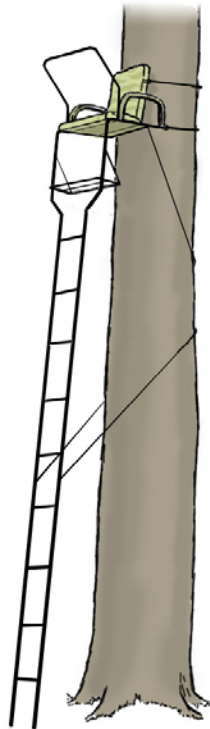
4. **Ladder tree stands:** consist of a ladder mounted platform that is leaned against a tree and chained or strapped into place.

Available in one or two man models, these stands are easier and safer to climb than other types of portable tree stands. Ladder stands can be bulky and require at least two persons to safely set up.

When setting up a tree stand it is important to have permission of the landowner. Make sure to keep damage to trees to a minimum and never leave litter, nails or construction materials behind.

Tree stand safety

The leading cause of injury or death to hunters when using elevated tree stands are falls. It is estimated that one out of every three hunters who hunt from an elevated tree stand will suffer an injury from a tree stand fall sometime during their lifetime.



Tree stand “Do’s”

Follow these guidelines to reduce your risk of injury.

✓ **Use a safety harness and fall arrest system!**

Wear and properly use a full body safety harness and fall arrest system (FAS) when hunting from a tree stand. In the event of a fall this system will prevent you from contacting the ground and when properly used, allows you to reenter your tree stand.

A fall arrest system consists of the following items.

1. **Full body safety harness:** a safety harness worn by the hunter that stops their fall and allows them to be suspended in an upright position.
2. **Tether:** a strap that connects the hunter and their safety harness to the tree.
3. **Tree belt:** a belt attached to the tree that is the anchor point for hunter’s safety harness.
4. **Lineman’s belt:** a belt worn by the hunter that allows them to ascend or descend a tree while keeping their hands free. This allows the hunter to install climbing aids and the tree stand more easily and safely.
5. **Suspension relief strap:** a strap used by a hunter who has fallen from their tree stand and is suspended in their safety harness. The strap is connected to their safety harness or other secure location and allows the user to put weight on their feet thus slowing the onset of suspension trauma.



Know how this system works and use it whenever entering, exiting or hunting from an elevated tree stand.

✓ **Follow the manufacturer's instructions.**

Your tree stand will come with written and / or video instructions explaining its safe use and maintenance. Make sure you follow these instructions and review them each year prior to using your tree stand. If you sell or loan your tree stand, provide its instructions to the person who will be using it.



✓ **Inspect your tree stand, safety harness, and climbing aids before each use.**

Check your tree stand, safety harness, belts, straps, and climbing aids for loose parts, signs of wear, corrosion, or vandalism before each use. Worn or damaged parts should be repaired or replaced before you use your tree stand. Only use replacement parts provided by the manufacturer and do not make modifications to your tree stand.

✓ **Practice at ground level before using your tree stand for hunting.**

Practice attaching and adjusting your tree stand at ground level before using it for hunting. This is also a good time to familiarize yourself with your full body safety harness and climbing aids.



✓ **Use three points of contact when climbing or entering your tree stand.**

To reduce your risk of a fall, ensure your hands and feet maintain at least three points of contact at all times when climbing into or exiting your tree stand.

✓ **Use a hoist line to raise or lower your firearm and other gear.**

Use a hoist line to pull up your firearm, back pack, or other gear into your tree stand. This frees your hands for climbing into or out of your tree stand. Your firearm must be unloaded, its action open, and muzzle pointing downward when hoisting it into your tree stand.

Tree stand "Don'ts"

You can reduce your risk of an accidental fall from a tree stand if you:

✗ **Don't place your tree stand in a dead or dying tree.**

Dead or dying trees are dangerous and may not support your weight. Also avoid leaning, diseased or loose barked trees or utility poles. Watch out for overhanging dead limbs which may fall causing injury.

✗ **Don't rely on tree branches to support your weight when entering or exiting a tree stand.**

Use a certified tree climbing aid such as ladder steps instead.

✗ **Don't hunt from an elevated tree stand during inclement weather.**

Never use your tree stand during lightning, heavy rain, windstorms, or snowy and icy conditions. If inclement weather conditions occur end your hunt and return to the ground.

✗ **Don't leave your manufactured tree stand outdoors for extended periods of time.**

Leaving your tree stand outside year-round leads to damage due to animals, weathering and stress. Cushions and straps deteriorate over time and eventually metal parts are subject to the effects of moisture and weathering. Take your tree stand down as soon as the season is over and store it in a dry place protected from the weather.

✗ **Don't hunt from unmaintained wooden tree stands.**

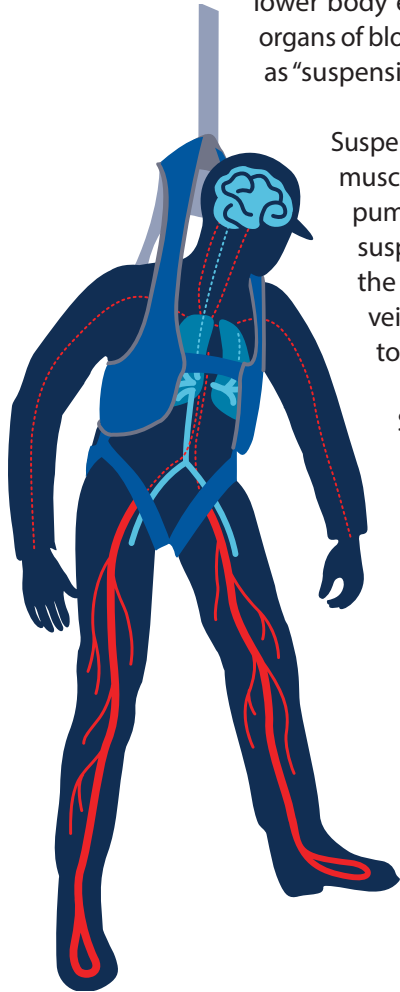
Older wooden tree stands deteriorate to an unsafe condition quickly and should be avoided. Wooden ladders in particular become unsafe in a short time when left exposed to the elements.



Suspension trauma

Your full body safety harness and fall arrest system are designed to prevent you from injury as a result of a fall. However, it is important to realize that a safety harness is not intended for the user to be hung suspended and motionless in for an extended period of time. When this occurs, blood pools in your legs and

lower body eventually depriving your brain and other organs of blood flow and oxygen. This condition is known as “suspension trauma”.



Suspension trauma occurs in part because your leg muscles need to be active in order for blood to be pumped back to the heart. Also, when you hang suspended in a safety harness the leg straps of the harness may exert pressure on the femoral veins in your legs further restricting blood flow to your heart.

Suspension trauma is a very serious and potentially lethal condition. It results in reduced blood flow to your brain and upper body which leads to unconsciousness quickly, sometimes in less than 10 minutes. Unless appropriate measures are taken, suspension trauma can be fatal.

If you intend to hunt from a tree stand you must have a plan to recover from an accidental fall and thus prevent the onset of suspension trauma.

Recovery from a tree stand fall

1. Don't panic!

Your full body safety harness and fall arrest system is designed to hold you.

2. Have a way to signal for help.

You should always carry a cell phone, two-way radio, or other means by which you can contact others when hunting from a tree stand. Your signal device should be readily accessible to you in the event of a fall and not in a back pack or other location where you cannot reach it. It's also very important to let family and friends know the exact location of the tree stand where you will be hunting and when you intend to return.

3. Recover and get back into your tree stand as quickly as possible.

- Before hunting from your tree stand it is important that you have practiced reentering it using your full body safety harness at ground level with a responsible adult present to assist you. Practice is crucial if you are to reenter your tree stand should a real fall occur.
- Keep your tether as short as possible. There should be just enough slack to allow for comfortable movement when sitting in the tree stand. A short tether minimizes the distance you will fall and greatly increases your chances of getting back into your tree stand.
- Properly attach your tree belt to the tree. Your tree belt must be securely wrapped around the tree so that it remains in place if you fall. Locate it at a height that allows for no slack in the tether while sitting in your tree stand. This is usually at or above head height while standing on the tree stand. Always review and follow your tree stand manufacturer's instructions for attaching the tree belt to the tree.





4. **If you are unable to reenter your tree stand you must slow the effects of suspension trauma.**
- Move your legs. If possible straighten and bend them by pushing against the tree you are attached to.
 - Use a suspension relief strap to put weight on your feet. Attach the strap to the sides of your full body safety harness to form a loop. Stand up in the loop to relieve pressure on your legs caused by the leg straps of your safety harness.

Tree stand life lines

A tree stand *life line*, or “safety line”, allows you to stay connected to your fall arrest system whenever you leave the ground to hunt from an elevated tree stand. Life lines consist of two parts: 1) the main rope that is attached to the tree above the tree stand and at the base of the tree, usually to the climbing aid, and 2) a short rope, tied as a Prusik knot, and carabiner that slide up and down the main rope.

To use a life line, attach your safety harness tether to the carabiner and slide the carabiner and Prusik knot up or down the rope as you climb into or down from your tree stand. In the event of a fall the Prusik knot is designed to bind on the main rope preventing you from contacting the ground. Do not grip the Prusik knot when sliding it up or down the main rope or it will not bind properly in the event of a fall. Instead, move it by enclosing your hand around the main rope above or below the Prusik knot.

A properly used life line will not only stop your fall but also makes it easier to return safely to the ground. If you use a life line as part of your fall arrest system it is recommended you purchase

a commercially made model and follow the manufacturer’s instructions with respect to its installation and use.

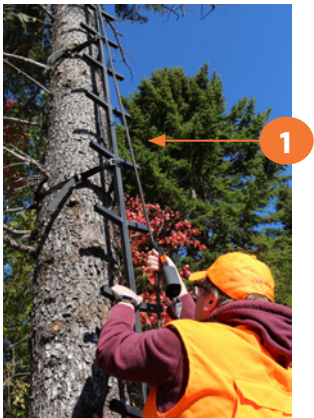
Ground blinds

The use of commercially made “pop-up” ground blinds has become popular with many hunters. Ground blinds offer both concealment and protection from wind, rain and snow. Depending on the model they may comfortably fit more than one person and provide ample space for hunting gear.

When using a ground blind:

- Locate it close to a food source, field edge, game trail or other location where animals travel. Make sure you are downwind from where you expect to see game.
- Set up your blind several days before the start of the hunting season to give animals time to adjust to its presence. When setting up the blind use natural vegetation to break up its outline.
- Inside the blind be sure to clear away all dry leaves, branches and twigs that could make noise.
- Keep your movements inside the ground blind to a minimum.
- Have permission of the landowner before you set up your ground blind.

Follow your province’s hunter orange laws when hunting from a ground blind. As an additional safety measure, consider using a ground blind that has an orange “flash” or clearly mark it yourself with hunter orange to let other hunters know someone is using it.



Firearms and ammunition

Safe and successful hunts require a firearm that is in good working condition, properly sighted-in, and adequate calibre for the hunt.

Firearm selection

Matching the game you intend to hunt with the appropriate type and calibre of firearm is an important consideration of any hunt. Consult firearm manufacturer's catalogues for recommended rifle calibres and shotgun gauges. Provincial legislation may also define allowable firearms and ammunition for hunting specific types of game. A firearm for hunting should be powerful enough to kill game quickly and effectively.

It's important that your firearm fits you well to allow for accurate shooting. Many hunters practice more often and shoot more proficiently if they use a firearm with moderate recoil.

Ammunition selection

Selection of ammunition for hunting should be based on the type of game to be hunted. Ammunition manufacturers recommend specific bullet weights for each game species. If you are hunting with a shotgun be sure to select the proper choke and shot size combination. Always check your provincial and federal legislation with respect to legal ammunition types.

Sighting-in a rifle

Sighting-in a rifle means adjusting its sights so that a bullet will hit a target at a specific distance or range.



Sighting-in your rifle prior to the start of the hunting season familiarizes you with how it works, allows you to detect any problems with it, reduces incidents of lost game, and ensures a more humane kill. To effectively sight-in your rifle you must be familiar with your rifle's sights, understand trajectory, and know the general rules of sight adjustment.

Rifle sights

There are three basic types of rifle sights.

1. Open sights

Most factory-ordered rifles are equipped with an open rear sight and a "bead" or post front sight.



2. Peep or aperture sights

The rear sight has a small hole that the shooter must look or peep through. The front sight is usually a post sight. When looking through the round peep hole, the eye automatically centres the front sight in the centre of the rear peep at the strongest point of light. The target sits on top of the front post.



3. Telescopic sights

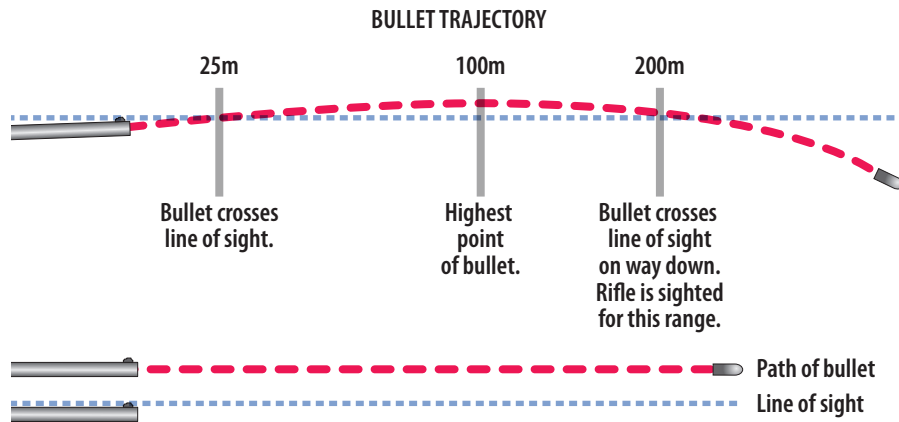
The telescopic sight is a small telescope mounted on your firearm. The scope sight magnifies the target and does away with aligning rear and front sights. The aiming point inside the scope sight is called the reticle. To aim, the shooter looks through the scope and puts the crosshair's reticle on the target.



Trajectory

To understand bullet placement, you also need to know about "trajectory". Trajectory is the arc or curved path of a bullet in flight and is affected by gravity, wind resistance and the velocity and mass of the bullet. If you hold a rifle barrel level and fire a shot, the bullet begins to drop the instant it leaves the muzzle. The further the bullet travels, the faster it drops. To hit a distant target, a rifle barrel must be angled slightly upward. Aiming the rifle with the barrel at an upward angle causes the bullet to cross the line of sight on the way up, at a

point close to the muzzle. The dropping bullet will intersect or cross the line of sight again on the way down, at the target. Where the bullet crosses the line of sight on its downward path is the distance at which the rifle is sighted-in.



You can control where the bullet crosses the line of sight on its downward path by changing the sight adjustment and hence the angle of the barrel. As a general rule most big game rifles, such as .303, .308, and .30-06 calibres, may be sighted-in for 200 metres. The bullet's trajectory would look like that shown in the corresponding figure.

You can take advantage of this when sighting-in your rifle. Set up a target with a safe backstop at 25 metres and fire three carefully placed test shots. Check the target. If your three shots are well grouped but not near the centre of the target, adjust the sights.

Remember to move the rear sight in the same direction you want to move the hits on the target. If you want to move the hits up, move the rear sight up; if you want to move the hits to the right, move the rear sight to the right. After you have adjusted the sights, fire three more shots to make certain you have a good grouping at the centre of the target.

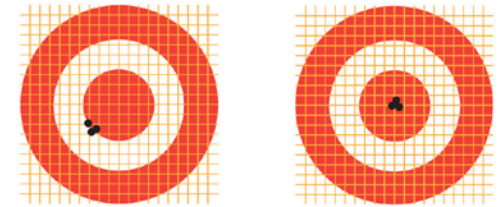
If your shots are on the point of aim at 25 metres, they will be on the point again at approximately 200 metres due to the bullet's trajectory. Move the target to 200 metres and fire three more shots. Make any necessary sight adjustments for this distance.

If a 200 metre range is not available, move your target to 100 metres. At 100 metres, bullets from a big game rifle should strike dead center, but 3 to 7 cm high depending upon rifle calibre and bullet type and weight. Consult a manufacturer's ammunition catalogue.

Sighting-in guidelines

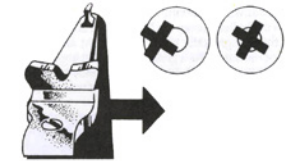
When sighting-in a rifle follow these general guidelines:

- **Shot placement is based on shot groups.** Usually the point of impact is determined by averaging the location of three shots rather than basing it on a single shot.
- **Use the same type of ammunition, including bullet weight, that you will be hunting with.** This will help ensure the same results that were obtained when the firearm was sighted-in.
- **Sights must be adjusted for both vertical and horizontal shot placement.** These are referred to as windage (horizontal) and elevation (vertical) adjustment.



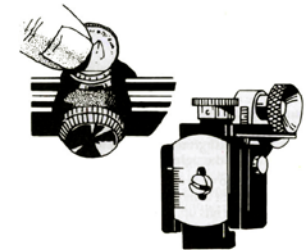
- a) **With open sights, move the rear sights the same direction that you want to move the hits on your target.**

NOTE: On some firearms the horizontal (windage) adjustment is on the front sight. In this case the front sight must be moved in the opposite direction you want to move the hits on the target.



- b) **With peep and scoped sights turn the adjustment screws in the direction indicated on the sight.**

For most scoped sights, one dial click equals 1/4 inch at 100 yards. In other words, one click on the scope dial moves the location of the bullet impact 1/4 inch on targets that are 100 yards away.



- **Use a well padded rest and sight-in under calm wind conditions.**

Note that a permit is normally required to sight-in your rifle outside of hunting season. Contact your local wildlife management agency for further information.

Shotgun shooting techniques

Understanding the difference between shotgun shooting techniques and that of rifle shooting can greatly improve your performance in the field. Once you understand how to properly position yourself when shooting with a shotgun, knowing how to properly follow or lead a target can improve your shooting skills.

Leading a target means shooting ahead of the moving target and is necessary to ensure impact. If you shoot directly at a moving target, by the time the shot reaches that spot, the target will have already passed by. With the correct lead, the shot and the moving target will reach the same spot at the same time. With practice, leading becomes automatic and eventually requires less attention on your part.

There are three common methods of leading a target:

1. Swing-through lead

The “swing-through lead” is the easiest method to learn and requires that you swing the muzzle of the shotgun so that it points at the moving target or flying bird. Follow its path and increase the speed of your swing until the shotgun muzzle passes the bird slightly to a spot just ahead and fire. It is important to continue your swing during and after the shot. By continuing your swing you may have time for a second shot if a miss occurs. Continuing to swing after a missed opportunity also helps with practice for the next shot at a moving target.



2. Sustained lead

When using a “sustained lead”, the shooter must estimate the speed, range and angle at which the moving target is flying. When the shooter decides on the amount of lead necessary, he/she swings the shotgun muzzle that distance ahead



of the target and maintains that distance during and after the shot is fired. Again it is important to continue the swing even after the shot is fired to be ready for a possible second shot.

3. Snap shooting

“Snap shooting” requires that the shooter judge the amount of time that it will take for a moving target to get to a certain point. Using this method the shooter picks a spot in front of the target and fires. The shot and target will meet at that spot at the same time. This type of shooting requires considerable practice.



Lead poisoning and non-toxic shot

Lead poisoning in waterfowl

In North America, thousands of ducks and geese died each year from lead poisoning before non-toxic shot regulations came into effect. Waterfowl pick up lead shot while feeding in heavily hunted areas. Lead pellets from shotgun shells are swallowed accidentally while the ducks are feeding or may be picked up intentionally for grit. When a lead pellet in the duck’s gizzard is ground down, dissolved and absorbed into the body, lead poisoning results.



Signs of lead-poisoning in ducks include:

- a bird holding its wings in a roof-shaped position,
- a green-stained vent and bright green feces,
- the oesophagus packed with undigested food,
- a bird that cannot fly or walk steadily, and
- a bird that is emaciated (lost all fat reserves and some muscle tissue).

Not all birds that swallow a lead pellet will die. Some pellets are eliminated quickly through the digestive tract. Also, the diet of a bird affects the severity of lead poisoning symptoms.

Where

Ducks and geese have been diagnosed with lead poisoning from swallowed lead pellets at many locations in North America. Large die-offs do occur but are unusual and have not happened in Canada. In the Maritimes, a high incidence of ingested lead pellets has been documented from many heavily hunted marshes. For example, in the East Amherst marshes in Nova Scotia, 14 percent of the Black Ducks examined had ingested lead shot; in the marshes near Sackville, NB, 17 percent of the Black Ducks had ingested lead pellets; and in 12 selected wetlands in central Prince Edward Island, 18 percent of Black Ducks had ingested lead pellets.

Prevention

The only successful method of eliminating the loss of ducks and geese to lead poisoning has been the use of non-toxic instead of lead shot. Since 1991, non-toxic shot has been required for all waterfowl hunting in the United States.

Canada introduced new non-toxic shot regulations in September, 1999. These regulations prohibit the use and possession of lead shot ammunition for hunting migratory game birds, other than woodcock, mourning doves and band-tailed pigeons except within National Wildlife Areas. In Newfoundland and Labrador, lead shot can also still be used for hunting murre.

Non-toxic shot

There are many types of non-toxic shot ammunition available on the market. Each type of non-toxic shot has its own unique characteristics when it comes to performance. Use the non-toxic shot guide on the following page as a reference. It is highly recommended that hunters practice their shooting skills using the type of non-toxic shot they intend to use during the hunting season. Currently, steel shot is the most widely available type of non-toxic shot in Canada. Unlike other non-toxic shot, steel shot requires that the hunter make far more changes to shooting techniques and to the shotgun itself. The reason for this is that steel shot is a lighter and harder material than lead. Therefore, it reacts quite differently when used as shotgun ammunition. The most considerable differences are:

- steel shot has less down-range energy,
- it shoots in a much tighter pattern than lead,
- it has shorter shot strings, and
- because it is a harder substance it does not deform like lead does upon impact.

To offset these differences hunters should:

1. Use steel shot that is at least 2 shot sizes larger than you would normally use in lead (i.e. whereas #4 lead shot was a common duck load, #2 or #1 in steel shot would create similar energy results).
2. Use a more open choke such as a modified or improved cylinder to get better patterning results.
3. Limit shooting distance to not more than 40 metres. Less down-range energy means less impact on birds and greater chances for crippling.
4. Practice shooting with steel before the hunting season and pattern your shotgun to learn more about pellet density and how your shotgun shoots. To pattern your shotgun all you need to do is to set up a 1.2 metre square target using paper or cardboard and draw a 75 cm diameter circle in the centre. At a distance of 30 metres, shoot at the centre of the circle using the ammunition type you intend to use during the hunting season. Repeat the process several times using different ammunition loads and choke tube sizes for your shotgun to learn which works best for you.

Steel shot

Modern shotguns available from major North American manufacturers are not damaged by using steel shot. Ammunition manufacturers use a different powder in steel shot, one which creates higher pressures in the barrel and breech of the shotgun. In some older shotguns, this increased pressure can seriously harm the firearm and possibly the shooter, especially if using a full choke. If there is concern about using steel in a particular gun, the manufacturer should be consulted.



Studies directed toward determining if there is a difference in crippling loss caused by using steel or lead have been inconclusive. Waste of waterfowl due to unretrieved cripples must be reduced whether using lead or steel shot.

Lead and steel are different materials and their ballistics are different. Steel pellets that are the same diameter as lead pellets are lighter, yet significantly harder. This results in less pellet deformation, denser patterning, shorter shot strings and a lower retained velocity and energy at longer ranges.

NON-TOXIC SHOT GUIDE

GAME		RECOMMENDED USE NON-TOXIC SHOT*					
		Bismuth	Steel	Tin	Tungsten-Iron	Tungsten-Matrix	Tungsten-Polymer
Geese	Gauge	10, 12, 20	10, 12, 16, 20	10, 12	10, 12	10, 12	•
	Distance (max)	60 yards	50 yards	45 yards	60 yards	60 yards	•
	Choke	IC, M, IM, F	IC, M, IM, F	F	IC, M, F	M, F	•
	Shot size	BB, 2, 4	T, BBB, BB, 1, 2	BB, 1	BB, 2	BB, 1, 3	•
Ducks	Gauge	10, 12, 16, 20, 28, 410	10, 12, 16, 20	12	10, 12, 20	10, 12, 20	12
	Distance (max)	60 yards	50 yards	45 yards	50 yards	60 yards	50 yards
	Choke	IC, M, IM, F	IC, M, IM, F	F	IC, M, F	M, F	IC, M, F
	Shot size	2, 4, 5, 6	BB, 1, 2, 3, 4, 6	3, 4	2, 4	1, 3, 5	4, 6
Snipe	Gauge	10, 12, 16, 20, 28, 410	12, 16, 20	12, 16, 20	•	12, 16, 20	•
	Distance (max)	50 yards	35 yards	35 yards	•	50 yards	•
	Choke	IC, M, IM, F	IC, M, IM, F	M	•	IC, F	•
	Shot size	4, 5, 6, 7	5, 6, 7	5	•	3, 5, 6	•

* The shotgun chokes are identified as follows: **IC** Improved Cylinder **IM** Improved Modified **M** Modified **F** Full

Lead bullet fragments

Lead bullet fragments can be a possible health risk to persons who eat wild meat or to wildlife such as raptors that scavenge animal remains left by hunters.

Recent studies from the US indicate that lead ammunition often fragments into tiny particles upon impact. In some cases these particles have been shown to travel up to 46 cm into the meat and internal organs of game animals from the actual bullet path. As shown in the photograph below of two different .270 calibre bullets (lead, left; non-lead, right), these particles are often so small



Photo: US Fish and Wildlife Service

they cannot be easily detected when field dressing game animals or when eating wild meat. As a result, it is possible for hunters and other persons who eat wild game to inadvertently consume small amounts of lead.

Lead is a poisonous substance that can cause health problems even when consumed in small amounts. Children and pregnant women, in particular, should avoid its consumption.

Hunters can take steps to reduce the risks associated with consuming lead by following these guidelines:

- **Use an alternative type of ammunition**

Use copper or copper alloy ammunition that holds together better upon impact than do lead bullets. Also, bullets made of copper do not have the same health concerns as do lead bullets.

Alternatively, use high weight “controlled expansion” ammunition. Although this type of ammunition contains lead it is designed to hold together better than standard ammunition resulting in deeper penetration and less bullet fragmentation.

- **Take proper aim**

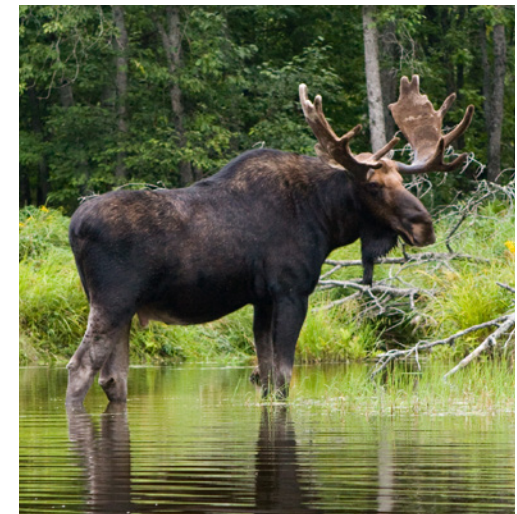
Aim for the heart and lung region. Avoid shots into the animal’s hind quarter or shoulder area where you are likely to hit bone and cause the most bullet fragmentation.

- **Practice good field care of meat**

Remove meat from around the bullet path in game animals you harvest. Discard any meat that is bruised or discolored. If you cut up your own meat, check and clean your meat grinder and other meat processing tools on a regular basis.

Big game crippling loss

Each year some game animals are wounded, escape, and die without being found. This is a shameful waste of our wildlife resource. The reasons for this are many— inadequate firearms, poor shooting skills, firearms not sighted-in, lack of knowledge of vital areas and poor understanding of basic ballistics. All of these factors are under your control. Take time to improve your skills and knowledge so that you do not contribute to the problem.



1. Choose a firearm that is adequate for the hunt. Your firearm should be powerful enough to kill game quickly and effectively. Consult firearm manufacturers' guides and provincial regulations.
2. Sight-in your firearm and practice your shooting skills.
3. Limit your shooting to the distance for which your rifle is sighted-in. Be familiar with trajectory information for the firearm and the bullet type and weight you intend to use. Before going hunting, practice estimating the distance to various targets.
4. Shoot for a vital target area (the heart/lung region).
5. Always assume a hit. Check the area where the animal was standing at the moment you shot. You might have actually hit the animal you thought you cleanly missed.
6. Track down and recover wounded animals.

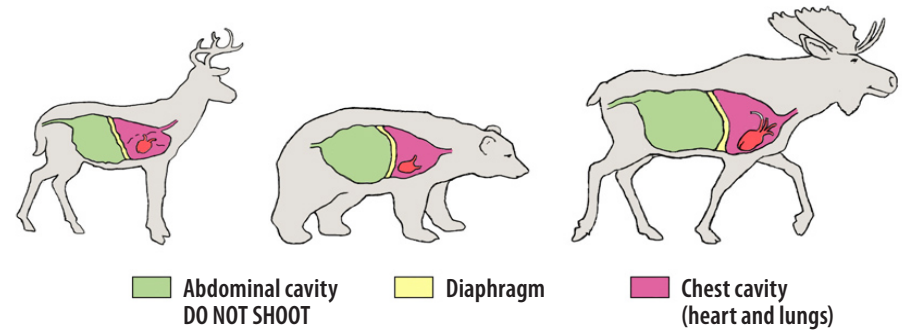
Marksmanship

A responsible hunter is able and determined to stalk an animal within sure range and fire a single killing shot.

You should note that larger calibre rifles with high muzzle energies usually produce heavy recoil, and, as a result, may cause flinching in some shooters. This will reduce their ability to place a single killing shot in the animal's heart/lung region. Simply owning a large calibre firearm does not guarantee big game success. You must become comfortable with the rifle you intend to use, and practice basic marksmanship techniques. These techniques include aiming, trigger squeeze, breath control, follow-through, and shooting position. A well-placed bullet from a .308 can be just as effective as that from a 300 Winchester magnum within reasonable distances. Use a firearm with which you can adequately group your shots at 150 metres and that produces adequate hitting power at the ranges you expect to encounter game.

Vital target area

The vital areas of big game animals include the heart and major blood vessels, lungs, liver, the brain and spinal column. We strongly recommend that you place your shot in the heart/lung region of the animal. This is the largest target area on a big game animal and is the shot that most often presents itself when you are hunting. This is the most humane shot you can make. Hits to this area, high in the heart, will rupture the aorta, the main artery leaving the heart, cutting off blood supply to the brain. The animal becomes unconscious in seconds.



Hits above the heart in the lungs are also fatal, but the animal may travel a considerable distance before going down, especially if pursued immediately. Most of the bleeding occurs internally, and it is therefore extremely important that you carefully inspect the ground and vegetation for blood.

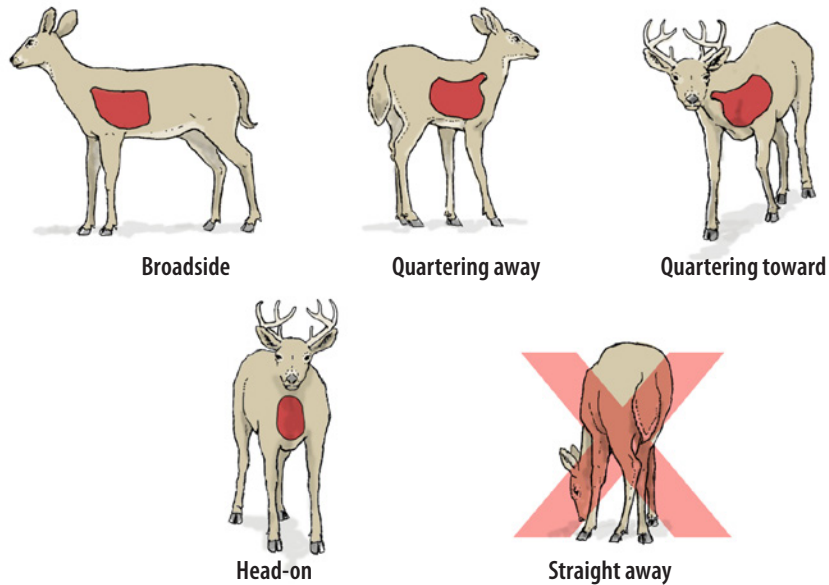
The goal of every hunter must be to ensure a quick, humane kill. You must therefore choose your shot carefully. Shots to the brain and spinal cord are more difficult and should be passed up in favour of the heart/lung shot. The brain and spine are small targets and difficult to pick out on big game animals. A miss by just a few centimetres can cause a crippling wound. If you are not sure you can hit the vital area of a big game animal, don't shoot.

Shot angle

One of the more crucial factors in the ability of a hunter to place a shot in the vital area is the angle of the shot relative to the animal's position. There are five common shot angles for big game animals.

1. **Broadside:** the animal is standing at a right angle to the shooter, offering the best possible opportunity for a shot to the vital area.
2. **Quartering away:** your target is facing away from you at a slight angle. This shot angle presents less of a target than a broadside shot but is acceptable. Aim at the area just behind the shoulder.
3. **Quartering toward:** the animal is facing towards you at an angle. If it is already facing in your general direction, it may detect your body movements if your gun is not already positioned to shoot. Depending on how the bullet passes through the body, there may be damage to the entrails which could lower meat quality.

- Head-on:** the animal is facing directly towards you. Use this shot angle only if your firearm is already in a shooting position, otherwise the animal will detect you. The head-on position is generally less preferred to the broadside or quartering positions because it minimizes the size of the vital target area.
- Straight away:** the animal is facing directly away from you. This shot is not recommended due to the likelihood of wounding the animal and wasting meat.



Recommended shot angles differ when hunting with a bow. You should consider taking a bow hunter education course if you are interested in learning more about this type of hunting.

Tracking a wounded animal

After you have fired at a big game animal, carefully observe it to see how it has reacted to your shot. The animal’s behaviour may be a clue to where you hit it.

- Heart shot:** the animal may immediately bolt or run off quickly. Generally, it will go only a few metres before losing consciousness and collapsing.
- Lung shot:** the animal may leave at a fast walk, apparently unaffected. Sometimes a lung-shot moose makes coughing sounds. After going a short distance, it may stand still or lie down.

- Spine shot:** in most cases an animal hit in the spine will drop to the ground immediately. The animal is likely to be immobilized, not dead, and will require a finishing shot. Keep your eye on the animal in this situation, because a hit that causes spinal shock rather than spinal damage may only temporarily immobilize the animal. It may regain its feet quickly and run off.
- Stomach shot:** a poor shot that accidentally hits the animal in the paunch or rumen may not seem to affect the animal. It may walk or run away and lie down within 400 or 500 metres if not disturbed or pursued. Sometimes an animal hit in this area behind the diaphragm may hunch over as it moves away.

Colour of blood	Source	Wait time
Pink with bubbles (frothy)	Lungs	30 minutes
Clear red	Heart or artery	30 minutes
Deep red	Liver or kidneys	1 hour
Pale and mixed with bits of food	Stomach	2 hours

Before you move from your shooting location, mark it with flagging tape, a glove, or other easily seen object. Then you will be able to look back to your shooting spot as you search for sign. Later, you may need to return to determine the precise line of sight between your shooting spot and the place where the animal was standing.

Walk carefully to the place where the animal was standing when you shot. Do not cross the path the animal left by. When you arrive at the spot, mark it with flagging tape, or other biodegradable material— not by scuffing the ground, as you may disturb signs of the hit. If you have trouble finding the exact spot, search in gradually widening circles with the presumed hit site as the focal point, until you locate it.



At the hit site, look for signs of blood on the ground or vegetation. Other evidence that you may find and which could indicate what part of the animal was hit are hair, meat, and bone fragments. The absence of sign does not mean that your shot missed. Search the area thoroughly looking at the vegetation and ground for signs such as broken twigs or branches, scattered leaves and tracks. If the shot was made in the early morning you may see a “dew line” through the grass or other vegetation.

Once you have found evidence of a hit you will need to wait before trailing it. Normally you should wait 1/2 to 1 hour before beginning the search. However, if you suspect a poorly hit or gut-shot animal the recommended wait time is 2 hours. This will allow a fatally injured animal time to wander off, lie down and bleed internally until it is unable to get up again. Heavy snow or rain that will obscure a blood trail should be the only reasons for tracking sooner.

Two people on the trail of a shot animal are better than one, although you must both concentrate on walking quietly. One hunter can concentrate on tracking while the other hunter does a visual search ahead and to the sides for the animal itself. Stay in close contact using hand signals and avoid unnecessary talking. Remain cool and collected, following every rule for hunting safety. This is no time to be careless.

The tracker should mark the trail with a biodegradable material. Your marking allows you to establish the direction of travel and gives you a quick reference to the last fresh sign. Remove any material used to assist you in locating the animal.

Look for blood, hair, tracks and droppings. Blood and hair may be on bushes and grass as well as on the sides of trees that the animal has rubbed against. Sign may be scarce. If you lose the trail, walk in gradually widening circles from the last sign until you find more. A well-hit animal will bleed internally. When the animal begins to move, its skin covers the entry hole and generally prevents a large blood trail. However, if the animal runs hard and the wound remains open, more blood will escape. Arterial blood from heart and lung shots will be bright red. If the hit is from the lung area, the blood may also be frothy. Blood from hits behind the diaphragm will be darker red. If it is accidentally hit in the paunch, the blood may contain small particles of undigested vegetation and appear greenish brown.

The animal’s route through the bush will also give you information. If it begins to crash through dense brush, leaving blood on trees and shrubbery, or if there are indications of the animal stumbling, it is probably mortally wounded and staggering. If, however, the animal is avoiding obstructions and is meandering on its path, the wound may not be severe. Usually, a well-hit animal will travel downhill and into the wind. They will also try to lie down if not disturbed.

The hunter is morally and legally obliged to make every possible effort to retrieve an animal he or she has shot. The search begins with a thorough examination of the shooting site to determine if and where the animal was hit and continues with careful tracking to recover the animal. This is an important and rewarding part of any hunt.



Approaching downed game

Approach any downed game with caution and from above and behind its head. Stop a safe distance away out of range of antlers, teeth, or hooves and watch and listen to see if it is still breathing.

A live big game animal that is severely wounded can still react abruptly and can cause serious harm to an individual. As you approach the animal be sure to control the muzzle of your firearm.

If the animal is lying on its side, use your foot or a stick to touch the animal on its back. The eyes of a dead animal usually remain open. If the animal doesn't respond to your actions and it is not breathing and unable to move, touch the eye with a long stick or your firearm. If the animal still doesn't respond then it should be immediately tagged and field dressing started.

Bleeding

While bleeding an animal is traditional with most big game hunters, modern high-impact ammunition has reduced the necessity of this. The animal will normally bleed internally. Immediate field dressing will also ensure adequate bleeding.

Care of game meat

Harvested game must be field dressed, transported and processed before it can be eaten. Hunters are responsible for ensuring game meat is never wasted during any of these steps.

One of the secrets to getting good wild meat lies in fast and careful handling in the field. If you get complaints about the gamey flavour of the meat, chances are you didn't look after it properly. Dirt, heat and moisture are the three main causes of meat spoilage. To be sure of returning home with good quality table meat, follow the procedures described in this section.

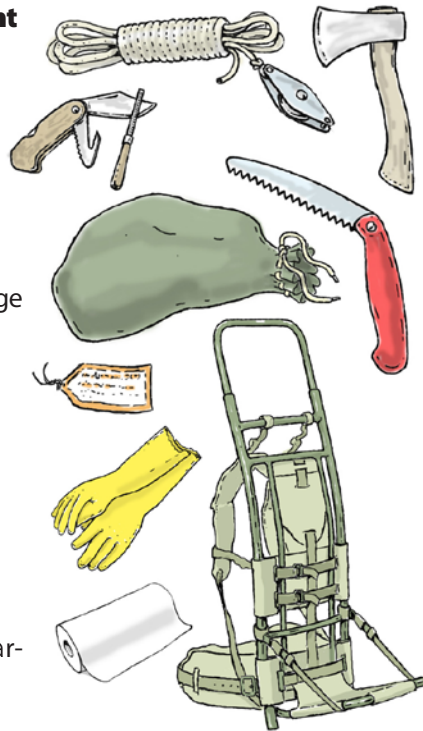
Suggested field dressing equipment

Small game

- Knife
- Sharpening stone
- Rubber or latex gloves
- Cloths/paper towels

Large game

- Rope (3 to 4 metres)
- Block and tackle gear for handling large animals
- Bone saw or small axe
- Strings, or cords (at least 30 cm long) for tying off
- Rubber or latex field dressing gloves
- Clean cloths or paper towels
- Cheesecloth game bags
- 2 sharp knives
- Sharpening stone or steel
- A strong, metal packframe to pack quartered animal out (i.e. moose, caribou)



Big game field dressing procedure

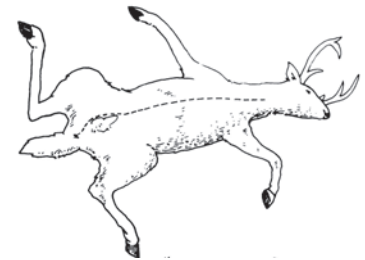
NOTE: The use of waterproof rubber, vinyl, or latex gloves is strongly recommended when field dressing game.

The removal of a game animal's internal organs is known as "field dressing" and should take place immediately after the kill. Do not delay. Gas, resulting from bacterial action, will immediately begin to collect in the stomach or rumen, and

cause bloating. The longer you wait, the more difficult the animal is to clean and the lower the quality of the meat.

The following method is one technique for deer, moose or caribou. You may find that you prefer other methods.

1. Place the animal on its back, legs spread apart, with the head slightly uphill. Placing the animal on its back allows the stomach to fall away from the breastbone. It may be necessary to tie the legs to nearby trees, if you are alone.
2. Straddle the animal and face toward the tail. Insert the knife tip, with edge up, just below the sternum. Carefully cutting toward the tail, make a slit large enough to slip the index and middle fingers of your free hand into. With your palm facing up, spread your fingers to form a "V" and place the tip of the knife between them, edge up.



Forcing the abdominal wall and internal organs downward with your fingers and the back of your hand, carefully cut the hide down the centre from the breastplate to the genital region.

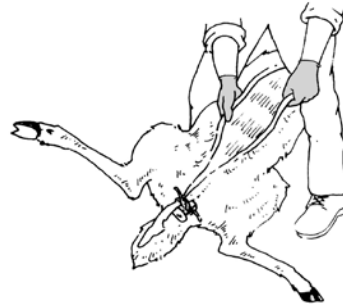
3. Position yourself so you are now facing the animal's head. If the animal is male, cut the penis and scrotum free until you reach its base near the rectum. Cut a deep circle around the anus, being extremely careful not to puncture any organs or intestines. Gently pull out the core you have cut, until you can see the anal tube. Tie both the bladder and anal tubes closed with a strong piece



of twine. This “tying off” prevents waste matter from spoiling the meat. When quartering an animal, and if regulations require it, cut through the center of the scrotum so that one testicle remains attached to each hindquarter.

For cows or does, cut one large circle around the anus and vagina. Gently loosen and pull the core out until you can tie both tubes closed.

4. Reposition yourself so that you are straddled the animal facing toward the tail and skin the hide back from the centre. This exposes the entire abdominal cavity and keeps hair away from the meat.



5. Using the same method with fingers spread, palm and knife-edge upward, carefully cut the skin open from sternum to pelvic bone. Do not puncture any internal organs. Cut any tissues connecting the reproductive organ and rectum to the pelvic area and pull them back through the pelvic canal. Do not tear or puncture the bladder while doing this. Keep the tubes pointed away from the body cavity.



If you prefer to split the pelvic bone, use an axe or bone saw. Do not break a good knife. Cut through the fleshy part of the hams. Clear meat away, exposing the triangular bone of the pelvic region. Split the exposed pelvic bone. Cut away two centimetres of pelvic bone on each side of the centre cut to allow ample room to work and to reduce the risk of cutting yourself on sharp bones.

6. Open the chest cavity by slicing the diaphragm away from the inside of the ribcage. The diaphragm is the membrane attached to the back and walls of the ribcage. It separates the vital organs from the abdominal region.



7. Reach up into the throat of the animal and grasp the windpipe (trachea) and gullet (esophagus). Cut these as close to the base of the neck as possible. With a firm grip, pull the windpipe and gullet down through the chest cavity.

This will pull the heart and lungs out at the same time. Cut loose any part of the diaphragm that remains attached.



If the animal is rolled to its side, all internal contents should roll out easily. Use your knife only when necessary. Drain blood from the body cavity.

If you are not having the head mounted, split the breastbone (brisket) with a knife or saw. On large game animals, cut at the

junction where the bone of the breastplate meets the cartilage of the rib cage. Do this on each side of the breastplate. This allows the breastplate to be pulled upward.

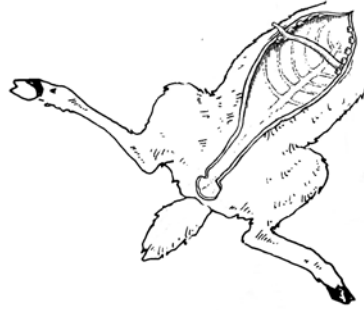
Cut the joint connecting the top of the breastplate with the rib cage. Remove the breastplate. Then, using your knife cut the flesh from the base of the neck to the base of the chin, exposing the windpipe and gullet.

Sever the windpipe and gullet as close to the chin as possible. Using a short rope, tie two half hitches around the cut ends. The rope helps in what is otherwise a slippery operation and it prevents spillage of the stomach contents. As you pull backward on the rope, cut the organs and diaphragm away from the body cavity. Continue pulling backward and remove the paunch from the body cavity.

Be careful not to contaminate the meat. If your animal was gut shot or you have punctured the intestines during field dressing, cut away the tainted meat and wash the surrounding area with a small amount of clean water. If you intend to eat any internal organs such as the heart, liver, or kidneys they must be removed from the entrails. Place the organs on paper, cardboard or a bed of boughs to allow cooling. Do not use plastic or airtight containers for storage or transportation of organs.

CAUTION: In some regions, deer, moose and caribou have shown elevated levels of cadmium, a heavy metal, in liver and kidney tissues. To find out if this is a problem in the area you are hunting, contact the appropriate wildlife office or health department.

8. Using a short stick, prop open the rib cage as far as possible. This will help to cool the meat and provide you better access for cleaning. Remove all visible dirt, feces, and hair. Cut out and remove any remaining entrail residue and drain excess blood. Dry the body cavity with a cloth. Ordinarily, you should not wash the carcass. Water removes the glaze of blood that helps prevent bacterial action.



Many big game animals are shot in the evening hours, and the hunter does not have time to quarter or retrieve the carcass before dark.

In such situations you may want to cover the carcass with trees and boughs to protect it from birds or other scavengers. Place a flag or marker in a nearby tree to make it easier to locate the kill site the next morning. Do not turn over or invert the carcass. This traps heat and prevents cooling.

Quartering

For some big game animals such as moose and caribou, quartering is recommended to aid handling and rapid cooling of the carcass. When quartering your animal, use a bone saw. If one is not available, use your axe.

The first step is to remove the head. With your knife, cut through the flesh to the neck vertebrae. Saw through the vertebrae and using your knife again, remove the head from the carcass. Cut as close to the head as possible. Many hunters remove the head by cutting too close to the chest thus wasting many pounds of valuable mince and stew meat.

The next step is to halve the animal. With blade facing outward, place the back of your knife against the backbone between the second and third rib from the rear.

Plunge the knife out through the flesh and hide. Cut upward following the second rib as a guide. Repeat this procedure on the opposite side. Saw through the backbone and use your knife to cut the remaining flesh and hide. Your animal is now halved with the floating ribs attached to the hindquarters. Next, saw straight down the backbone of the front and hind halves separating the underlying flesh and hide with your knife. You now have four quarters. The halving and quartering is made easier by elevating the carcass, using logs or sticks.

Remove the lower part of the hind legs by cutting the skin and tendons a short distance below the point of the hocks and snapping downward to break each joint. The front leg should be cut off at the knee joint. You may use your saw or axe if you wish. Finally, remove the tongue and jawbone.

If you cannot remove the quarters before dark, hang them in nearby trees or elevate them on logs or trees to aid cooling. Cover with boughs to protect from birds and the weather and place a marker nearby.

Some provinces do not permit the quartering of big game species such as deer. You are also normally required to tag your game animal before field dressing or quartering it. Know and follow the game laws of the province you are hunting in.

Skinning, transportation and cooling

You are now ready to transport your animal to your hunting camp. In retrieving the quarters, it is advisable to leave the hide attached. The hide protects the meat from dirt and flies and prevents drying during the aging process. If you wish to skin your animal, which will help in cooling, you are advised to do this after the quarters have been hung at your hunting camp.

While most hunters can carry quarters on their shoulders, a sturdy metal pack frame is recommended to lessen the burden. Hand-bars are also helpful depending upon the terrain. While backpacking, attach a piece of blaze orange cloth to each quarter to prevent “mistaken-for-game” incidents.

Transportation of a carcass for a few hours in your vehicle, boat or ATV seldom presents a problem. Keep the carcass clean and cool. Lay out each quarter individually. Do not stack or allow the quarters to touch. Transport the quarters with



truck or camper trailer, leave windows, air vents and tailgate open to allow good air circulation.

Upon reaching your hunting camp, hang each quarter on a constructed log-pole frame or from a cross-pole between two trees located in a shady area with good air circulation. You are strongly advised to hang the carcass overnight to facilitate cooling and to allow exposed meat to “case” or surface dry, before transporting home.

If you must transport it home immediately, do not hang meat in your garage, shed or unheated basement unless good air circulation exists. While your shed may feel cool, good air circulation is the critical factor in rapid cooling of the meat. If the weather is cool, you may remain in camp two to three days. If the daytime temperatures are above 15°C and more importantly, if nighttime temperatures are above 4°C, you should skin the quarters to aid cooling. Whether or not you skin your animal, cover each quarter with a meat sock or wrap it in cheesecloth to protect exposed meat from dirt and flies. Before doing this, it is helpful to wrap loose cardboard or branches around the quarters. This keeps the meat sock or cheesecloth from actually touching the meat, so it acts as an effective fly screen. Many hunters have taken every precaution only to find fly spits developing where the meat sock touched the meat, thus allowing flies access to the meat. Flies are also discouraged by black pepper. Once the meat has cased, flies seldom present a problem.

the hide down, meat side up, elevated on a rack of cut poles to allow free circulation of air.

Transport, preferably, in the back of an open pickup. Cover loosely with a porous canvas tarp or trees and boughs, in dusty or rainy conditions. Do not use plastic or airtight materials. If you transport in a covered

Aging and butchering

The purpose of aging is to make the meat more tender. Aging outdoors for three to five days is sufficient, depending upon air temperature. In a butcher’s cooler at 4°C, the carcass may be aged up to 14 days. Preferably, the services of a professional butcher should be used for aging and butchering. If you do the job yourself, remove as much of the fat and bone as possible. Wild animals, unlike domestic animals, have unsaturated fats which turn rancid rapidly. Removal of the fat prior to freezing enhances the flavor of the meat. Removal of bones saves freezer space. Double wrap and tightly seal your meat to prevent freezer burn.

Important note for caribou and white-tailed deer hunters

Caribou and white-tailed deer, because of their social (herding) behaviour, have very active scent glands. Meat quality can be affected by the tarsal glands on the inside of the hind legs at the hocks, metatarsal glands on the outside lower portion of the hind legs and the large gland on the underside of the tail. This last gland is present but not as active in white-tailed deer. Since these glands excrete a strong musk odour, hunters should avoid touching these areas and then touching exposed meat. Leave the glands attached to the hide and skin them off as you skin the quarters of carcass. These glands only open to the outside and will not taint meat if left on.

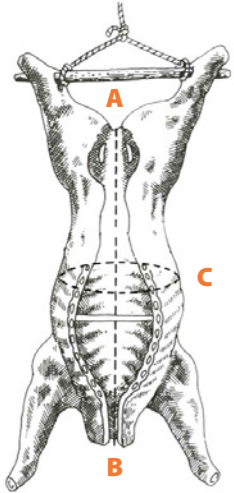
During the fall, male caribou may develop a strong ratty smell and taste. A survey of hunters showed that between October 3 and 23 about 35 percent of large bulls were reported to be strong flavoured. During the peak of the rut between October 10 and 15, over 50 percent of large bulls were of poor quality. In some cases, the meat was so strong that it was not edible and was discarded.

Diseased animals

Please report any observations of injured or diseased animals to a wildlife officer.

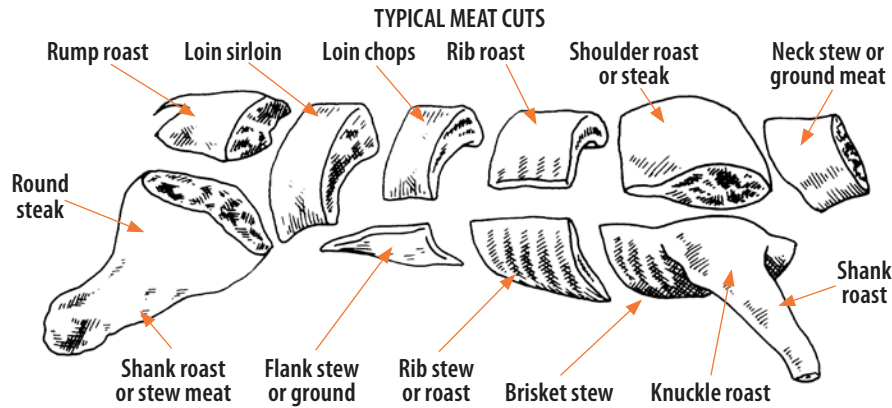
Home care of game meat

The carcass, skinned and wiped free of hair with a damp cloth, should be hung in a cool place for aging at least 36 hours. A gambrel, inserted through rear hock tendons, should spread the hindquarters. Insert a stick in the rib cage as shown. Wrapping or sacking in cheesecloth or other loosely woven material offers protection from flies.



Excess fat and bloodshot parts should be cut away. To start the cutting process, split down the length of the backbone, from "A" to "B", and separate front and hind-quarters at point "C".

On a table or block, cut meat as shown in the figure below. Further trimming cuts will be necessary before meat is wrapped and frozen.



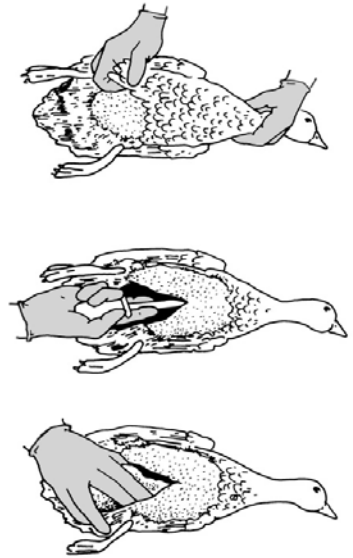
Processing small game animals

1. Cut through the skin and pelvic bone at the anus. Cut up to the breastbone, working a finger under the blade to avoid cutting the stomach or intestines.
2. Hold the animal with one hand. With the other, reach into the body cavity and pull loose the esophagus and windpipe, and work loose the internal organs. Pull free the lower intestine and anus in a downward motion.
3. Wipe out the cavity and allow the body to cool.



Processing game birds

1. Pluck off the bird's belly feathers.
2. Make an incision at the anus, circle it with a knife, and then cut up to the breastbone.
3. Insert two fingers into the body cavity and pull free the internal organs, stomach, and intestine. Pull free the lower intestine and anus.
4. Drain the cavity and store the body in a cool ventilated place.



NOTE: Federal law requires that no person shall possess or transport a migratory game bird unless at least one fully feathered wing is attached to the bird.

The wing and plumage may be removed from a migratory game bird:

- when the bird is prepared for immediate cooking, or
- after the bird is taken to your residence for preservation (i.e. freezing).

Wildlife identification

Knowing the animals you hunt is important for legal, ethical and recreational reasons. Hunting licences allow you to take only certain species of game. Often the hunter is required to know the sex and age characteristics of the game to be hunted. Other animals are protected and must not be hunted. The responsibility rests with the hunter to make positive wildlife identification. A responsible hunter confines their shooting to the species being hunted.



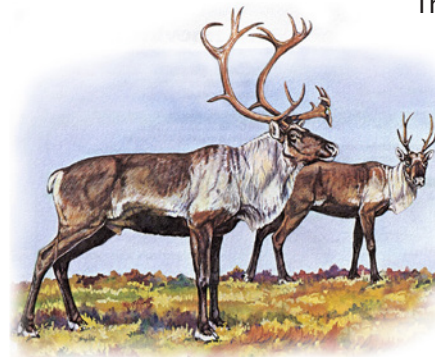
Also, safety is a prime concern. You must be 100% sure of your target before you shoot to prevent an accidental shooting where a person is mistaken for a game animal. When the trigger is pulled, it's too late.

It takes practice to identify wildlife quickly and accurately. Take advantage of every opportunity available, at different times of the year, to improve your skill in wildlife identification. Learn the characteristics of the animals you intend to hunt.

1. **General description:** what is the shape, size, colour and distinguishing features of the animal? Does it change colour from summer to winter? What identification features distinguish young animals from mature or male from female? If it has antlers, what sort of antler development does it exhibit?
2. **Range:** what is the geographical range or distribution of the animal? Is it found throughout the province where you live or just in certain regions?
3. **Habitat:** the type of environment where an animal prefers to live can be an important clue to its identity. For example, snowshoe hare, are found in wooded areas and thickets while arctic hare primarily inhabit the tundra beyond the tree line. Knowing an animal's habitat requirements is an important step in knowing where it is most likely to be seen. Keep in mind, that an animal's habitat preferences may change over the course of the year.
4. **Behaviour:** what time of the day is the animal most active and therefore most likely to be seen? What are its daily feeding and resting habits? How does it typically react when it encounters people? Is it known for any unique behaviour?
5. **Wildlife sign:** sign such as tracks, scat, rubs, scrapes and calls are very useful means to identify wildlife. Learning to recognize these traits in the animals you hunt will greatly improve your chance of success and enjoyment of the hunt.

Pictured and described in the following section are some of the animals you may encounter while afield. You can also develop wildlife identification skills and knowledge by consulting online web sites, field guides, experienced hunters, and through actual field experience.

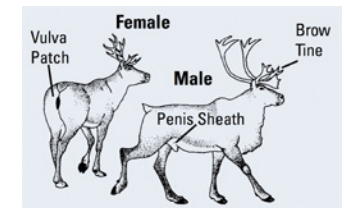
Woodland caribou



The Island of Newfoundland contains the southernmost herd of woodland caribou.

Woodland caribou are found in barren open areas and northern coniferous forests. They browse green plants in bogs and low-lying grassy areas in summer and migrate, in winter, to areas where evergreen shrubs and ground lichens are available.

Caribou are large animals often reaching 120 cm at shoulder height. Adult males weigh 150 to 275 kg. Male caribou are generally dark brown with white areas on the belly, rump and lower legs and a long creamy white mane from throat to chest. Females are lighter coloured and smaller. Both sexes have antlers. Adult bulls shed their antlers in November or December after the breeding season, but females and younger animals often carry small spindly antlers through the winter.



Caribou have large, concave hooves that splay widely to support the animal in snow or muskeg. These hooves also function as scoops that help the caribou paw "feeding craters" to uncover lichens sometimes buried under a metre of snow.

During the breeding season from late September to late October adult bulls may collect a harem of 20 or more cows. Cows give birth to a single calf in late May or early June.

Predators include lynx, black bears, coyotes, wolves and eagles. The caribou relies almost completely on its sense of smell to detect danger. Hunters should remain downwind of the herd when stalking. Though not known to have great eyesight, caribou are quick to notice movement.

Because they eat lichens, caribou survive in areas that will not support similar numbers of other large mammals. Wisely managed, caribou can be a continuous resource.

White-tailed deer



The white-tailed deer is the most widely distributed and the most numerous of North America's big game animals. With its excellent eyesight, hearing and sense of smell the white-tailed deer is a challenge to even the most experienced hunters.

Compared to other species in the deer family, white-tailed deer are midway in size. A full-grown male (buck) may be 100 cm at shoulder height and weigh 65 to 150 kg.

The "flag" of the white-tailed deer—the upraised tail with its white underside, gives this deer its name. Deer are usually either reddish-brown (summer) or greyish brown (autumn/winter).



The call of white-tailed deer is seldom heard. It is a low bleat by fawns and a guttural grunt by bucks in rut. Both sexes snort or blow when alarmed.

The antlers consist of two forward-curving beams with single points projecting upward and slightly inward. Antler growth is rapid from spring to early summer. In late summer, the velvet covering the antlers dries and begins to fall off. Bucks hasten this by rubbing their antlers against brush and small trees. The antlers are usually shed in January.

Most breeding and the peak of the rut occurs during the last three weeks of November. Bucks with swollen necks travel almost constantly, searching out does in heat and battling rival bucks. Occasionally the antlers of two bucks lock together, leaving both to die slowly.

During spring and summer, deer feed on leafy material from a variety of woody plants, herbs and grasses. In autumn, deer depend largely on twigs, lichens, and bark within their reach.

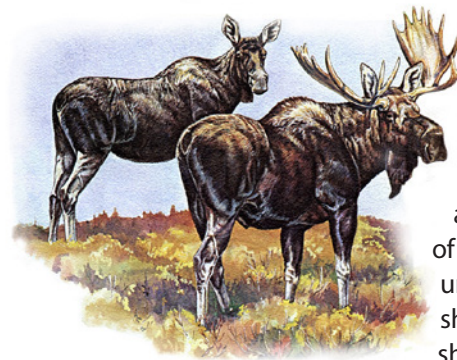
As snow deepens, deer populations concentrate in "deer yards" that provide food and shelter from storms and deep snow. If too many deer are using the "yard", the most nutritious food quickly disappears. At snow depths greater than 40 cm deer usually follow previously broken trails. The quantity and quality

of food that can be reached from these trails is limited at the same time that intense cold and difficult travel increase energy requirements. If fat reserves are depleted, the deer's chances for survival are poor.

Atlantic Canada is on the edge of the natural range of white-tailed deer and severe winters and changes in habitat lead to significant decreases in the deer population.

Under favourable circumstances, deer herds can double in number in one year. Does usually give birth to twin fawns. If the annual surplus is not harvested, deer will exceed the carrying capacity of their area. This severely damages their winter range by depleting suitable browse species. Hunting, by keeping the deer numbers in balance with the habitat, maintains a healthy, vigorous population.

Moose



A bull moose is the largest game animal in North America, standing between 150 to 200 cm at shoulder height and sometimes weighing up to 800 kg.

Moose are dark brown with greyish legs, and at a distance appear black. A pendant of hair-covered skin called a bell hangs from under the throat and is variable in size and shape. There is a distinctive hump over the shoulders of the moose. The hindquarters are slim and set lower than the front quarters. The tail is short and stubby and seldom seen from a distance.

The bull's antlers, which may be up to 2 metres wide, have massive, palmate, flat, concave plates fringed with small prongs.



Moose are extremely well adapted for traveling through rough country. Their long legs and great physical power carry them over almost any terrain.

Moose feed on twigs and shrubs during the winter months. Winter forage includes twigs of balsam fir, poplar, red-osier dogwood, birch, alder and striped maple. During summer, this diet is varied with leaves, upland plants and a great quantity of water plants. In winter, particularly in years of deep snows, moose

concentrate or “yard” in the willows and shrubs along river valleys or other low areas and sometimes in areas with stands of low balsam fir.

The breeding season, or rut, begins in mid-September. In late May to early June cows give birth to a single calf. Twins are a rarity.

During the rut, hunters try to imitate the nasal bawling of a cow moose and the coughing bellow of a responding bull to draw the moose into shooting range. Moose are not normally a far ranging species and without protection, local populations may be quickly depleted because of easy access by hunters.

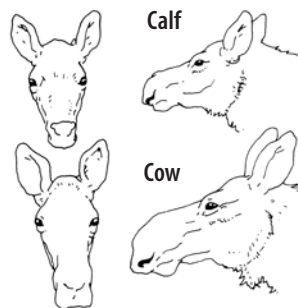
Is that a bull, a cow, or a calf?

Identifying moose with reliability requires practice and experience. Carry binoculars; they are an important tool in moose identification.

Usually, you will first see a moose in the bush at a distance. It will appear as a brown-black shape. Be cautious though, since what you think is a moose may be a stump, a building, or even a person. While it is generally true that bulls tend to have dark blackish brown bodies while the cows are lighter in colour, colour is a poor indicator of sex and you will have to look more closely at other features.

1. **Size:** if there are several moose in sight at the same time, the size of the animals can give you clues to their age and sex. When two or more large moose are seen together, they are usually adults. One large animal with one or two noticeably smaller moose usually indicates a cow with a single calf or twin calves. Calves are usually five months old in October and are obviously smaller than adults. Sometimes a smaller moose with an adult cow in the fall is a yearling rather than a calf. These moose must be observed more closely using some of the techniques described below before a positive identification can be made.

2. **Head shapes:** a moose calf’s head is much shorter in profile than that of an adult. In addition, most adults tend to have overhanging, bulbous noses. Calves often have smaller, more finely featured noses. Calf ears appear smaller in proportion to the head than do those of adults. Calf faces, viewed head-on, appear more triangular and pointed than do those of adults.



3. **Behaviour:** behaviour can also give you some clues about whether the smaller moose in a group is a calf or a yearling. When a cow with one or two calves is disturbed, the calves will move towards the cow and sometimes touch noses with her before closely following behind her as the cow moves away. Yearlings are much less dependent on the cow and are less likely to move near the cow or trail closely behind.

4. **Body shape:** the body shape of calves is different than that of adults. Adults look more or less rectangular, while calves are almost square. The hump over the calf’s shoulders may appear more pointed than that of an adult. Calf moose appear to have more leg length than body, and their hindquarters appear more slender than those of an adult.

5. **Antlers:** the presence of one or both antlers guarantees that the animal is an adult bull, since male calves possess only small bumps where their antlers will start growing next year. Yearling bulls will have only small spikes for antlers that may be difficult to see because they may be hidden behind the ears. Take extra time to examine for small antlers.

6. **Nose bridge:** the nose bridge is the central one-third of the head located between the snout and the forehead. In bulls older than yearlings, there may be a noticeable contrast between the nose bridge, which is often dark brown to blackish in colour, and the lighter brown forehead. A light-coloured nose bridge, usually showing little or no contrast with forehead colouration, indicates the likelihood of an adult cow during the fall. This technique is not completely reliable for sexing yearling moose, nor should it be used to sex calves, as there is much variation in facial colouration. The nose bridge should never be used as a single identifying feature, but is useful when combined with other features.

7. **Moose bells:** the size and shape of the moose bell, the hair covered skin hanging under the throat, may give some clues to age and sex. Mature bulls often display a large prominent sack-shaped bell. This type of bell may also have a narrow rope-like section of varying length attached. If you see a large “dewlap” you are probably looking at a mature bull, but if it is smaller it could be either a younger bull, a cow of any age, or even a calf.

8. **Vulva patch:** female moose usually have a vulva patch, a triangular patch of light brown to whitish hair under the tail and extending towards the anus. This may become more visible as the animal becomes more mature. This feature is rarely seen on male moose. Be careful not to mistake dried grass or vegetation as the vulva patch.



Cow with light vulva patch.

Black bear



The black bear is found in all the Atlantic Provinces except Prince Edward Island.

Although black is the normal colour, other colour phases such as brown, cinnamon and even white may occur.

Adult males are 100 to 120 cm at shoulder height and may weigh over 300 kg. Females are much smaller.

Black bears prefer heavily wooded areas and dense bushland and are usually most active from dusk until dawn. They are omnivores and will eat almost anything including berries, nuts, insects, fish, small mammals and carrion. In the spring, they may prey upon moose calves, caribou calves and deer fawns.



Mating takes place in June or early July and generally two cubs are born the following January or February. In autumn, bears begin to search for a suitable denning site such as under a tree stump or overturned log, or a hole in a hillside.

The eyesight of the black bear is poor when compared to its incredible hearing and sense of smell. Stalking a black bear challenges the best of hunters.

Bear meat, if properly prepared, is considered an excellent meal by many. Because black bears carry a nematode or roundworm that causes trichinosis, all bear meat should be cooked carefully.

Coyote



Originally found in central and western North America, the coyote has expanded its range eastward to all the Atlantic Provinces.

The male coyote stands 55 to 70 cm high at the shoulder and weighs 15 to 25 kg. Females are slightly smaller. The coyote's ears are wide, pointed and erect. The muzzle tapers down to a black nose.

The long, soft fur is generally tawny-grey and darker on the hind part of the back. Legs, paws, muzzle and the back of the ears are more yellowish in colour; the throat and belly are whiter. The coyote is dark in summer and lighter coloured in winter.



A pair of coyotes may remain together for several years. Mating takes place during February and March. Two months later the female gives birth to three to twelve pups.

Though hares and rodents make up the main part of the coyote's diet, it will eat almost anything including insects and berries in summer, deer fawns in spring and adult deer when snow conditions are right.

Sarcoptic mange, an infestation of mites that causes loss of hair, sometimes leads to the coyote's death. Coyotes are also subject to distemper and rabies.

Bounties and other methods used to exterminate the coyote have been unsuccessful.

The coyote has highly developed senses of hearing and smell. It is capable of reaching speeds of 64 km per hour. Swift, tough and intelligent, the coyote provides great challenge to any hunter. When fleeing, coyotes will stop to look back at their pursuer. If the hunter is ready and quick, this could be a final look by the coyote.

Wolf



Grey, or timber wolves, have been extirpated in most regions of Atlantic Canada though they are still prevalent in Labrador and most recently have been confirmed in low numbers on the island of Newfoundland.

Wolves are the largest members of the dog family, sometimes weighing up to 45 kg. They are often a grizzled grey-brown which helps camouflage them in the grey, green and brown world of the eastern forests.

Wolves usually hunt in packs. The basic pack unit is a family made up of the male, the female and her pups. Other adults are usually pups from previous years. Only the dominant male and the dominant female breed. Breeding time usually occurs in March or April. Nine weeks later a litter of five or six pups is born.



Wolves are territorial and each pack defends its area against intruders. The size of the territory depends on the kind and the abundance of prey. Wolves prey chiefly on large mammals such as deer, moose and caribou. A small part of their diet is made up of smaller mammals and birds. In winter, wolves usually kill old or weak animals. In summer, the calves of caribou or moose are easiest for them to catch.

Wolves play an important role in controlling population levels of big game animals.

Snowshoe hare



The snowshoe hare, also known as “varying hare” or simply “rabbit”, is one of our most common forest mammals. It is a key prey species for lynx, coyote, fox, mink, great horned owls and goshawks. The survival rate for first year hares varies from 3 to 40 percent while that of adult hares ranges from 12 to 50 percent.

Snowshoe hares are physically well adapted for eastern Canada’s changing climate. Large well-furred hind feet enable the snowshoe hare to move easily over snow. Seasonal changes in day length trigger



a colour change from brown in summer to almost pure white in winter. Their large ears help to regulate body temperature and also detect approaching predators.

Snowshoe hares normally have four litters a year. Breeding begins in late March or early April and litters are born at about 5-week intervals. Litter size varies from one to nine. Young snowshoe hares weigh about 60 grams at birth and reach an adult weight of 1.5 to 2.0 kg at five months.

Snowshoe hare population levels peak every 10 years and then drop. These highs and lows greatly affect the population level of predators that depend heavily on hares. The home range of a snowshoe hare does not usually exceed 8 hectares. Rain, snow or wind often greatly reduces activity. A trail or runway is frequently used as a travel-lane between feeding and resting sites.



Arctic hare



This large, heavy-bodied hare ranges from 3.5 to 5.5 kg in weight and 60 to 80 cm in length. It is found mostly in the arctic regions of Canada and frequents rough hillsides where the northern winds blow away the snow. In Newfoundland, it is also found on the high barren hills back from the coast.

In winter, the arctic hare is pure white with moderately long, black-tipped ears. Its coat is much longer, softer, and silkier than that of the snowshoe hare. Its summer colour varies widely, depending on latitude.



Mating usually occurs in April or May with a litter of two to eight “leverets” being born in June. They are fully grown by early September.

Arctic hares may often be approached to within a few feet without showing any alarm. If followed, they hop off a short distance. They show great ability in hiding behind rocks.

Ruffed and spruce grouse



The ruffed grouse or “partridge” is common throughout most of Canada. It gets its name from the “ruffed” or dark-coloured neck feathers that are particularly large on the male.

The colour of grouse is related to its habitat. Generally they tend to be darker in dark forest and greyer in lighter bush. In the east, most grouse are grey.

The ruffed grouse weighs about 0.5 kg. It has a broad, flat tail. Males have larger ruffs and a longer tail than females. On the male, the broad band of dark colour in the tail is usually unbroken. The ruffed grouse is adapted to hardwood bush and forest. Its beak, legs and wings, and stomach permit it to browse on buds, leaves and twigs. This grouse is expert at short, rapid, twisting flights but it is primarily a ground-dwelling bird. It is present wherever aspens, birches, hop hornbeam and alders are found. These broad-leaved trees provide the catkins and buds that are its staple winter diet.



Spring is mating time. The hen lays from 7 to 14 eggs in a shallow depression in the ground. After an incubation period of 23 or 24 days the eggs hatch in June. Some hens will nest again if their first clutch of eggs is destroyed early in incubation.

In autumn, young grouse disperse throughout the forest to claim their own territory. The displaced grouse may be forced into habitat where food and cover are inadequate. This leads to low survival rates in winter. Hunting has little effect on numbers. The majority of birds taken are young juveniles which would die anyway. Similar to the peaks and lows of snowshoe hare populations, grouse populations also have an approximate 10 year cycle of boom and bust.



Because much of our coniferous forest has been cut or burned and succeeded by hardwoods, we probably have more ruffed grouse than ever. This increase may be at the expense of the spruce grouse or “fool hen”, a conifer-loving relative (left).

The spruce grouse feeds almost exclusively on evergreen needles. It is much darker than the ruffed grouse, with a black throat and heavily-barred black and grey chest. It has a shorter tail with a rusty red or chestnut border.

Many people find the meat of the spruce grouse to have a strong gamey taste.

Willow and rock ptarmigan



Two species of ptarmigan are found in Newfoundland and Labrador—willow ptarmigan (left) and the rock ptarmigan (right). They both have chunky bodies, short tails and legs, and short, rounded wings. They weigh from 0.5 to 0.8 kg. Sometimes called partridge, they are the most popular game bird in the province.



In autumn, ptarmigan complete their moult to an almost completely white winter plumage. Both species have black tail feathers. The rock ptarmigan has a black stripe running from the bill to just behind the eye. Their feet and toes are feathered, increasing their ability to walk in loose snow.

In spring, ptarmigan moult to a brown and yellow barred plumage. The rock ptarmigan has a more greyish brown head and chest compared to the reddish brown of the willow.

Ptarmigan inhabit treeline areas, arctic valleys, and tundra and barren upland. In autumn, they move to sheltered areas where willow, birch and alder buds will be available above the snow. The rock ptarmigan is found on the highest, most barren rocky ridges and hills, particularly along the coast and barren ground habitat.

Subtle differences in bill shape are related to the main winter food of each species. The willow ptarmigan, with a large, wide bill, feeds mostly on large willow buds and short sections of twigs. In Newfoundland, it subsists mostly on bilberry buds and twigs. The smaller, more slender bill of the rock ptarmigan is adapted to plucking the small buds and catkins of dwarf birch. Local names aptly describe the habitat preferences of the two species. On the south coast of Newfoundland willow ptarmigan are called “browsers” and rock ptarmigan “rockers”. On the Labrador coast, they are called “brookers” and “barreners”, respectively.

The breeding season for ptarmigan is April to early May. In late May to early June, clutches of 3 to 14 eggs are hatched.

Because of naturally high winter mortality, fall and winter hunting seasons have little effect on the following year's population level. Ptarmigan numbers also rise and fall in a 10 year cycle with population peaks at intervals of 8 to 11 years.

American woodcock



Woodcock belong to the sandpiper family of shorebirds. They are known also as "timberdoodles" and wood or brush snipe. Woodcock, though birds of the upland, are migratory birds. They range throughout much of eastern North America. The highest breeding densities are found in southern Canada from Nova Scotia to Ontario. Most woodcock winter near the Gulf of Mexico.

Though chunky in appearance, woodcock rarely weigh more than 0.25 kg. Females are noticeably heavier than males. The average length is 25 to 30 cm including a bill of about 6 cm. They have oversized eyes, no apparent neck, slender legs and long toes.

Both male and female woodcock are well camouflaged. The top of the head and the nape are dark and marked with pale vertical stripes. Snipe have horizontal stripes. Along the back, black feathers are intermixed with grey and brown. The tail is dark with a light tip and is white underneath.

In mid-April to mid-May, as fields begin to show bare patches and the ground softens, woodcock start returning to their summer range. Males claim openings or clearings to establish singing grounds for their spectacular courtship displays.

Woodcock nests are shallow depressions in the ground and are often found in open, second growth hardwood areas or on the edges of old fields. Four buff coloured eggs with dark-brown splotches are laid and then incubated by the female for approximately 21 days. Woodcock have a high hatching success. Woodcock raise one brood a year. If the first nest is destroyed, renesting is common.

Chicks develop rapidly and when 25 days old, they closely resemble adults and are able to fly. Earthworms make up the bulk of the diet but woodcock also feed on insect larvae, ants, spiders, seeds and various other parts of plants.

In autumn, woodcock are found on hillsides of young hardwood, in aspen stands, around the edges of abandoned farms, and particularly in alder covers. Because the birds require soft, moist ground to feed, local movements are influenced by rainfall. Woodcock begin to migrate with the arrival of October frosts.

Woodcock provide excellent eating and are considered by many hunters to be one of the most challenging of game birds. They blend well with their background and their flight is fast and unpredictable as they flit between alders or aspen. Though 1.5 million birds are taken each year by 450,000 or more hunters, this annual harvest has not adversely affected woodcock populations.

Common snipe



Snipe also belong to the sandpiper family and are common in marshes and bogs and on stony riverbanks. It is found in most of North America. The snipe's breeding area ranges throughout much of Canada and the northern United States. During the fall, the snipe migrates to winter in the southern United States and the Gulf of Mexico.

The common snipe is approximately 25 to 30 cm long, including the flesh coloured, brown-tipped bill. The legs and feet are greenish-grey or yellow green. Body colour consists of broad blackish crown stripes and also a dark stripe through the eye and a patch on the lower cheek. The back and wings are dark with lines along the sides of the back. The breast has dark streaking and the belly is white from the lower breast to the vent. The sexes are similar in plumage but the female is heavier and has a longer bill.

In the field the common snipe is identified by its rapid and irregular wing beat, its fast flight and the rasping "kzrrt" sound it makes in flight.

Like woodcock, common snipe arrive at the breeding grounds from mid to late May. Males arrive 10 to 14 days before females to establish territories and begin the spectacular bleating or winnowing displays often heard at dusk and on moonlit nights.

The female usually lays 4 eggs and incubates them for 19 days. The male will lead the newly hatched chicks away and raise them himself. The snipe's diet consists largely of insects and their larvae, earthworms and mollusks.

Hungarian (grey) partridge



The Hungarian partridge, sometimes called the grey partridge, is not native to Canada. They were released in each of the Maritime Provinces in 1926-27. Only Prince Edward Island has enough birds to allow hunting.

Like other introduced birds, its legs and feet are bare and unfeathered. It is a brownish-grey bird with short brown tail feathers that are obvious and distinctive when viewed in flight. Male birds, or "cocks", have a solid brown horseshoe marking on their lower breast. Hens and juveniles have a similar mark, but it is broken and less distinct. Both hens and cocks weigh about 0.4 kg.

In spring, the hen lays 9 to 20 eggs in a hollow scraped in the ground and lined with grasses, usually in the shelter of grass or low shrubs. To camouflage the nest from predators, the hen will cover the eggs with grass.

Incubation is from 23 to 25 days. If the first clutch is lost, a second clutch of 9 or 10 eggs may be laid. The chicks are able to feed themselves within a few hours after hatching, and can fly short distances at around 2 weeks.

Birds generally occur in coveys of from 6 to 25 birds and are commonly found around abandoned farmsteads and shelterbelts. They feed on grain, clover, weeds, grass seeds, and other vegetation and, in spring and summer, on insects.

When hunting Hungarian partridge, be prepared for the shock of a covey exploding from cover with a clatter of wings and a rapid cackle. Huns fly and glide speedily, but never very high above the ground. Occasionally, the birds may escape by running through the stubble rather than taking flight.

Ring-necked pheasant



Like the Hungarian partridge, the ring-necked pheasant is not a native game species. Introduced to Canada from Asia in the 1800's, it ranges across much of southern Canada and in the Atlantic Provinces is found in Prince Edward Island, Nova Scotia and New Brunswick. Only Nova Scotia has a hunting season for wild birds, and it is restricted to male birds only. Hunting in

New Brunswick and PEI is confined to pheasant preserves.

The male pheasant or "cock" is distinctive. His white neck-ring, distinctive red eye-patch, iridescent purple head, and long tapered tail make it easy to distinguish from other game birds. The female pheasant or "hen", is a more subdued pale brown colour, lacks a neckring, and resembles a domestic hen. Other colour variations are sometimes seen in both sexes. Males are about 90 cm long and weigh 1.4 kg; females are about 50 cm long and weigh 0.9 kg.

Pheasants are a bird of farmlands, pastures, and grassy woodland edges. Crops such as corn, hay, and small grains are preferred foods. Brushy areas, marsh, and woodland serve as cover.

Nesting occurs from May to June with 6 to 15 buff-olive eggs laid in a grass-lined depression concealed in dense grass or weeds. Generally, females will lay a second clutch if the first is lost to predation or human disturbance. At first the chicks feed largely on insects, but soon shift to the adult diet of grass seeds, berries, and grain.

A wary game bird, pheasants normally take advantage of ground cover to run from an approaching hunter. When forced to flush, cocks take to the air with a noisy cackling sound. Birds often level off at around 8 metres, moving at about 50 km/hr in alternating wing beating and gliding. Hunters who use a well-trained dog for pointing and retrieving have a decided advantage over those who do not.

Winter weather conditions are a crucial survival factor for pheasant. Deep snow, inaccessible foods, and a general lack of habitat tend to limit the populations of wild pheasants in the Atlantic Provinces.

Waterfowl and seabirds

Some thirty-five types of waterfowl have been recorded in the Atlantic Provinces. This figure includes one swan, six species of geese and twenty-eight species of ducks. Most of these are either rare or uncommon. The Canada goose and fifteen types of ducks comprise over 90 percent of the waterfowl kill.

The Canada Goose is a large bird usually weighing from 2.5 to 5.5 kg.

The common duck species can be broken into two broad groups, the freshwater or sheltered-bay species and the true sea duck. The latter includes two species of eiders (shore ducks) and long-tailed ducks (hounds), all of which are diving ducks. They usually feed on various types of shellfish, especially blue mussels. Eiders are our largest ducks and several thousand are taken annually. Most of these breed in the Arctic.

Newfoundland once had many more breeding eiders than it does now, but they have suffered from overhunting and other disturbances including the taking of eggs from nesting sites. Areas such as Nova Scotia, New Brunswick and Maine have been able to build their eider populations back up from similar low numbers through sound conservation practices and cooperation from hunters.

The twelve common freshwater and sheltered bay ducks include both diving and puddle ducks. Diving ducks use deep water where they dive for food, whereas puddle ducks prefer shallow water in which they can reach food on the bottom by “tipping up”.

The common puddlers are black duck, mallards and green-winged teal. In Newfoundland and Labrador, the pintail can be added to this list. All puddlers mainly eat plants, except the black duck, which may switch to shallow-water marine animals.

The nine remaining ducks, which are diving birds, can be broken into three groups according to food preferences. Ring-necked ducks, greater scaups and lesser scaups eat mostly plant food. The greater scaup usually switches to animal food in winter. Common goldeneye (pie birds, whistlers) and the three species of scoters, commonly called divers, eat insects and various other water animals. Finally, the common and red-breasted mergansers (shellbirds and gozzards) are fish eaters.

Oil exploration and development, certain fishery practices and human disturbance at breeding sites are looming threats to the conservation of seabirds. A new assessment of the situation should consider both the important traditional use of seabirds and the environmental problems they now face.

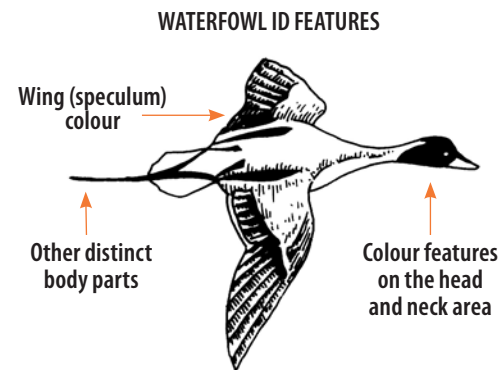
Waterfowl identification

One of your most important skills as a waterfowl hunter is to be able to identify the many different species of waterfowl, especially threatened or endangered species.

Because there are so many kinds of ducks, there is a temptation to lump them all together as simply ducks. When you consider the seasonal changes in plumage, differences between sub-adults and adults, sex and countless other things, identifying waterfowl can be difficult even for seasoned hunters. Nonetheless, we have a moral and legal obligation to take only those waterfowl that we can identify properly. Our behaviour can influence the future of waterfowl populations.

It takes experience and practice to identify waterfowl well. Identification keys or field guides can be very helpful and are available at most bookstores and libraries.

There are three groups of ducks: 1) dabblers or puddle ducks that feed in shallow water and usually remain close to shore in inland water and coastal estuaries; 2) divers, that feed in deeper water by diving; and 3) sea ducks, that frequent our coastal areas and are rarely seen in inland waters, except during the breeding season. Identifying individual species within these groups takes a little more practice, but it can be very rewarding.



Experienced waterfowl hunters can often identify species by their flight patterns. However, you can use the following characteristics to identify those which are not too distant. Use binoculars for making a positive identification, especially at longer distances.

Dabblers (puddle ducks)



A. Black Duck

- purple-blue speculum

B. Mallard

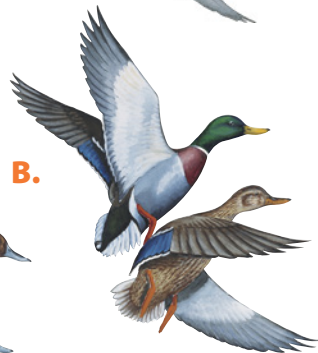
- the male has a green head with white collar and brown chest
- blue speculum with white horizontal barring on the upper and lower part

C. Pintail

- dark head with white throat and neck (male)
- look for green in speculum of males
- females have brown speculum, males have long, pointed tail feathers

D. Gadwall

- white speculum



E.

E. Wigeon

- males have white crest and green around the eyes
- white on the upper part of the wing on both male and female

F. Shoveler

- large shovel-like bill
- green head (male)
- blue on upper portion of wing, green speculum



F.

G. Wood Duck

- males very colourful with long, slicked-back crest
- females have white ring around eye



G.

H. Green-winged Teal

- male has rusty head with green around the eyes
- both male and female have green speculum



H.

I. Blue-winged Teal

- wing colour almost identical to Shoveler
- male has white patch in front of eye



I.

Divers



M. Scaup

- long dark wing with white speculum
- rounded dark head
- females have white face

J. Common Merganser

- long narrow bill
- male has dark-green head; throat and breast are white
- females have distinct white throat which helps distinguish it from the female red-breasted merganser



N. Ring-necked Duck

- vertical white strip separates black breast from grey sides
- solid black back
- male and female have a ringed bill which is not always visible

K. Red-breasted Merganser

- male has white throat with red breast
- male and female have shaggy crest

O. Common Goldeneye

- dark head with white circle under eye (Note: The similar Barrow's Goldeneye, a species of special concern federally, has a white crescent under the eye)
- female has brown head with white neck

L. Hooded Merganser

- male has black-bordered white crest

P. Bufflehead

- males have large white crest on green head
- females have white cheek patch



Sea Ducks

Q. White-winged Scoters

- males have distinct markings on the bill with white around eye
- dark body
- white speculum

Surf Scoter (not shown)

- white patches on head

Black Scoter (not shown)

- bright orange on bill (male)

R. Common Eider

- males have very large amount of white on upper wings and back
- females are brown

King Eider (not shown)

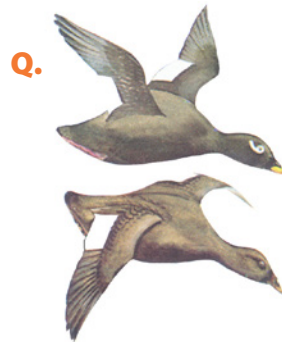
- blue crest and orange shielded bill (male)

S. Long-tailed Duck

- males have long pointed tail feathers like the pintail
- both sexes have dark wings with white heads during winter

T. Harlequin

- a species of special concern federally.
- males and females have distinct head spots
- both appear dark at a distance but males are quite colourful at close view



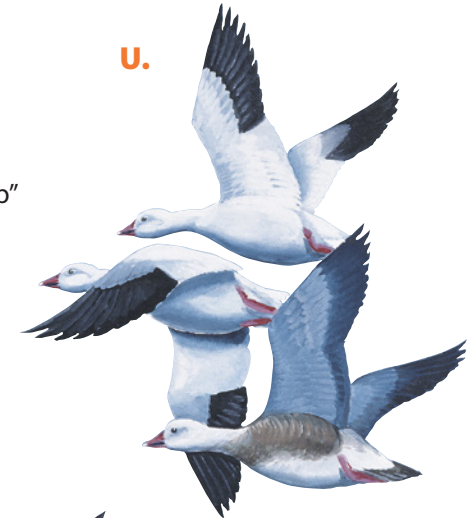
Geese

U. Snow Goose

- body white with black on the wing tips
- sexes are similar

V. Canada Goose

- brown back
- white belly and chest
- long neck with white "chinstrap"
- sexes are similar



Hunting opportunities

In the Atlantic provinces opportunities for hunting depend largely on the type of land ownership and its use. It is the hunter's responsibility to know if hunting restrictions apply to the area they intend to hunt and what these are.

The two general types of land ownership in the Atlantic provinces are:

1. Public lands

Also known as "Crown land", this is land owned by the provincial or federal government. Hunting opportunities vary widely on Crown land.

2. Private land

A large portion of private land suitable for hunting comes from woodlots. These are often located next to settled areas. Forestry companies sometimes own large tracts of forest land known as freeholds. Hunting opportunities on private land are always with the permission of the landowner.

Areas where hunting is prohibited

- Areas posted "NO HUNTING" such as woodlots, forestry operations, and special wildlife management areas.
- Camps, parks, and historical sites. This includes scout, guide, and other youth camps as well as provincial and federal parks.
- Provincial or national trail systems.
- Special Protected Natural Areas.
- Areas specifically identified in a province's hunting legislation where it is illegal to discharge a firearm. For example, within (x) metres of a dwelling or school.

Hunting is permitted with permission

- Private woodlots.
- Freehold land owned by forestry companies.
- Selected locations within military ranges.
- Special hunting areas such as pheasant preserves.

Hunting is permitted

The majority of forested Crown Land has no hunting access restrictions, with the exception of those areas noted above where hunting is prohibited or permitted with permission only.



Where to from here?

If you wish to go beyond this hunter education course to explore other opportunities to learn about hunting and wildlife conservation you may want to:

- attend other Conservation Education Courses such as Bow Hunter Education, Trapper Education, and Becoming an Outdoors Woman;
- participate in a youth mentorship program coordinated through your provincial wildlife agency such as the Waterfowler Heritage Day. Such programs provide youth the opportunity to participate in a mentored hunt under the supervision of an adult;
- read a hunting book or magazine;
- watch an outdoor TV channel, hunting video, or check out an Internet site dedicated to hunting and conservation;
- join a hunting or shooting club. Such clubs offer a great opportunity to make friends and participate in activities such as wildlife habitat enhancement projects, shooting competitions, etc.; and
- contact your provincial game management agency.

Review of Lesson 6

1. List six items considered basic equipment when preparing for a hunting trip.

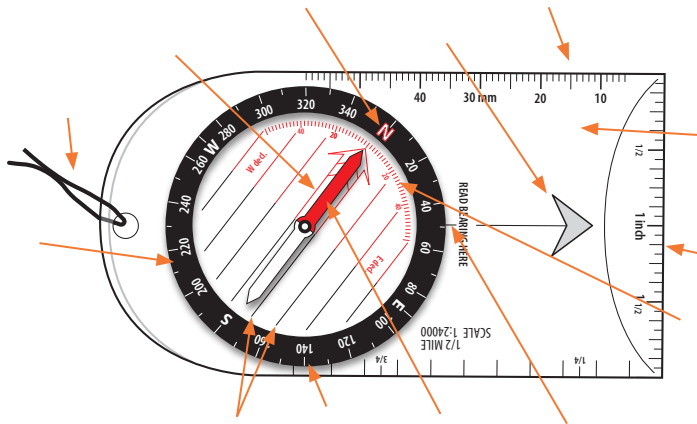
- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

2. Wool will keep you warm even when wet.

- True False

3. Wearing _____ clothing allows you to be more easily seen by other hunters and reduces the risk of hunting related shooting incidents.

4. Having a working knowledge of a compass may save your life. Please label the diagram below.



5. What are three ways a compass can be used without a map?

- 1) _____
- 2) _____
- 3) _____

6. Compasses are used primarily for finding your exact location on the ground.

- True False

7. Most maps are oriented so that true north is at the top of the map sheet.

- True False

8. Magnetic declination refers to the angle between the geographic North Pole and the magnetic North Pole.

- True False

9. If you have a map bearing of 45° and a declination of $+17^\circ$ west, what is your magnetic (field) bearing?

10. Hunters should never totally rely on using a GPS unit while in the outdoors. Always carry a map and compass and know how to use them.

- True False

11. For hunting purposes it is recommended that a blade on a sheath knife should be no longer than:

- a) 6 cm
- b) 8 cm
- c) 10 cm
- d) 12 cm

12. Name four types of tree stands commonly used in Atlantic Canada.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

13. State six guidelines you should follow to safely hunt from an elevated tree stand.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

14. State five practices to avoid if you plan to hunt from an elevated tree stand.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

15. Define the term suspension trauma and explain why every hunter who hunts from an elevated tree stand must have a plan to avoid it.

- _____
- _____
- _____

16. State four things you can do that will help you recover from a tree stand fall that has left you suspended while wearing a full body safety harness.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

17. State four reasons why you should sight-in your rifle prior to the start of the hunting season.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

18. What are the three basic types of rifle sights?

- 1) _____
- 2) _____
- 3) _____

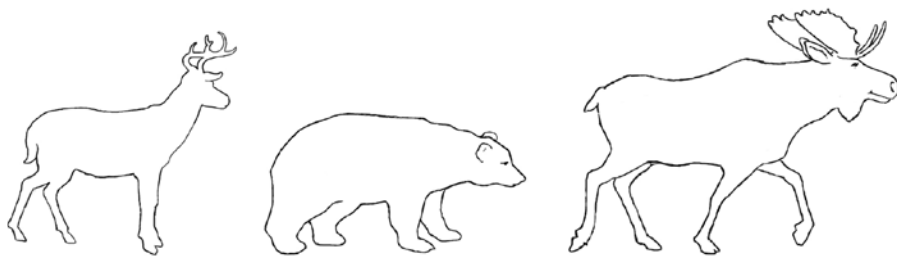
19. For proper sight adjustment of rifles having an open sight you must:
- a) Move the rear sight in the same direction you want to move the hits on the target.
 - b) Move the rear sight in the opposite direction you want to move the hits on the target.
 - c) Move the front sight in the same direction you want to move the hits on the target.
 - d) None of the above.

20. The curved path of a bullet in flight is called its _____.

21. What are the six steps you can take to help eliminate big game crippling losses?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

22. In the three drawings below, draw in the heart/lung "vital target areas".



23. The normal period to wait before tracking a wounded big game animal is _____ to _____ unless you suspect it is poorly hit in which case you should wait for _____.

24. Why must you use caution when approaching a downed big game animal?

25. Name three suggested equipment items for field dressing large game.

- 1) _____
- 2) _____
- 3) _____

26. The three main causes of meat spoilage when field dressing big game animals are:

- 1) _____
- 2) _____
- 3) _____

27. Why is it important to cool a carcass quickly?

28. What is the purpose of aging big game meat?

29. State two reasons why wildlife identification skills are important to a hunter.

1) _____

2) _____

30. State five characteristics of an animal that hunters should consider when identifying wildlife.

1) _____

2) _____

3) _____

4) _____

5) _____

31. Match the animal with its track.

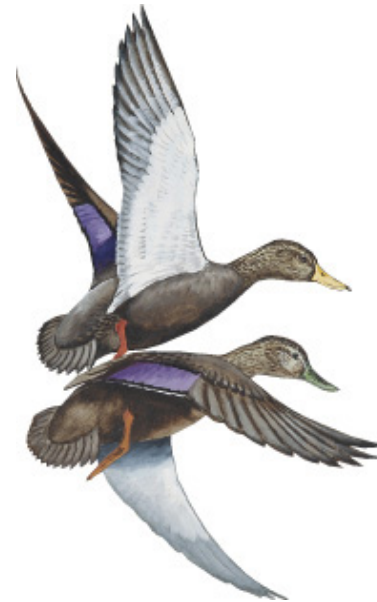
- _____ Deer
- _____ Snowshoe hare
- _____ Woodland caribou
- _____ Moose
- _____ Black bear
- _____ Coyote



32. The _____ is the largest game animal in North America.

33. Which Atlantic Province does not have black bears?

34. Identify the duck in the illustration below.



35. What are the signs of lead poisoning in ducks?

1) _____

2) _____

3) _____

4) _____

5) _____

36. When using steel shot, hunters should:
- a) Use steel shot 2 sizes larger than lead.
 - b) Use a more open choke such as a modified or improved cylinder.
 - c) Pattern their shotgun to see which shot size works best.
 - d) Limit shooting distance to a maximum of 40 metres.
 - e) All of the above.
37. In the Atlantic provinces, hunting opportunities are influenced by the type of land ownership and its use.

True False

38. Hunter Education is a lifelong process. It did not begin, nor will it end with this course. State five ways you can continue to learn about hunter education and conservation.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Glossary

Act: a law passed by a legislative body.

Age distribution: the classification of the individuals of a population according to age classes or periods such as prereproductive, reproductive and post-reproductive.

Arrangement: the way things are placed. The arrangement of food, cover, water and space is an important factor that determines habitat quality for wildlife.

Azimuth: direction in degrees measured clockwise from north. Also referred to as a bearing.

Bacteria: single-celled microscopic organisms.

Bag limit: the maximum number of animals or birds that a hunter may legally take.

Band: to mark an animal, bird, or fish in some manner for future identification.

Baseline: a road, clearcut, or some other landmark having a relatively straight edge from which a reference bearing is taken.

Base plate: the base on which the compass housing is mounted.

Bearing: direction in degrees measured clockwise from north. Also referred to as an azimuth.

Birth rate: the number of young born each year to a wildlife species.

Brood: the young of one mother, especially of birds, resulting from one hatch.

Browse: (noun) leaves, twigs, buds and tender shoots of woody plants used as a source of food. (verb) To eat parts of woody plants.

Browse line: the line marking the browsed-off foliage visible in areas of heavy feeding such as deer yards.

Cadmium: a toxic metallic element hazardous to human health.

Carabiner: a specialized type of metal loop having a spring-loaded gate. In a tree stand fall arrest system, a carabiner is used to connect the hunter's tether to the tree belt.

Carcass: the body of a dead animal.

Cardinal points: the four chief directions of the compass: north, east, south and west.

Carnivore: a flesh or meat eater (i.e. dog, cat, wolf).

Carrion: the flesh of a dead animal.

Carrying capacity: the maximum number of animals that any area can support without damage to the habitat or to the animals.

Census taking: taking an official count of the population of a species in a specific area.

Clearcut: an area of forest land from which all merchantable trees have been harvested.

Community: the population of plants and animals living and interacting with one another in a given locality.

Competition: the indirect effect that one species has on another through use of the same food, space, breeding area, etc.

Compliance: a willingness to follow rules or laws.

Conservation: the planned management and use of our natural resources on a sustainable basis.

Contour: an imaginary line of constant elevation on the ground surface. The corresponding line on a map is called a “contour line”. A series of contour lines on a map illustrates the topography of the land.

Convention: an agreement between parties or nations.

Cover: any shelter capable of hiding and protecting a wildlife species.

Crown land: land owned by the Federal or provincial government. Also referred to as public land.

Death rate: the number of individuals that die each year.

Declination: the difference, in degrees, between the magnetic north direction and the true north direction.

Decomposer: an organism, usually a bacterium or a fungus, that breaks down the bodies of dead plants and animals.

Dehydrated: deprived of water; dried out.

Density (of species or population): the number of individuals per unit area.

Disperse: to scatter; to spread out in all directions from a specific point.

Distribution: the geographic range of a species.

Diversity: the degree of abundance of different wildlife species, plant species, communities, habitats, or habitat features in an area or a region.

Ecology: the study of the interrelationships of organisms to one another and to the environment.

Ecosystem: a community of living things interacting with one another and with their physical environment (air, water, soil, wind, etc.). An ecosystem can be a planet, a forest, a lake, or a fallen log.

Edge: the place where plant communities meet or where successional stages or vegetative conditions within plant communities come together.

Elevation: height above sea-level.

Endangered species: a wildlife species that is in danger of extirpation or extinction (i.e. swift fox).

Enhancement projects: planned actions that increase the quality of habitat available to wildlife species.

Environment: all external conditions that act upon an organism including sunlight, temperature, moisture, air, wind, and other organisms.

Environmental citizenship: doing as much as you can to reduce negative impacts caused by human activities. Sharing responsibility for sustaining resources and caring about how our activities affect our natural resources.

Estrous: the period when the desire for mating occurs in mature female mammals. Its cycle varies in length, is controlled by hormones, and is often accompanied by bodily changes.

Ethics: a philosophy or system of morals; beliefs that govern one’s behaviour.

Extinct species: a species that no longer exists.

Extirpation: a localized extinction that occurs when a species ceases to exist in a specific geographic area but can be found elsewhere.

Fall arrest system (FAS): a fall restraint system that prevents a hunter from contacting the ground in the event of an accidental fall from a tree stand. Fall arrest systems typically consist of the following components:

1. Full body safety harness
2. Tether
3. Tree belt
4. Lineman’s belt
5. Suspension strap

Fauna: all of the animal life of an area.

Field dressing: removing the intestines and inner organs of a game animal to prevent the meat from spoiling.

Flora: all the plant species of an area.

Forage: plants which serve as food for herbivores.

Full body safety harness: a safety harness worn by a hunter that prevents them from contacting the ground in the event of an accidental fall from an elevated tree stand. Full body harnesses typically have multiple points of contact with the wearer.

Game: non-domesticated animals that may be legally hunted.

Gestation period: the time from fertilization to birth.

Global Positioning System (GPS): a satellite-based radio-navigation system. Hunters use GPS units to determine their location, mark specific way points, calculate distance and speed traveled, and see their location and route traveled on a digital map.

Habitat: a place where a plant or animal lives that provides it food, water, cover and space.

Habitat management and conservation: maintaining or altering habitat to sustain or increase the carrying capacity of an area.

Herbivore: an organism that eats plants.

Hibernation: a condition in which the metabolic activity of an animal is reduced so the animal may pass through the winter without having to eat.

Hoist line: a rope used to raise or lower hunting equipment from a tree stand.

Home range: the area over which an animal ranges throughout the year.

Hunter orange: a fluorescent orange colour which is highly visible.

Hunting plan: a written record of a hunting trip left by a hunter with family or friends so that they will know where to look in case the hunter becomes lost, sick, or injured.

Hypothermia: a life-threatening condition that occurs when the body loses heat faster than it can produce it.

Incubation: the maintenance of a uniform temperature. Usually applies to egg hatching.

Introduced species: a species not native to an area; exotic.

Life cycle: the phases, changes, or stages an animal passes through from the fertilized egg to death of the mature animal.

Life expectancy: the average duration individuals of a species are expected to live.

Limiting factor: any factor which acts to limit the density and distribution of wildlife.

Limiting out: taking as much game as you are legally allowed.

Lineman's belt: a belt worn by a hunter that allows them to ascend or descend a tree while keeping their hands free so they can install climbing aids or the tree stand.

Management area: a zone which can be managed separately to meet needs particular to that area.

Meridian lines: lines on the map running from true north to true south.

Migration: The relatively long distance movement of animals that occurs on a seasonal basis.

Moult: the natural loss of hair, fur, skin or feathers followed by the appearance of new growth.

North American Model of Wildlife Conservation: a set of principles that guides wildlife management and conservation programs in Canada and the United States.

Nuisance wildlife: animals that damage growing crops, livestock, orchards, or private property.

Omnivore: an organism that eats both plants and animals.

Overpopulation: a population density in excess of an area's ability to support that particular species.

Overwinter: to survive the winter.

Personal flotation device (PFD): a special type of safety clothing designed to assist the wearer in staying afloat in the water. A properly worn PFD reduces your risk of drowning and can help slow the onset of hypothermia.

Plumage: the complete covering of feathers.

Poaching: illegal hunting or taking of game.

Population: all of the individuals of one species that inhabit a given area.

Population dynamics: the changes in the number of animals of a wildlife population that occur seasonally as well as from year to year.

Predator: an animal that hunts down and kills other animals for food (i.e. cat/mice, fox/rabbits).

Prey: an animal that is killed and eaten by another animal (i.e. a rabbit killed by a coyote).

Regulation: a rule or law.

Reproductive potential: the potential number of young animals that can be produced per year per adult under ideal conditions.

Reserve: an area designated for the maintenance of animal or plant species. Human activities may be prohibited or strictly controlled in the area.

Rumen: the first stomach of a ruminant.

Ruminant: a group of hoofed animals that lack upper incisor teeth, chew their cud, and have a complex, usually four-chambered stomach (i.e. moose, deer, caribou).

Special concern/vulnerable species: a wildlife species that is particularly sensitive to human activities or natural events but still may be legally harvested at a level that is sustainable and the species is not put further at risk (i.e. polar bear).

Species: a class of individuals having common attributes and designated by a common name.

Species at risk: a species of plant or animal that is danger of disappearing from the wild. Categories of risk include special concern, threatened, endangered, and extirpated.

Succession: the orderly replacement of one type of habitat by another on a given site over an extended period of time.

Success rate: a comparison between the number of hunters and the number of animals killed during a specific hunting season.

Suspension relief strap: a strap carried by a hunter when hunting from an elevated tree stand that can be connected to their safety harness or other secure location enabling them to put weight on their feet thus slowing the onset of suspension trauma.

Suspension trauma: a medical condition that occurs when a person hangs suspended, usually from a safety harness, causing blood to pool in their lower body eventually depriving their brain and other organs of blood flow and oxygen. Unless the hunter has a fall recovery plan, suspension trauma is a very serious and potentially lethal condition.

Territory: the area which an animal defends against intruders.

Tether strap: the strap that connects a hunter to the tree when hunting from an elevated tree stand.

Threatened species: a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its decline (i.e. wood bison).

Topography: the characteristics of the ground surface, including its elevations and the position of its natural and human-made features.

Tree belt: a belt that attaches to the tree and is the anchor point for a hunter's safety harness.

Tree stand life line: a safety rope used by hunters when climbing into or down from their tree stand. Life lines consist of a main line and a short loop of rope that slides up and down the main line by way of a prusik knot.

Ungulate: a mammal with hooves (i.e. deer, moose, caribou).

Upland game: game species such as varying hare, ruffed grouse, etc. that are associated with upland areas.

Viscera: the internal organs of an animal.

Vital target area: the heart and lung area of an animal. A hit in this area causes the animal to die quickly.

