

manitoba



hunter education



"an investment in the future"

Manitoba 

Manitoba
Wildlife Federation

\$12.95

ACKNOWLEDGEMENTS



This Manitoba Hunter Education Program Student Manual was developed by Manitoba Conservation, the Manitoba Wildlife Federation, and the Manitoba Junior Rifle Clubs Committee.

The purpose of this program is to promote responsible and ethical hunter conduct. This course is required for all first-time hunters.

The efforts of the group of individuals from the Neepawa area, who in 1954 started this program and helped to form the Manitoba Junior Rifle Clubs Committee, which promotes Safety, Sportsmanship and Shooting, are gratefully acknowledged.

The Junior Rifle Program has since expanded to numerous communities throughout the province. The endeavors of many dedicated instructors have made this manual possible.

We also wish to express our appreciation to the Atlantic provinces, Alberta, British Columbia, Quebec, Saskatchewan and the Canadian Firearms Centre for permission to use their hunter education manuals and/or hunting guides in the preparation of the text.

A special thank you to Ducks Unlimited Canada for making available the colour images for the waterfowl section.

Credit is also extended to Ron Palka, with Computer Graphics Support Services of Manitoba Conservation, and Reg Wiebe, Hunter Education Coordinator of Manitoba Wildlife Federation in compiling this manual.



Manitoba
Wildlife Federation

The Manitoba Wildlife Federation Welcomes You

The Manitoba Wildlife Federation is the province's oldest and largest conservation-minded organization comprised of hunters, anglers and outdoors enthusiasts. It has an unparalleled fifty five year history of notable conservation-related achievements and continues to work for the wise use of our resources. We are the only organization in the

province representing the interests of hunters and our outdoor heritage. Successful programs such as Junior Rifle, Junior Shotgun, Youth Hunting Skills, Becoming an Outdoors Woman, Non-Toxic Shot, Hides to Habitat and Share the Harvest are but a few examples of the training and support offered by the Manitoba Wildlife Federation.

TABLE OF CONTENTS

LESSON 1: HUNTER EDUCATION: INTRODUCTION	1-1
LESSON 2: ETHICS AND RESPONSIBILITIES	2-1
INTRODUCTION	2-1
DEFINITION OF ETHICS AND LAWS	2-1
PERSONAL CODE OF ETHICS	2-1
ETHICS FOR CONSIDERATION	2-3
HUNTER-LANDOWNER RELATIONSHIPS	2-3
RELATIONSHIP WITH OTHER HUNTERS	2-4
SELF-RESPECT	2-5
RESPECT FOR WILDLIFE	2-5
RESPECT FOR LAWS AND ENFORCEMENT OFFICERS	2-5
IMPORTANCE OF ETHICS	2-5
HUNTER IMAGE	2-6
HUNTER RESPONSIBILITIES	2-6
NATURAL VALUES OF THE HUNT	2-7
HUNTING TECHNIQUES	2-7
HUNTER'S A-B-C'S	2-8
LESSON 3: HUNTING LAWS AND REGULATIONS	3-1
INTRODUCTION	3-1
THE LEGAL PROCESS	3-1
LEVELS OF GOVERNMENT	3-1
THE PURPOSE OF HUNTING LAWS	3-2
LAWS TO PROTECT LIFE AND PROPERTY	3-2
LAWS TO PROTECT AND CONSERVE WILDLIFE	3-2
LAWS GOVERNING HUNTER BEHAVIOUR	3-3
CREATING OR CHANGING LAW	3-3
ENFORCING LAWS	3-3
UNDERSTANDING HUNTING LAWS	3-3
LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT	4-1
INTRODUCTION	4-1
HISTORY OF WILDLIFE MANAGEMENT	4-1
HABITAT	4-1
POPULATION DYNAMICS	4-5
ECOLOGICAL PRINCIPLES AND POPULATIONS	4-5
WILDLIFE VALUES	4-5
WILDLIFE MANAGEMENT AND CONSERVATION	4-6
WILDLIFE MANAGEMENT TECHNIQUES	4-7
HUNTER'S ROLE	4-10
HUNTING QUOTAS	4-11
LESSON 5: HUNTER SURVIVAL SKILLS	5-1
INTRODUCTION	5-1
PLANNING A HUNTING TRIP	5-1
PREPARING YOURSELF FOR YOUR HUNTING TRIP	5-2
SURVIVAL KIT	5-2
SURVIVAL FACTORS	5-3
THE "LOST" INDIVIDUAL	5-4
BOATING & WATER SAFETY	5-8
ICE SAFETY	5-10
FIRST AID KIT	5-10
FIRST AID	5-10
WIND CHILL INDEX	5-15
LYME DISEASE	5-16
FIRST AID QUIZ	5-18

TABLE OF CONTENTS

LESSON 6: FIELD TECHNIQUES	6-1
INTRODUCTION	6-1
HUNTING TRIP EQUIPMENT PREPARATION	6-1
COMPASS AND MAP (AND NOW GPS!)	6-2
USING YOUR COMPASS AND NTS MAP	6-5
FINDING YOUR WAY WITHOUT A COMPASS	6-6
TIPS ON TRAVEL	6-7
DEALING WITH MOSQUITOES AND BLACKFLIES	6-7
OTHER EQUIPMENT	6-8
TREE STANDS	6-9
HUNTING METHODS	6-10
FIREARMS & AMMUNITION	6-10
CRIPPLING LOSSES	6-12
STUDENT REVIEW	6-13
PROCESSING LARGE ANIMALS	6-16
PROCESSING SMALL ANIMALS	6-20
PROCESSING BIRDS	6-20
LEAD POISONING AND NON-TOXIC SHOT	6-20
CHOOSING THE RIGHT SHOT SIZE	6-21
STEPS TO BETTER WATERFOWL HUNTING	6-21
SPECIES IDENTIFICATION	6-22
LARGE WILDLIFE SPECIES	6-22
UPLAND BIRDS	6-28
WATERFOWL	6-31
LESSON 7: FIREARMS SAFETY	7-1
INTRODUCTION	7-1
FIREARM CHARACTERISTICS	7-1
DIFFERENCES BETWEEN RIFLES AND SHOTGUNS	7-2
CALIBRE AND GAUGE	7-2
ACTIONS	7-3
THE SAFETY	7-4
SIGHTS	7-4
AMMUNITION	7-4
CHOOSING A FIREARM AND AMMUNITION	7-5
FUNDAMENTALS OF RIFLE SHOOTING	7-6
AIMING	7-6
GENERAL RULES OF FIREARMS SAFETY	7-7
FIREARMS SAFETY AT HOME	7-7
BEFORE LEAVING HOME	7-8
SAFETY WHEN TRAVELLING	7-8
SAFETY WHEN HUNTING	7-9
CARRYING POSITIONS	7-9
SAFETY IN OPEN COUNTRY	7-11
SAFE TARGET IDENTIFICATION	7-11
POSITIVE TARGET IDENTIFICATION	7-11
DANGER BEYOND THE TARGET	7-13
FUNDAMENTALS OF SHOOTING	7-14
BLACK POWDER AND MUZZLELOADING	7-15
INTRODUCTION TO BOWHUNTING	B-1
BECOMING A BOWHUNTER	B-1
BOWHUNTING EQUIPMENT	B-1
BOWHUNTING SAFETY	B-3
CONSERVATION REGULATIONS	B-3
THE BOWHUNTER'S CREED	B-3
GLOSSARY	G-1

LESSON 1 HUNTER EDUCATION: INTRODUCTION

In Manitoba, thousands of hunters take to the field each year. Hunters make this annual pilgrimage to woods and water so that they can experience the natural world and be an active participant in it.

Over 20 million students have graduated from North American Safety/Hunter Education courses. These courses have contributed to a significant decrease in hunting accidents and an increased understanding of the responsibilities each hunter accepts while hunting.

The primary goal of the Hunter Education Program is to help you understand the important role you, as a hunter, have in wildlife management and conservation. Equally important is the safe use and handling of firearms and the ethical and responsible behaviour of all hunters.

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 Manitoba Hunter Education Program includes subject areas such as **Wildlife Management, Ethics and Responsibilities, Laws and Regulations,**

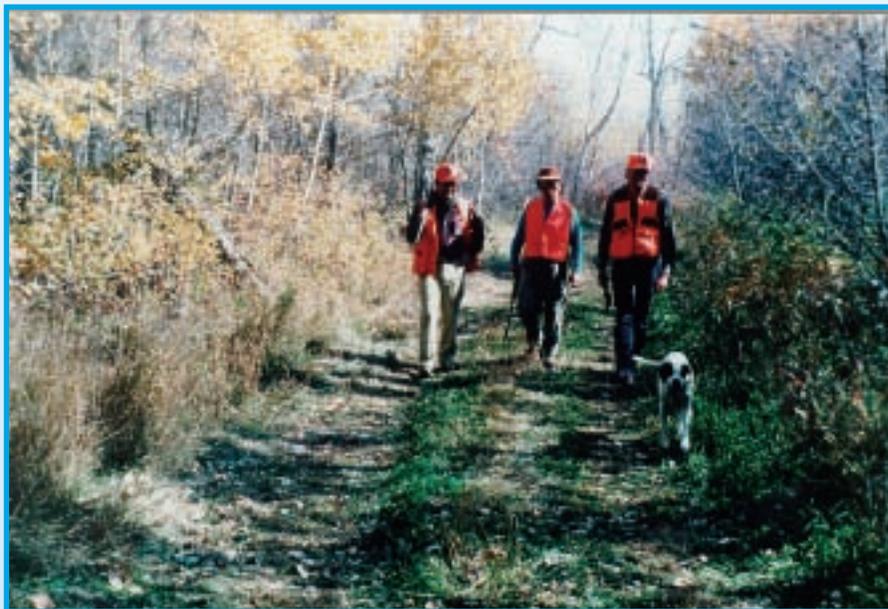
Survival, Field Techniques and Firearms Safety. In order to test your skills and knowledge of this information, a classroom examination is given. Along with this technical knowledge and skill, we hope you develop an attitude and a code of conduct that adds to your hunting experience and protects our hunting heritage. The real 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 this Hunter Education information into practice. 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, author of “In Defence of Hunting”.



LESSON 2 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 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 a sport we are expected to follow the rules of the game. Hunters too, are expected to behave responsibly while hunting...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 AND LAWS

Ethics are standards of behaviour or conduct which are considered to be morally right. Ethics begin with the standard 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 from 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 in a "bucks only" season, a hunter may come upon a doe with a broken leg. According to a 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 Conservation office or RCMP detachment as quickly as possible that there is an injured animal and describe its exact location. The 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 laws*" 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.*"

LESSON 2: ETHICS AND RESPONSIBILITIES

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 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, the respect of other hunters and most importantly non-hunters.

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 a primary interest.

In this stage “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 wildlife species. **Hunters in this category may be responsible for landowners posting their land as “No-Hunting”.**

2. Limiting-out Stage

The hunters want, above all, to bag the legal limit of wildlife they are hunting.

In this stage, hunter satisfaction is gained through limiting out on the wildlife 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 for 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 wildlife 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 take great satisfaction in outwitting their quarry. In some cases “primitive” equipment (bows, muzzleloaders) may be used.

5. Mellowing-out Stage

This is a time of enjoyment derived from the total hunting experience – the hunt, the companionship of other hunters and an appreciation of the outdoors.

When a hunter has reached the mellowing-out stage of development, harvesting wildlife 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 the 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.

LESSON 2: ETHICS AND RESPONSIBILITIES



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 standard of conduct while hunting will be the true indicator of your personal code of ethics.

HUNTER-LANDOWNER RELATIONSHIPS

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 – a gradual decrease in available hunting land and the creation of a negative hunting image amongst the non-hunting public.

Some Principles of Hunter-Landowner Relationships

1. **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.
2. Hunt only in the area designated by the landowner. Find out when and how you may hunt an area.
3. Control your hunting dog. Don't disturb livestock.
4. 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 stray animals. In any event, they will appreciate your concern.
5. Leave their fruit and crops alone. If you want some, buy them from the farmer, don't drive or walk through standing crops or across swaths.
6. Stay out of fields where people are working. Find out where it is safe to hunt and get permission to dig pits or erect tree stands.
7. Don't shoot toward buildings, livestock or field workers.
8. Don't leave your garbage behind. If you carry it in, you can carry it out. Clean up your eating place or campsite and take all necessary fire precautions.
9. If your hunt is successful, offer to share with the landowner. Be mindful of your bag limit.
10. Pick up your empty cartridges or shells.
11. 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 (i.e. as a plumber, mechanic, painter or carpenter).

LESSON 2: ETHICS AND RESPONSIBILITIES

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 landowner's hospitality.

Remember that 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.

Hunter-Landowner Relationships

The position of the landowners:

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

Regard for Other People's Feelings

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.

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

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. We do not regard these people as "kooks" and "Bambi lovers" or anything else other than normal human beings whose likes and dislikes differ from our own. We accept the fact that non-hunters and anti-hunters are just as sincere in their beliefs, as we are about hunting.

RELATIONSHIP WITH OTHER HUNTERS

Ethical hunters show consideration for their companions and other hunters to 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 "unethical conduct".

Hunting also has rules for good conduct. 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, only you and other hunters! Sure, there are Enforcement Officers – but they can't be everywhere.

In most cases, courtesy is related to safety. The hunter who edges in on another in hopes of getting another shot is being discourteous, and dangerous. 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. Most of the time, they'll miss!

Courteous hunters will give their companions the breaks. They never claim wildlife 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 take a shot out of range.

Courteous hunters will sight in their rifle before entering their hunting area. Whether actually hunting or not, they move quietly through the woods so as not to disturb other hunters or scare off wildlife. 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 - if you always treat others as you would want your companions to treat you**, you're probably doing a pretty good job. Courtesy and safety are the things to remember.

LESSON 2: ETHICS AND RESPONSIBILITIES

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 those 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 skill of first aid and survival.

RESPECT FOR WILDLIFE

Ethical hunters are also naturalists. Their interest in wildlife extends beyond the variety of other living things that inhabit the natural world. They know and study nature's ways and realize that wildlife can be enjoyed year round.

When hunting, the pursuit of wildlife is always governed by the "fair chase" principle. Simply stated, this principle or ethic demands that a hunter shall always give wildlife a "fair" chance to escape being shot.

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

Once afield, they will expend extraordinary effort to retrieve and dispatch a wounded animal, 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 birds.

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

Ethical hunters show as much respect for wildlife after it is taken as before the shot. They never allow the meat or other usable parts of the animal to be wasted.

RESPECT FOR LAWS AND ENFORCEMENT OFFICERS

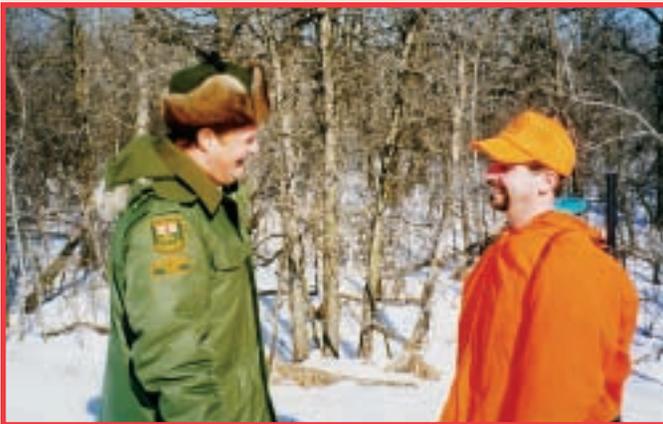
Ethical hunters obey all laws which govern hunting activities. Although they may occasionally disagree with a specific law, they will not deliberately disobey it. Instead, they will work through their elected representatives or local Fish & Game Associations to change laws which they feel are unjustified.

Ethical hunters will not condone lawbreaking 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 an enforcement officer checking hunters in the field, they are cooperative and provide the information that is requested.

IMPORTANCE OF ETHICS

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, if hunters follow the honourable traditions of hunting and practice a personal code of ethics which meets or exceeds public expectations, the future of hunting will be assured.



LESSON 2: ETHICS AND RESPONSIBILITIES

HUNTER IMAGE

The majority of the non-hunting public actually supports hunting, even if they choose not to participate. These people believe that hunting is a legitimate activity that promotes the efforts of sound wildlife 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. Many members of the non-hunting public have an increasingly poor image of hunters in general. 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.

There is little, if any, media focus on the legitimate hunters who understand the concept of conservation or management and who have a passionate, if not a spiritual connection to the wildlife they hunt. Unfortunately, most of the non-hunting public has no other choice than to base their opinions on what they see and hear. For the non-hunting public, it is the rare yet all too evident acts of a few that all hunters are judged by.

Without question, those so-called hunters who perform acts negative to the image of hunters are in the minority. 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.**

HUNTER RESPONSIBILITIES

The possession of a firearm and a valid hunting licence does not make you a hunter. **Hunting is a privilege to some hunters (licensed hunters) and an inherent right for other hunters (aboriginal people),** and it involves certain responsibilities. When you decide to hunt, you have a responsibility to:

- a) **Wildlife Management**- (ensures continuation of the species). As a hunter, you are in partnership with other hunters, with the landowners and the management authority to help maintain populations. They need your help.
- b) **The Animal** - (humane kill, care that shows respect for the animal). As a hunter, you must

constantly improve your shooting, tracking and processing skills, out of respect for the animals you harvest.

- c) **The Landowner** - As a hunter, you owe a debt to the landowners whose lands produce a large number of wildlife. You must hunt their lands as a guest. If you forget this, or your hunting ethics, landowners may post their lands against all hunters.
- d) **The Public** - As a hunter, you must share in the responsibility for preserving the privilege and the right of hunting, for making your community and your province a better and safer place to hunt.
- e) **Other Hunters** - As a hunter, you must obey the laws of hunting. This will ensure a fair chance at harvesting wildlife for everyone for years to come.
- f) **Yourself** - As a hunter, you behave in ways that allow you to be proud of yourself.

The single, most important fact for the licensed 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. Further, 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. **What one does is credited to all or blamed on all.** The possibility exists to outweigh bad with good, if we work at it.



LESSON 2: ETHICS AND RESPONSIBILITIES

NATURAL VALUES OF THE HUNT

1. The pleasure starts with the anticipation and proper planning of the trip.
2. Companionship, or the feeling of being on your own.
3. Taking time to study your surroundings in nature and the wildlife of the area in which you hunt.
4. The actual stalking and trying to outsmart an animal that has avoided hunters for many years.
5. A hunter is one who enjoys all aspects of the hunt, even cleaning up around the camp.
6. The many pleasant hours of reliving and talking over the hunt.
7. Providing one's own food for the table.

It is to the hunter's advantage to know the habits of the wildlife that is to be hunted.

Much of the hunting pleasure can be gained by calling ducks, geese and some animals such as deer and moose.

HUNTING TECHNIQUES

1. Know your hunting area.
2. 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.
3. Know the effective range of your firearm. Do not shoot out of range. Always try for a humane kill.
4. When shooting, know the vital area.
5. Take it easy. You will see more wildlife.
6. Do not be a road hunter. The satisfaction comes from getting out of your vehicle and stalking and flushing wildlife.
7. A well-trained dog is a big asset to bird hunters. Not only in locating them, but also in finding dead or crippled birds.
8. Do not give up too easily when trying to find or track a wounded animal. Each hunter has a responsibility to see that wildlife is not left to suffer.
9. Sight in your hunting equipment 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.
10. Hunting is a science and must be studied. Experience is a good teacher but it is wise to go with an experienced hunter.



HUNTER'S A-B-C'S

Always practice safe firearm handling.

Be considerate of the landowner, you are the guest.

Conduct yourself as an ethical hunter should.

Don't be a greedy hunter.

Educate others in the principles of ethical hunting.

Favour the person who is hunting with you.

Give wildlife a break; 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.

Kep the firearm muzzle pointed in a safe direction.

Leave wild areas the way you found them. Don't litter.

Make sure of your target before you shoot.

Never leave a crippled animal to go to waste.

Obey hunting laws to the letter.

Put yourself in the other person's place.

Quit complaining about wildlife shortages and do something about it.

Represent hunting at its best.

Share your success with the landowner.

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

Unite others in a common effort to provide better hunting opportunities.

Value and protect your privilege to own firearms.

Work for sound wildlife management.

X may mark the spot if you mix gun power with alcohol or drugs.

YOU are responsible for Canada's hunting future.

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

LESSON 3 HUNTING LAWS AND REGULATIONS



INTRODUCTION

Historically Aboriginal people used wildlife for a variety of purposes and their survival was dependent upon the land and the wildlife. This dependence on the land and use of wildlife continues today and their access to it is protected as an inherent right through Treaties and the Constitution Act of Canada (1982). At the time the treaties were signed between the Aboriginal people and Canada, on behalf of Great Britain, their access to wildlife was not one of the things that the Indian people offered into the treaty negotiations because their life and that of their grandchildren depended upon the continuance of access to it. This access continues today as it did prior to the treaty process.

Although there were no written laws to govern the taking of wildlife, Aboriginal and Inuit peoples had their own hunting, trapping and gathering territories, now called Traditional Use Areas. The boundaries of these areas were usually defined through negotiation among these Nations and they were identified by land features such as the Red, Assiniboine and Qu'Appelle Rivers. These territories were respected by each Nation and not obeying the rules often lead to severe penalties being inflicted upon the violator. In some cases the death of the violator. While there were no written laws the value of respect was foremost and wildlife was treated in this way. Among the first written laws governing the taking of wildlife in Manitoba were the Rules of the Hunt that the Metis Nation established to govern the buffalo hunt.

Aboriginal hunting or subsistence hunting had very little impact upon wildlife populations. However with the arrival of the early explorers, fur traders and settlers this changed rapidly. The unrestricted opportunity to hunt and trap in a land where wildlife

was plentiful was unlike the conditions the settlers were accustomed to. In the countries they had immigrated from the land and the wildlife belonged to the King or the Royal families. Common people did not have access to either. In less than 75 years several species of wildlife became extinct in Manitoba including the passenger pigeon and plains grizzly bear, and the near extinction of the plains buffalo.

In North America, the drastic decline in numbers of many wildlife species due to changing land uses and over-harvesting prompted concern by many people to have governments enact laws to eliminate market hunting and control irresponsible hunting behaviour.

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, to protect and conserve wildlife and ensure an opportunity to hunt. Today hunters realize that obeying these laws is the most important step towards being responsible thus providing abundant wildlife for future generations.

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, members of three levels of government – the federal parliament, the provincial legislature, and the municipal councils – make laws which affect hunting.

LEVELS OF GOVERNMENT

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

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

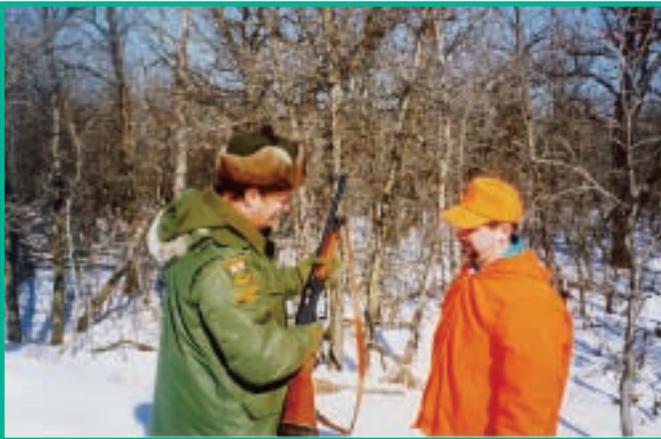
Each level of government has been given specific responsibilities. The Federal Government has authority to make laws concerning matters which affect all Canadians, such as national defence, foreign affairs and criminal activity. The provinces have authority over issues of provincial concern such as natural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

LESSON 3: HUNTING LAWS AND REGULATIONS

Most hunting laws are a responsibility of the provincial government. One notable exception is the set of laws dealing with migratory birds, which is a responsibility of the federal government with support from the provincial governments.

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

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.



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 Inter-provincial Trade Act requires that hunters obtain an export permit before transporting harvested wildlife inter-provincially or to

a place outside the province where it was hunted. The Convention on International Trade in Endangered Species 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 or prescribe certain standards of conduct for hunters.

LAWS TO PROTECT LIFE AND PROPERTY

1. No person shall carry or have a loaded firearm in or on a vehicle.
2. No person shall hunt in a dangerous manner.
3. No person shall hunt while impaired by alcohol or a narcotic drug.
4. No person shall hunt at night with lights or reflecting equipment.
5. A big game hunter using a firearm must wear hunting dress as prescribed by regulation.
6. No person may discharge a firearm from, across or along any numbered highway.

LAWS TO PROTECT AND CONSERVE WILDLIFE

1. All regulations pertaining to hunting seasons and limits are intended for this purpose.
2. No one shall hunt in a wildlife refuge.
3. No one shall hunt using an aircraft or from a vehicle.
4. It is unlawful to release any exotic wildlife to the wild.
5. No one shall hunt by means other than a rifle, muzzleloader, shotgun, crossbow or bow and arrow.

Certain animals may have to be registered with the appropriate authority so that data necessary for wildlife management may be obtained.

LESSON 3: HUNTING LAWS AND REGULATIONS

LAWS GOVERNING HUNTER BEHAVIOUR

The concept of “fair chase” provides the basis for most regulations in this category. It is unlawful to hunt using:

1. Poison
2. Lighting or reflective equipment at night
3. Any fully automatic firearm
4. Vehicles to chase wildlife
5. Live decoys

CREATING OR CHANGING LAW

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.

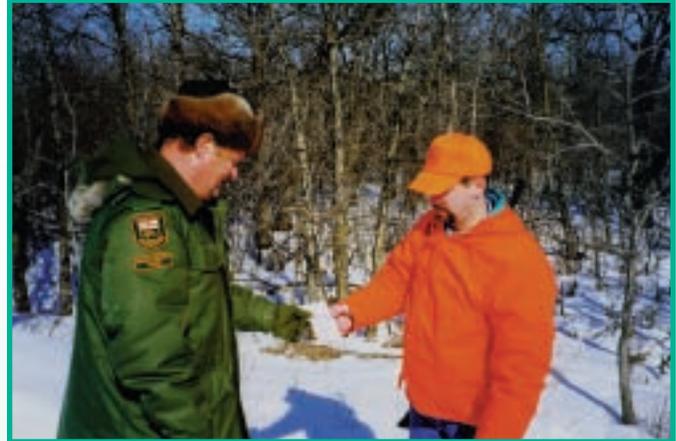
If you are convinced the law is wrong, work to change the law but do not disobey it. Many people have found that as they considered their reasons for wanting a law changed, the purpose behind the law became evident. Studying the law will provide an in-depth understanding of why the law is in place.

ENFORCING LAWS

Hunting laws are enforced through various government agencies. Conservation Officers have the primary responsibility to enforce laws which apply to wildlife. However, other enforcement staff including the RCMP also have authority to enforce hunting regulations.

When hunters are caught breaking the law, they are either warned of the offence or charged.

A “charge” is an accusation in legal terms. When a person is charged they are taken into custody. Custody can be a short period of time or longer depending on the circumstances or severity of the charge. While in custody an officer must advise a person of their rights and what options may be expected as a result of the charge. The first option is where a person enters a guilty plea and returns the summons portion in the mail along with a prescribed set fine. The second option is to appear before a judge or magistrate to enter a plea to a charge (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 offence. The penalty will usually involve the payment of a fine and perhaps the loss of hunting privileges. It may also include forfeiture of equipment used in the offence and in some cases where serious offences have occurred, “time in jail”.

In summary, governments make laws and employ officers to enforce them, a judicial system establishes guilt or innocence and administers penalties.

UNDERSTANDING HUNTING LAWS

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

Each province publishes summaries outlining the main regulations governing hunting. This information is updated each year to reflect recent changes in the law.

Hunters should obtain copies of the summaries and study them before going into the field. If you have questions concerning hunting regulations, which are not answered in the summaries, or if any of the information is unclear, you should contact the nearest Manitoba Conservation office for clarification.

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.

LESSON 3: HUNTING LAWS AND REGULATIONS

Report Law Breaking

It is the responsibility of every hunter who sees someone breaking the law to report the offence. 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 and others.

It can be particularly difficult to report a lawbreaking incident when the person who has committed the offence 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 the actions are wrong and the wrong doing can damage the reputations of the other members of the hunting party. **A person aiding and abetting another person in the commission of an offence may also be charged with the principal offence.**



Accidental Violations

Each year some hunters are involved in accidental violations (hunter inadvertently kills two deer with a "one only" bag limit or an antlerless deer is shot by a hunter 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 defence 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.

Trespass

Under Trespass 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.

Provisions of wildlife legislation states that if any person enters someone's property without permission for the purpose of hunting, they may be charged.

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 lease holder. Good ethics make for good relations with landowners and your fellow hunters.

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 any question about any law, contact the agency responsible.**

LESSON 4 ECOLOGY AND WILDLIFE MANAGEMENT



INTRODUCTION

Ecology is the science of the environment, the study of how the world works as a unit. It is the study of organisms in their home, a study of the structure and workings of nature, and of 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 robin 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 intruded in some way, changing the environment and using natural resources to suit 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. A measure of our success is the degree to which we keep wilderness and wildlife "wild". Wildlife management is a complicated field that involves the public, the users, private industry, government managers, and lawmakers.

HISTORY OF WILDLIFE MANAGEMENT

Management of wildlife began in Europe where landowners owned the land and the wildlife. They had keepers of wildlife who took care of the animals and controlled poaching. There was no

public hunting; only the landowner and his guests hunted and the keeper was his guide.

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

People grew concerned about the wildlife and passed laws to conserve and protect it. In North America, the public owns the wildlife; they are responsible for it. The shift from **private** ownership to **public** ownership was key in the development of all future wildlife management in North America.

Wildlife management is the wise use of the outdoors. To understand it, you must study animals and their habitat.

Ecological Terms

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 all plants and animals, including humans. These living units include not only large organisms such as trees and whales but also the simpler species such as fungi, bacteria, and protozoa.

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

HABITAT

All living things have basic habitat needs, four of which are, *food, water, cover, 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.**

LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT



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 quantity 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 of quality food available for wildlife. **Winter food shortage is the most important limiting factor for many wildlife species.**

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 small 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, housing, farming, cattle grazing, and open-pit mining.

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 Manitoba and usually not in short supply.

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; that is, they will occupy specific sites sometimes known as **Home Range**. Their 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 to improve them where possible.

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. For many species of wildlife, the best arrangement is in small blocks that produce “edges”.

Edge Effect

Where edges or borders or habitats overlap each other, change in vegetation is most noticeable.

The zone of change or transition offers the greatest mixture of habitat, which in turn is used by a high diversity of wildlife species. **The best wildlife habitat has an abundance of edge arranged so that food, cover, water and space are close to each other.** For example, a recent cut over with residual forest cover bordering a bog would provide ideal moose habitat.

LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT

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.

The number of animals that an area will support without damage to the habitat or to the animals is called the “Carrying Capacity”.

It is the task of the wildlife manager to maintain the numbers of animals within the carrying capacity.

The uppermost limit on the size of a population is often determined not by the animals themselves but rather by the availability of food. In general, the growth of plants depends on the supply of nutrients and solar energy. 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).

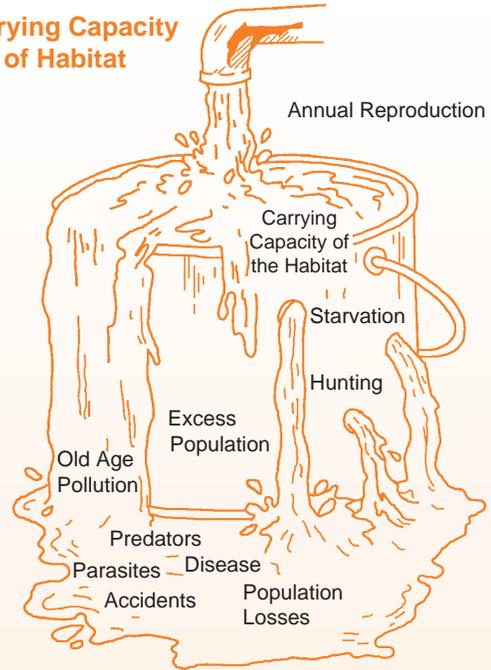
There may be factors other than food limiting the growth of a population, and so the maximum size of the population may never be reached. There may, for example, be enough food to support a thousand birds in a certain area but suitable nesting sites for only one hundred.

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, and greater exposure to disease, predation and parasites, poor reproductive success, and damage to the habitat. For example, multiplying muskrats can very quickly eat all the vegetation in a marsh, and then die out. Subsequently, the damaged habitat has a reduced carrying capacity. A good trapper will watch the effects that muskrats are having on marsh vegetation and harvest the excess population before it damages the habitat.

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 km (sq.) for moose or as large as 200 km (sq.) for wolves. The territory size reflects the carrying capacity of the habitat; territories often function 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.

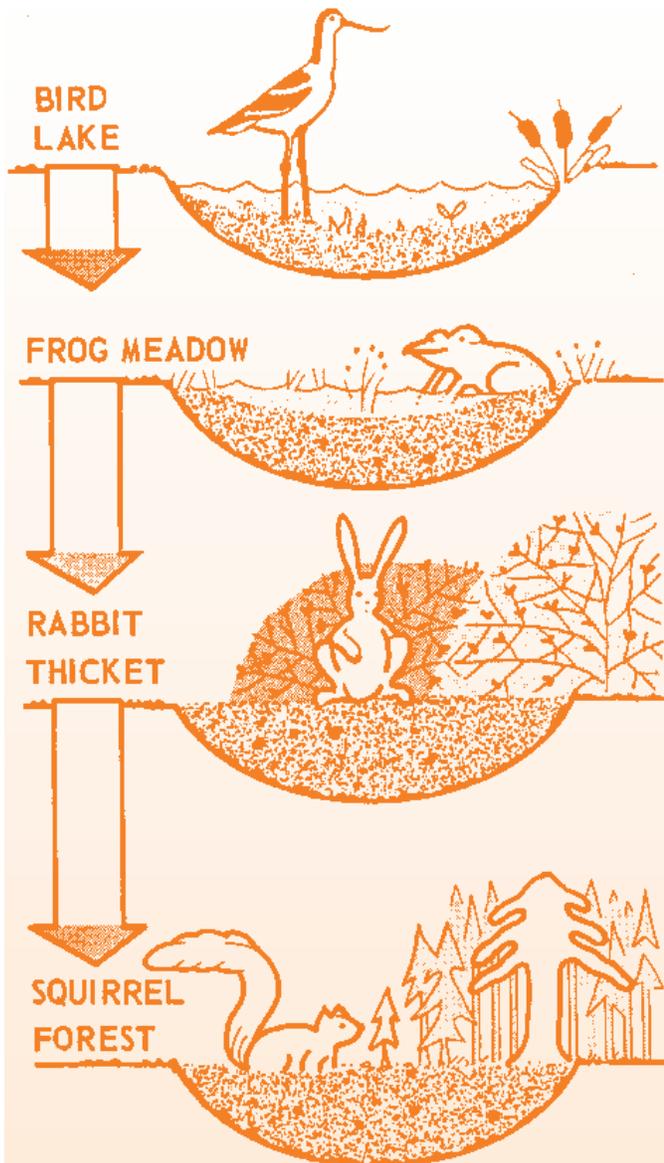
Carrying Capacity of Habitat



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 ten-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.



AN EXAMPLE OF SUCCESSION –
FROM LAKE TO FOREST

Succession (Habitat Change)

Habitat, the complex association of soil, water and plants is in itself dynamic and ever changing. These changes can be subtle or dramatic. A forest fire causes a dramatic habitat change. The coniferous forest, cool and shady, disappears. Eventually, on the blackened, but now sunlit ground, grasses and other plants appear. Each type of plant appears, grows, matures, and disappears to be replaced by others which also go through their stages and are replaced by still other varieties. This series of changes taking place is not random or haphazard but a predictable, sequential chain of events called succession. **Succession is the orderly replacement of one biotic community with another.** With each successional stage, be it subtle or dramatic, habitat is changed. With changes in habitat come changes in the forms of wildlife using that particular habitat.

The coniferous forest, burned or logged, is replaced by a low ground cover of grass and flowering plants. Over the next few years-shrubs, bushes, willows, aspens and coniferous trees, each in turn, make their appearance. Finally, the forest is once again as it was, composed almost entirely of coniferous trees. This final or climax stage will remain until, as a result of fire or logging, the successional cycle is triggered once again.

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

In the example of coniferous forest succession, as willow, aspen and low shrubs take over a logged area, white-tailed deer and moose take advantage of the abundance of preferred food. The climax coniferous stage accommodates such species as fisher, marten and red squirrels.

LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT

POPULATION DYNAMICS

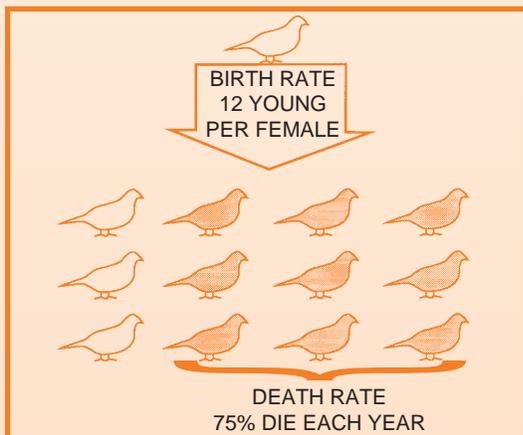
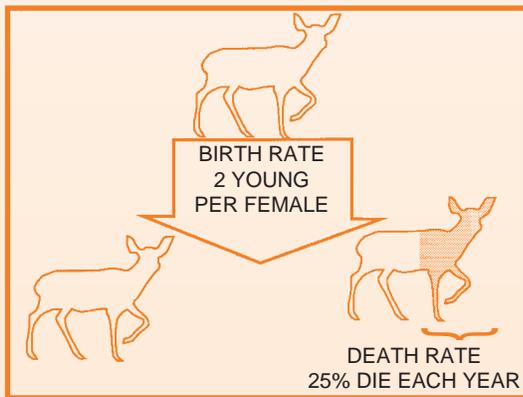
A population is a group of animals of the same species that occupy a particular area. Dynamics refers to motion or change from within. **Population dynamics means the changes that occur in a population over time.** The study of population dynamics helps explain why wildlife populations must be managed and how.

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

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:

- age at which breeding begins.
- number of births per year for each breeding female (how many times each year young are born).
- number of young born per litter. How many at a time?



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 Manitoba are:

- availability of food and cover
- weather
- predation
- human activities
- disease and parasite

ECOLOGICAL PRINCIPLES AND POPULATIONS

Many wildlife populations appear to fluctuate widely over time, but they actually are moving toward equilibrium or stability with the carrying capacity of the habitat. Habitat includes factors such as food, water, shelter and space. Within the limits of those factors, reproduction is often negatively affected at very low or very high population levels. Negative impacts may include fewer embryos, an imbalanced sex ratio at birth or decreased survival of the young. Generally the number and size of litters are inversely related to the density of the breeding population in limited environments.

If there are more white-tailed deer than the area can support, there often will be more males than females born and fewer fawns will survive their first year. A reduction in the fawn crop is also common following severe winters. In subsequent years if winters are mild and habitat not limiting, twins and occasionally triplets will be common in the deer population.

Harvest mortality is generally additive to other forms of losses in the population, particularly in those populations that are much below environmental carrying capacity. However, many species can compensate for losses by having more and larger litters and by breeding at a younger age.

WILDLIFE VALUES

Many people benefit from our diverse wildlife heritage. Wildlife provides food; income for trappers, outfitters, fur traders, and taxidermists; hunting opportunities for city and country dwellers alike; opportunity for scientific research; study for naturalists; and aesthetic pleasure for everyone.

Wildlife, like forests, water, fisheries and soils, is a natural resource. Wildlife is used directly by many people and influenced directly and indirectly by the numerous ways humans use other natural resources.

LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT

Classification of Wildlife Values:

1. **Recreational** - The recreational value of wildlife is growing as more people with increasing amounts of leisure time take up hunting, fishing, wildlife photography, wildlife viewing, etc.
2. **Commercial** - Commercial value of wildlife has increased within recent years mostly because of increased interest. Millions of dollars are spent annually by hunters, fisherman, and other wildlife oriented persons.
3. **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.
4. **Scientific** - Wildlife has value for providing animals for research purposes. The study of animal population behaviour helps in our understanding of the human species.
5. **Social** - The social value of wildlife brings together people with a common interest in conservation.

Categories of Wildlife

Wildlife Species are defined by law and are generally valued for food, for particular products such as hides or feathers, and for the hunting opportunities they provide. Current licensing regulations define "game" in the following manner. Big game animals include bear, caribou, deer, elk, moose and wolves. Upland game birds include ruffed grouse, spruce grouse, sharp-tailed grouse, gray partridge, wild turkey and ptarmigan. Migratory game birds include ducks, geese, sandhill cranes and snipe.

Non-game animals are those not hunted or trapped. Songbirds, birds of prey, small mammals, reptiles and amphibians are included in this category.

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

Extinct - A species that no longer exists

Extirpated - No longer exists in the wild in Manitoba; but exists elsewhere

Endangered species - In many cases, these species are in danger of extirpation because humans have encroached upon or destroyed their habitat.

Threatened species - These species are also in danger but their position is not as desperate. Law protects both endangered and threatened species and their habitats.

WILDLIFE MANAGEMENT AND CONSERVATION

Using the basic principles of ecology, wildlife managers attempt to maintain and manage wildlife populations. Wildlife is one of our 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 Plan Objectives

Wildlife management plans attempt to: 1) allow for continued consumptive use of wildlife; 2) distribute hunting pressure more evenly and 3) keep populations in balance with available habitat (maintain the integrity of the entire ecosystem).

Wildlife 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, wildlife 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, through hunting, wildlife managers "farm" wildlife just as the farmer manages a herd.**

LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT

The science of wildlife 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 manipulating the various factors which affect wildlife species and limiting the carrying capacity of their habitats, the wildlife manager attempts to maximize the crop available for harvesting and for viewing purposes.** This can generally be done by developing habitat to create more space, food, cover, or other critical components. Although primarily done to benefit a wildlife species, the creation of new habitat will also benefit many other kinds of wildlife.

WILDLIFE MANAGEMENT TECHNIQUES

Wildlife management is the practical application of ecological principles to ensure the survival of all animals. Present wildlife management efforts focus on the conservation and continued existence of ideal numbers of wildlife. Wildlife managers use several approaches to arrive at these goals including:

1. Research
2. Monitoring
3. Refuges
4. Management areas
5. Seasons and bag limits
6. Habitat management and conservation
7. Hunting and trapping
8. Public education
9. Compliance (laws)
10. Cooperative, co-management or joint management agreements
11. Species re-introductions

Research

In order to exert careful control over the amount taken and methods used in the harvesting of wildlife, wildlife managers need a great deal of information about wildlife populations. Most importantly, they need an estimate of the number of animals in the hunted population, and the number taken each year.



Monitoring

Estimating the number of animals present is called **inventory**. Biologists use aerial surveys to inventory most large wildlife species. 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 wildlife 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.

LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT

Wildlife managers need to look for an appropriate mix of population and habitat evaluations to support their management decisions. Once wildlife habitat is classified, selective population surveys can be done to monitor population status and to provide carrying capacity estimates. Long-term monitoring of wildlife populations can be done through a combination of habitat assessment, periodic population surveys and information from hunters. **The hunters' assistance in monitoring wildlife populations is a necessary contribution and important management tool.**

Refuges

Refuges may be: 1) all species, 2) upland birds, 3) waterfowl, and 4) furbearing animals

Refuges provide safe areas during staging periods, restrict hunters access to staging waterfowl, eliminate the potential for hunting related accidents near urban centers and high non-consumptive resource user areas like Birds Hill Provincial Park and critical habitat areas.

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

Wildlife Management Areas and Other Hunting Areas

Wildlife Management Areas are designated lands created within an agency's jurisdiction and in some cases these areas are managed separately. 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, hunting pressure, etc.

Seasons and Bag Limits

The ability to set seasons and bag limits is an important part of managing wildlife 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 wildlife 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. The primary 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 exceed the carrying capacity. **Hunting decreases chances of starvation and habitat damage.**

Habitat Management and Conservation

Habitat management and conservation is the single greatest challenge facing the wildlife manager today.

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, planning programs concerning man's use and the future of habitat components are necessary. Both short 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 harvest, extraction of gravel, 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 the wildlife



LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT

managers, are cooperatively working and planning to minimize our effect on habitat and the wildlife dependent on it.

The single greatest threat to wildlife today is the loss or degradation of habitat. Without healthy habitat few species of wildlife can survive.

Many provinces have passed **Wilderness and Ecological Reserves Acts**. Wilderness Reserves are large areas, few in number, designed to protect significant portions of our wild landscape. They are areas to 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, and a standard by which development in other areas may be measured. There is no hunting or trapping allowed.

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 species and 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 maintaining that stage as long as possible. The provision of such habitat increases the carrying capacity of the area and 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*”.

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

The “*Law of Diminishing Returns*”, coupled with wildlife regulations, tends to avoid the “*shooting out*” or “*over-harvesting*” of wildlife.

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 harvest an animal. 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.

Some of the funding needed for wildlife management programs is provided by hunters and trappers.

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)

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 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 wildlife species. In cases involving rare or endangered species or sensitive breeding sites, complete protection from harvesting may be required. 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.

LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT

To determine how many either-sex and other type of licenses (such as buck only) should be issued, the success rate of each group 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 (Illegal harvest of wildlife) can have a major influence because it removes animals that could be legally harvested. It can even contribute to the decline of many populations. Legitimate hunters must take this illegal activity very seriously because it could result in the lowering of licence quotas or the closing of some hunting areas. **Poaching is stealing, and because everyone owns the resource, poachers are stealing from all of us.**

The future of hunting is in your hands. Your actions today determine if we will hunt tomorrow.

Formal Agreements and joint management agreements have been used by Manitoba and other governments like First Nations and conservation organizations to manage wildlife and wildlife habitat. Examples of this are: The Waterhen Wood Bison re-introduction agreement between the Waterhen First Nation and government of Manitoba has resulted in the successful re-introduction of wood bison into Manitoba. A Caribou Management Agreement, in place since 1985 was established to manage two populations of caribou in the interest of aboriginal cultures and others who have traditionally relied upon these caribou. The management of these herds is done through a board with representatives from the governments of Manitoba, Saskatchewan, Nunavut, and the North West Territories and aboriginal community representatives. The Manitoba Protected Areas Initiative was implemented to protect unique habitats and areas between Manitoba and the Assembly of Manitoba Chiefs (AMC) and twenty-six northern First Nations.

Re-Introduction of wildlife species has been used where a species became extinct within Manitoba or parts of Manitoba. Successful re-introductions include the Waterhen wood bison initiative where sixteen

wood bison were released to the area. There are now over 120 free roaming bison in Manitoba. Another excellent example of this management technique is the re-introduction of elk into the Interlake region.

HUNTER'S ROLE

The first step in managing any population and estimating how many animals should be harvested, is to find out how many animals there are in the first place. This is done by carrying out a census or count. Coupled with population estimates, other information is used to determine the number of animals which may be harvested.

Hunters play a significant role in helping wildlife managers determine wildlife populations. Three ways they help are:

1. Hunter Surveys

On post-hunt surveys, hunters are asked among other things: 1) the numbers of days hunted and 2) 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 analysed over a period of years it indicates whether a population is increasing, decreasing or remaining stable.

2. Providing Biological Data

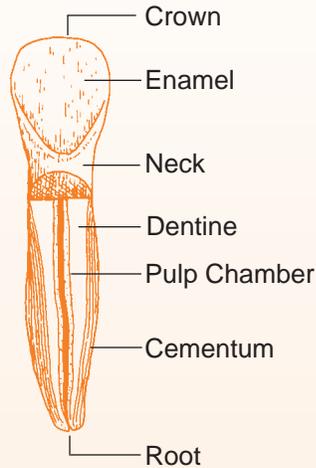
Wildlife biologists are constantly studying wildlife to learn more about this natural resource. Marking and tagging programs help provide wildlife management personnel with migration and movement data necessary to understand and conserve wildlife. Hunters are asked to report locations where tagged wildlife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

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

LESSON 4: ECOLOGY AND WILDLIFE MANAGEMENT

3. Submitting Parts of Wildlife Species

Hunters may be asked to provide body parts from any wildlife taken (i.e. deer or moose jawbones, bear teeth, duck wings...). Information obtained from examining these parts helps in managing wildlife successfully.



For example, the lower jawbone of some species 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 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.

Wildlife managers need to know the age structure to determine the status of the population. If a population is composed largely of older animals, with few young and middle-aged animals, the population is unhealthy and declining. If there is an adequate number of young and old, the population is stable.

HUNTING QUOTAS

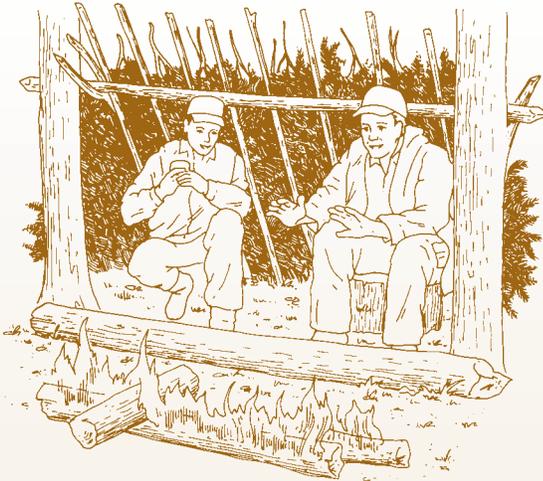
How are Hunting Quotas Set?

After all the information from counts, licence returns, jawbone analysis and other studies are analysed, a reliable picture of the population, area by area and year by year, is obtained. **Quotas are set to increase a population if the habitat is there to support it; decrease a population if there are too many animals present for the available food supply; or hold a population stable if conditions look just right.**

The number of licences allocated in an area is determined by a formula which takes into account, among other things, the total population, birth rate, death rate, the requirements for wildlife by aboriginal people, crippling loss, poaching loss, the desired increase/decrease and the predicted hunting success based on the success rates of previous years.



LESSON 5 HUNTER SURVIVAL SKILLS



INTRODUCTION

Survival is the ability to cope with emergency conditions that occur in the outdoors. Knowing how to cope with emergencies is essential for hunters. Basic survival techniques should be learned and practised 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, practising 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 seventy-two 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 prepare yourself for a hunting trip you can avoid many of the hazardous situations that could arise. Preparation includes three aspects:

1. PREPARE YOURSELF

This includes being mentally ready to go hunting, dealing with problems before you leave home, knowing your health and fitness level, and learning about safety and first aid.

2. PREPARE YOUR EQUIPMENT



Put together your basic equipment including a survival kit and a first aid kit and learn how to use them.

3. PRACTICE SAFE BEHAVIOUR

Hunt with a partner and tell someone where you are going and when you will return. Be as specific as you can.

LESSON 5: HUNTER SURVIVAL SKILLS

PREPARING YOURSELF FOR YOUR HUNTING TRIP

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
2. Physically
3. Medically
4. Safety and first aid
5. Know the region
6. Plan with your hunting companions

1. Mentally

Know your capabilities and develop a calm, alert frame of mind. Deal with any personal problems so they do not distract you on your hunt.

2. Physically

Exercise on a regular basis for at least a month before you hunt. Hunting requires a lot of energy, strength, and endurance. You may 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 compass and map, 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. Before entering the hunting area, take note of wind direction if any.

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?



SURVIVAL KIT

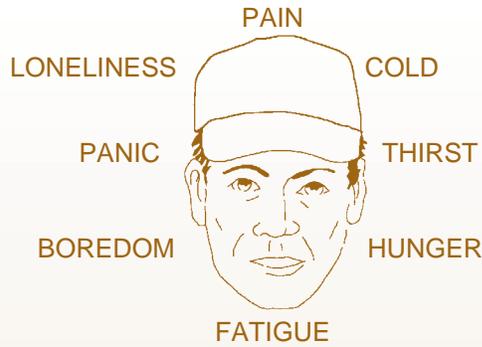
A survival kit is a compact, weatherproof kit, which contains a number of items which are very useful in an emergency. The ideal survival kit is small enough to fit in a jacket pocket so that it is always carried rather than being left behind because it is too heavy or bulky.

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 is a list of components for a survival kit that you may wish to put together. Feel free to alter the kit to meet your needs.

1. Container
2. Water Proof Matches
3. Absorbent Cotton
4. Knife
5. Safety Pins
6. Signal Mirror
7. Compass
8. Whistle(plastic)
9. Special Medication
10. Plastic Sheet for Personal Shelter (2m x 3m)

The kit should be small and light so it can be easily carried with you at all times. The best kit will fit into a jacket pocket or waist pack.

LESSON 5: HUNTER SURVIVAL SKILLS



SURVIVAL FACTORS

Pain, cold, thirst, hunger, fatigue, boredom, loneliness and panic are feelings we've all had before, but never so strongly as when we must survive a serious emergency situation. **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; the victim of cold often loses the ability to function normally. When you are very cold, it's hard to think 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 several 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:

1. Making decisions and acting on them
2. Adapting to your situation and improvising solutions to problems.
3. Tolerating solitude.
4. Avoiding panic and keeping calm.
5. Thinking positively and planning ways to overcome problems.
6. Being patient.
7. Keeping your hands busy—even by whittling a stick.

In Summary:

1. Recognize that panic is a very normal reaction.
2. Be alert to physical dangers, recognize potentially dangerous situations.
3. Subdue panic by keeping mentally and physically busy.
4. Be realistic, think positively and do not let your imagination get carried away.
5. Prayer has proved to be a very effective tool to survival. Under stress conditions, you are at the mercy of your mind.
6. Remember, originally everyone lived outdoors.

LESSON 5: HUNTER SURVIVAL SKILLS

THE “LOST” INDIVIDUAL

The most likely “lost” scenario is that of an individual who becomes separated from the group. So to be of any use, the following guidelines **must** be conveyed to **every** member of the group **before** the outing.

1. Stop

As soon as it is apparent that you have become separated from your group, are lost, or in trouble. Further attempts to 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 travelling 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 about 7.1 km. At a radius of 3.0 km, the area increased to 28.3 km, and so on. It is true that most people (about 80 percent depending upon whose figures one uses) do find their own way out. However, among the 20 percent who do not succeed in finding their own way out, fewer than half are found alive by searchers. In most cases, the odds are far better if you stay put (someone should know exactly where to begin looking and will quickly begin a search). 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.

2. Sit Down

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, it predisposes the anxious individual to hypothermia. Simple relaxation techniques (rhythmic breathing, counting, or hard tensing of the body followed by relaxation) can help.

3. Think Carefully

What just happened? How did you arrive here? From where? What time is it?

4. 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. Try to keep your feet dry.

5. 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”. (Hunters fire three shots). Early signaling can help the group relocate its missing member before a full-scale search is required. If weather conditions and the immediate environment allow, move to the nearest, most visible or open area while not losing track of your original site.

From the air, people are hard to see when they are standing up, when they are in a group of trees, or when they are wearing dark clothing. “*Make yourself big.*” A brightly coloured garment, tarp, or other large surface is very helpful to searchers. Lie down when a helicopter flies over. Make crosses or an “SOS” by dragging your foot in the dirt or snow.

Ground to Air Signals (Symbols)

Make them as big as possible. Use rocks, brush, etc. Destroy when rescued to avoid false alarms.



You may wish to cut out the above ground signals for field use.

LESSON 5: HUNTER SURVIVAL SKILLS

6. Explore the Immediate Area

Try to follow your tracks back, but be careful not to lose track of where you were. From the point where you sat down, **carefully** try going out and back in each of four directions, and each at right angles. In forested areas, it may be possible to blaze or mark trees by extending the legs of the "X" carefully for a considerable distance and by lining up marked trees. Always be sure that the way back to the centre is not lost. In open country, it may be possible to do the same thing using cairns (rock piles) as guide posts, to build, in essence a "picket fence" in each of four directions. This may allow discovery of a trail or other aid to location, and if the markers are obvious, would make it much easier for the searchers to find you.

7. Prepare Shelter

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. The "personal shelter" in the list of suggested survival kit contents is an invaluable aid in an actual survival situation.

8. Stay Put

For the reasons previously discussed, and to conserve energy, it is generally best to stay where you are. If you need to travel, move only in daylight and only 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 you should travel only at night.

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!**

Taking Care of Yourself

Conserving yourself is particularly important when faced with a survival situation. Do only what is necessary, very carefully, and after thinking it out. Be careful not to add to any problems you already have.

Don't hobble around scouting for hours if your feet already hurt.

Check yourself for any injuries at the start. Take time to care for yourself if you are hurt. Pain or loss of blood can reduce your efficiency. First aid equipment should be part of your survival kit.

Frostbite and hypothermia will be the biggest problem in cold, damp or snowy weather. Keep your hands, feet and any exposed areas warm, dry and protected from the wind.

Numbness or a change in skin colour (flushed, white, yellow or blue) means frostbite. Check all exposed areas often. If you get wet, dry yourself and your clothes by the fire immediately. Keep eyes shaded from sun glare on snow to prevent snow blindness.

Heat stroke from over-exposure to the sun is your worst enemy in the summer. Avoid sweating if you can. This uses the body's water very rapidly.

Consult the First Aid section to treat these problems.

Shelters

Choose Your Campsite with Care

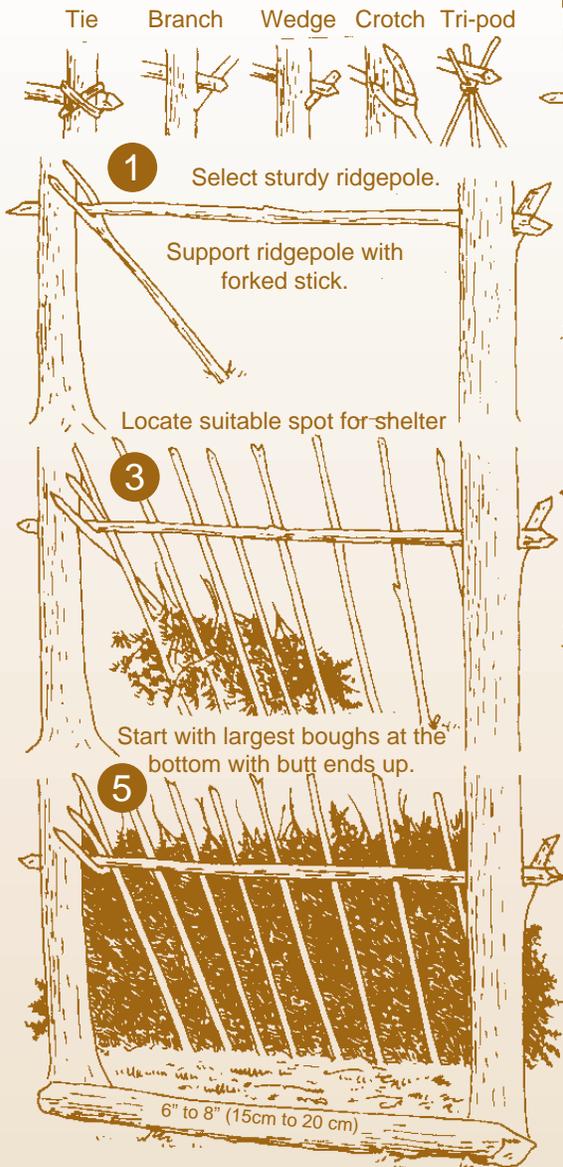
Plan for the worst when you first build your shelter. Conserve and build upon all resources available from the beginning. You may be faced with greater emergencies. To be safe from the elements, disregard the possibility of an early rescue when you build your shelter. Set yourself to building a shelter, 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.

If possible, choose a site well protected from the wind. A location having a large rock or an overhanging rock shelf makes an ideal shelter site. Choose a site where you can build a fire in front of your shelter.

The quickest and easiest shelter is under the uplifted roots of a partially blown down tree or under the trunk of a **fallen tree**. Strip the branches off the underside of the trunk and use these and branches from other trees

LESSON 5: HUNTER SURVIVAL SKILLS

Attachments for Ridgepole

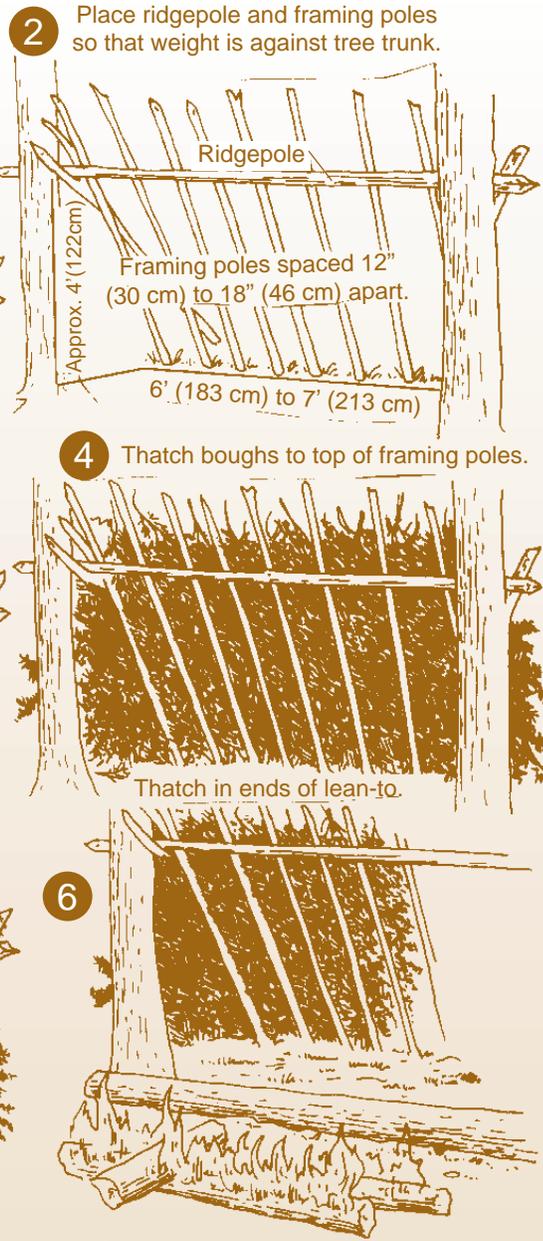


Boughs will insulate you from the ground.
Boughs should be placed with broken ends toward the ground.

to thatch the roof. Do not cut any branches that are supporting the tree. In each case make sure the tree is secure.

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

A **lean-to** can easily be made in forested terrain. Support from a horizontal bar 1 metre from the ground is the only major requirement. A lean-to 1 to 1.3 metres high provides more openness but one 45-60 cm, is



For larger fuel, gather dry dead wood.
Do not consume energy by cutting up.
Build fire across entire length of shelter.

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 20-25 centimetres of boughs to act as a mattress and as insulation against the cold ground.

LESSON 5: HUNTER SURVIVAL SKILLS

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 side of a ridge, protected from the wind, as opposed to a valley. Build a fire between your shelter and a heat reflector made of logs or stones.

Snow Caves

If you can find a snowdrift, chances are it will make a good snow cave. A one-person cave should be dug 1.0 m by 2.5 m high enough for comfort. Place a 10-15 cm diameter hole in the roof to maintain ventilation. Use a snow block to cover the entrance. Construct a sleeping ledge about 30 cm. above the floor and cover it with spruce boughs (if available). 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.

Fires

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.**

Finding a Fireplace

Carefully prepare your location for the fireplace. 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, 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. To stockpile fuel, gather dry, dead branches. The inside of tree trunks, dung, or dead branches may be dry even if the outside is wet. Large dead tree trunks may burn all night.

Ignition

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.

To prevent from accidentally catching fire inside the container.

- a) place half of the matches upside-down to keep their heads from rubbing together;
- b) dip the matches in paraffin wax (this will also waterproof them and make them burn longer);
- c) pack cotton batting into the container to keep them from striking against each other (the cotton will also make a 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 stick 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.

Food & Water

Food, contrary to popular opinion, **is not as essential to survival as shelter and warmth.** Healthy people can survive for two weeks or more without food as long as they have water. Water is more vital. Finding water is not usually a problem but you should purify it. Some methods you can use:

- Boil water for twenty minutes. To improve taste, add a small piece of charcoal to the boiling water. Let it stand for thirty minutes. Strain. Aerate water by shaking vigorously.
- Water-purification tablets (i.e. iodine, or halazone tablets) - Follow directions on the label. Be aware that the tablets may deteriorate over time and not be effective.

LESSON 5: HUNTER SURVIVAL SKILLS

- Tincture of iodine - Add five drops to one litre of water. Though simple, very effective and not subject to deterioration, this method gives the water a strong iodine taste.
- Portable filter systems - There are a variety of systems that remove bacteria, viruses and protozoa. Follow instructions.

As long as the body has water, it will utilize the stored food reserves, which even a lean person possesses. Without food a person will naturally feel weaker than under normal conditions, especially if there is much chopping and carrying to do. 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 was, "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.

Wild Foods

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. Remembering that humans can benefit from eating **almost** any fresh fare that a bird or animal can eat, and that under extreme hunger they cannot afford to be choosy, you should consider the following list with care.

Spring/Summer: young plants, fish eggs, young animals, birds and frogs

Fall: Nuts, acorns, cranberries, clams, snails, fish, animals and birds

Winter: Inner bark from trees, tender shoots, roots, cones, squirrel caches, animals, birds and acorns.

Space does not permit describing in detail what plants not to eat, but a few pointers can be given. **Cardinal rule is: 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 the leaves, twigs and barks. The fruit, however, is harmless. Avoid plants with white berries.

"If you are not sure it is safe, don't eat it".

BOATING & WATER SAFETY

Every year thousands of hunters take to boats and water and every year hunters drown. Since hunting from a boat takes a hunter to fairly remote spots, extra caution is needed. Proper equipment is part of being safe. Being prepared is the key.

The Small Vessels Regulations under the Canada Shipping Act requires all boats under 6 metres to have on board: one approved Personal Flotation Device (PFD) or life-jacket for each person on board; a bailing device; a buoyant heaving line not less than 15 metres in length; a manual propelling device (oar or paddle) or anchor line not less than 15 metres; a sound-signaling device or appliance; a class 5BC fire extinguisher if the boat is equipped with an inboard engine, a fixed fuel tank of any size or a fuel-burning cooking, heating, or refrigerating appliance; a watertight flashlight or three pyrotechnic distress signals of Type A, B or C.

Regardless of the type of boat you have, it must be equipped with safety equipment that is in good operating order, easily accessible and of the type approved by the Canadian Department of Transport.

Wear several layers of light clothing under a heavy jacket with a complete outer suit of waterproof rain clothes. With your normal supplies, be certain to include a complete change of warm clothing stored in a waterproof container, flashlight, matches, knife, rope and high energy food (chocolate, nuts, raisins) for emergencies.

File a trip plan with friends, relatives, the local RCMP. Be sure you tell someone where you are going and when you are coming back.

If using an outboard motor, carry a spare propeller, sparkplugs and a tool kit. Carry a spare motor and a supply of fresh water sufficient for several days longer than your trip. If hunting on a large body of water, do not rely solely on your G.P.S. (Global Positioning System), be sure to carry a compass as a backup.

LESSON 5: HUNTER SURVIVAL SKILLS

Should your starter break, remove the starter housing and use a small short rope – 1 meter of 6 mm (4 ft. of 1/4 in.) wrapped around the flywheel to start the engine.

On board, wear your PFD (Personal Flotation Device) or life jacket at all times. Don't overload your boat. Stow gear low and distribute weight evenly. A properly balanced boat is less likely to capsize. **Always sit to stop or start the motor. In fact, always remain seated in small boats.** Anchor from the bow (front) - never the stern (rear).

If the 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. **Warning: Hip waders should never be worn in boats.** Keep your cap on even if it gets wet. Grab a piece of equipment to help you float. Place decoys inside clothing (free anchor lines if necessary). Hold onto gas containers and decoy bags. 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 arms along its length. Keep toes of your boots out of the water. They will float at the toes. Float on your back, face-up and use a gentle backstroke.

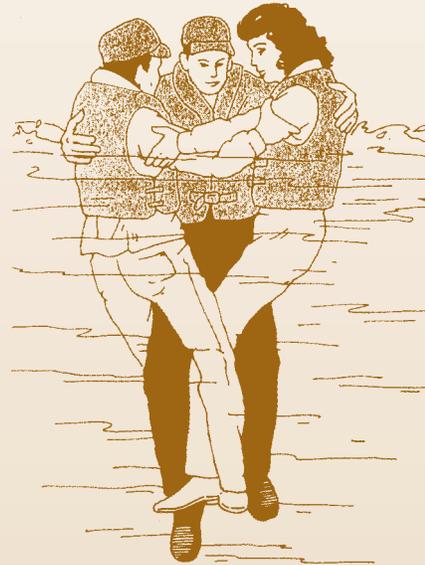
If you are wearing your PFD or life jacket, you have a much better chance of surviving. Keep as much of your body out of the water as possible to conserve body heat (especially the head, neck and chest). If possible, climb out of the water onto the overturned boat or floating debris. If you must stay 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 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 IF HUNTING OVER WATER.**



HELP

(Heat Escape Lessening Postures) - Hold upper arms securely to your sides and keep legs together, to protect armpits, sides and groin.



HUDDLE

Huddle side by side with two or more people to extend your survival time 50 per cent longer than swimming or other activity.

To use either the Help or Huddle position, you must be wearing your PFD. or life jacket.

LESSON 5: HUNTER SURVIVAL SKILLS



ICE SAFETY

Stay off thin ice if it is less than 8-10 cm (3-4 inches) thick. If you break through the ice, 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. You may have to break the thin ice ahead of you to reach ice thick enough to hold your body weight. Once you are out of the water, immediately get to shore and build a fire to warm yourself and dry your clothing.



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 (backpack, jacket pocket, belt).

Your family doctor may suggest that any needed personal medication be included in your first aid kit.

Tape the lid of the container to keep the kit watertight.

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. First aid techniques will be discussed later in this lesson.

FIRST AID

Ninety-percent of injury victims can be saved by the first person on the scene, if that person is properly trained. When considering hunter safety, this is crucial. From gun shot wounds to hypothermia, knowing what to do in the face of an emergency can mean the difference between complete recovery and permanent disability for someone who is injured.

The following are some basic first aid procedures to help guide you through common hunting emergencies.

Emergency Action Principles

There are six emergency action principles to follow in order in the case of any emergency;

1. **Survey the scene.**
2. **Check the casualty. If the person does not respond, call EMS.(Emergency Medical Services)**
3. **Do a primary survey and care for life-threatening problems.**
4. **So a secondary survey, when appropriate, and care for additional problems.**
5. **Keep monitoring the casualty's condition for life-threatening problems while waiting for EMS to arrive.**
6. **Help the casualty rest in the most comfortable position and give reassurance.**

1. Survey the Scene

Make sure the scene is safe for you and others. Never risk your own safety. Take time to look around and ask yourself these questions:

Is the scene safe?

What happened?

How many casualties are there?

Can others help?

2. Check Casualty for Unresponsiveness

Tap or gently shake the person and shout in both ears. If there is no verbal or facial response, this person is unresponsive. At this point it is very important that the person receives more advanced medical attention as soon as possible.

LESSON 5: HUNTER SURVIVAL SKILLS

3. Do a Primary Survey

During the primary survey, you are looking for any life threatening injuries the person might have, such as respiratory arrest, severe bleeding, etc... for the primary survey follow these steps, **if there is no suspected head or spinal injury:**



Open airway with head-tilt/chin-lift. Check for breathing. Look, listen, and feel for breathing for 3 to 5 seconds. Give 2 full breaths.



Keep head tilted back. Pinch nose shut. Seal your lips tightly around person's mouth. Give 2 full breaths, each lasting 1 to 2 seconds. Watch chest to see that your breath goes in.



Check for pulse. Locate Adam's apple. Slide finger down into groove of neck on side closer to you. Feel for pulse for 5 to 10 seconds.

If the person has a pulse but is not breathing, continue rescue breathing at a rate of 1 breath every 5 seconds, breathing on the fifth second.

If the person has a pulse and is breathing check for and control severe bleeding.

4. Do a Secondary Survey

If you are sure that the casualty has no life-threatening problems that require continued care, you may now move on to the next step. The secondary survey is a way to look for other problems that may need first aid. It is important because even problems that do not threaten life directly can become serious if first aid is not given.

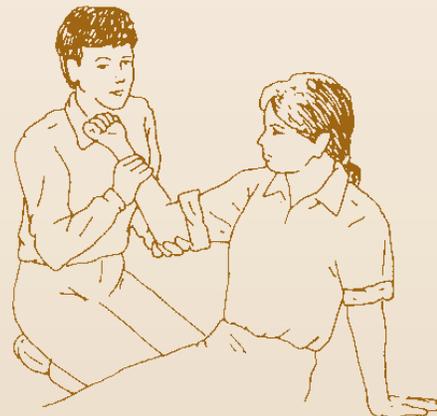
The procedure for a secondary survey is simply a head-to-toe examination, checking for bleeding, broken bones, tender areas, etc... anything that may indicate further injury.

5. Keep Monitoring the Casualty's Condition

After the secondary survey has been completed, you must continue monitoring the casualty's level of consciousness, respiration and pulse. Any change in these should always be noted.

6. Help the Casualty Rest Comfortably and Provide Reassurance

Minimize the casualty's anxiety by keeping him/her as calm and comfortable as possible. Anxiety can make a person's condition worse.



Major External Bleeding

External bleeding is usually easy to control. **Direct pressure** with a bandage or your hand on the wound can stop bleeding. Pressure on the wound restricts the blood flow and allows clotting to occur if the casualty's injury and pain allow it. **Elevation** of the injured area will also slow the flow of blood to assist clotting. Pressure can be kept on a wound with a **pressure bandage**. Rest and reassurance also help reduce the

LESSON 5: HUNTER SURVIVAL SKILLS

flow. A tourniquet, a tight band placed around an arm or leg to help constrict blood flow to a wound, is not recommended because too often it does more harm than good.

A good way to remember the basics of first aid for external bleeding is the acronym **RED**:

R Rest

E Elevate the injured area above the heart

D Direct pressure on the bleeding site

Shock

Extensive internal or external bleeding usually causes shock, as the loss of blood leads to low blood volume and decreased oxygen supply to the vital organs.

Signs and Symptoms of Shock

- Restlessness or irritability
- Rapid and weak pulse
- Rapid breathing
- Pale or bluish, cool, moist skin
- Excessive thirst
- Nausea and vomiting
- Drowsiness or loss of consciousness
- Drop in blood pressure

First Aid for Shock

In addition to using the emergency action principles, help the casualty maintain normal body temperature (cover with blanket, etc.) and encourage him/her to lie down.

Penetrating Chest Wound

A casualty with a penetrating chest wound needs first aid and medical attention promptly because the condition will worsen.

1. Cover the wound with a dressing that does not allow air to pass through it, such as a piece of plastic wrap or a plastic bag. If these are not available, use a folded cloth or an article of clothing.

2. Tape the dressing in place, except for one side that remains open. This method keeps air from entering through the wound during inhalation but allows air to escape during exhalation.

Head and Spine Injuries

1. Keep the head and spine as still as possible.
2. Maintain an open airway.
3. Monitor consciousness and breathing.
4. Control external bleeding.
5. Maintain normal body temperature.

Bone, Muscle and Joint Injuries

The general care for all bone, muscle and joint injuries is similar. You don't have to know the specific type of injury. Avoid causing any more pain. Keep the casualty as comfortable as possible and remember the acronym **RICE**.

R Rest

I Immobilization

C Cold

E Elevate

If you suspect a serious injury, you must immobilize the injured person before giving additional care such as applying ice or elevating the injured part.

You can immobilize an injured part with a splint, sling or bandages. A splint is a device that prevents movement of an injured part and to be effective must extend above and below the injury. For instance, to immobilize a fractured bone, the splint must include the joints above and below the fracture. To immobilize a sprain or dislocation, the splint must include the bones above and below the injured joint.

When using a splint, follow these four basic principles:

- Splint an injury in the position you find it.
- Splint the injured area and the joints above and below the injury site.
- Check for proper circulation before and after splinting by asking the person if the fingers or toes feel numb and by checking whether the fingers or toes feel warm and are pink in the nailbeds.

LESSON 5: HUNTER SURVIVAL SKILLS

Moving Casualties

Until you have done a primary and secondary survey and you have determined that it is safe to do so, never move a casualty unless there is immediate danger (fire, poisonous fumes, and risk of drowning...).

Walking Assist

A conscious casualty without a neck or back injury can be moved by the “walking assist” technique. Put the casualty’s arm across your shoulders and hold it in place with one hand. Support the casualty with your other hand around the waist. Support the casualty’s weight while you both walk. A second rescuer can support the casualty in the same way from the other side.

Two-Person Seat Carry

Another way to move a casualty that does not have a neck or back injury is the “two-person seat carry”. Put one arm under the casualty’s thighs and the other across the casualty’s back. With a second rescuer, interlock arms under the casualty’s legs and across his or her back. The casualty is then lifted in the “seat” formed by the rescuers’ arms.

Eye Injury

Eye injury can involve the bone and soft tissue surrounding the eye or the eyeball itself. Care for the wounds around the eyeball just as you would for any other soft tissue injury.

Injuries to the eyeball are serious and require special care. Never put direct pressure on the eyeball. Follow these guidelines for first aid:

1. Place the casualty on his/her back.
2. Do not attempt to remove an object impaled in the eye.
3. Place a sterile dressing around the object.
4. Stabilize any impaled object with bulky dressings and gauze.

A casualty with a foreign object in the eye (NOT IMPALED) such as dirt, sand, slivers of wood, or metal may feel severe pain and may have difficulty opening the eye. Give the following treatment for such a situation:

1. Try to remove the foreign object by having the person blink several times. The eye will produce tears that may wash out the object.

2. Gently flush the eye with water.
3. If the object remains, the casualty should cover the injured eye with a clean dressing and see a doctor as soon as possible.

Burns

Burns are usually caused by heat but also by chemicals, electricity or radiation such as a sunburn.

Burns break the skin and thus can cause infection, fluid loss and loss of temperature control. Deep burns will affect underlying tissues and can also damage the respiratory system and the eyes.

Burns are classified by their causes and their deepness:

- **First degree burns:** this type of burn damages only the top of the skin. The skin will be red and dry and the burn is usually painful. Most sunburns are first degree burns.
- **Second degree burns:** a second degree burn damages both layers of skin (the epidermis and the dermis). The skin will be red and blistered. **DO NOT BREAK BLISTERS**, this is the body’s way of curing itself and preventing infection.
- **Third degree burns:** a third degree burn destroys both layers of skin, as well as any or all of the underlying structures (nerves, blood vessels, fatty tissue, muscles and bones). Because of nerve and tissue damage the casualty might only feel pain around the burned area. These burns may look either charred (black) or waxy white. Third degree burns can be life threatening if extensive, because of the fluid loss that leads to shock.

First Aid for Burns

Even after the heat source has been removed, the area affected will continue to burn for a few minutes afterwards, causing more damage. Therefore, you must follow these steps to treat the casualty:

1. Follow the Emergency Action Principles whenever you suspect a serious burn.
2. Cool the burned area right away with cool water until the pain stops. Do not use ice water. Immerse the body part in cool water or let water flow over the area. Do not use ointments.
3. Cover the burned area to keep air out, reduce pain and prevent infection. Use moist sterile dressings and loosely bandage them in place.

LESSON 5: HUNTER SURVIVAL SKILLS

Do's & Don't of Burn Care

- Cool burns by flushing with cool water.
- Cover burns with a moist sterile dressing.
- Don't touch burns with anything except sterile or clean dressings; do not use absorbent cotton or pull clothes over any burned area.
- Don't remove pieces of cloth that stick to a burned area.
- Don't try to clean a third-degree burn.
- Don't break blisters.
- Don't use any kind of grease or ointment on severe burns.

Blisters

A burn will blister but there are also other reasons blisters may form. For example, if footwear is not properly broken in or if gloves are not worn when performing certain tasks, blisters might appear.

Prevention of Blisters

To prevent blisters:

- Make sure your footwear is properly broken in before heading out on a long excursion.
- If your socks get wet; change them right away. Wet socks will cause more abrasion against your skin.
- Wear proper gloves if you are doing heavy work.

First Aid for Blisters

The most important thing to remember is; **DO NOT BREAK THE BLISTER!** Leave them as they are and if possible, cover them with sterile dressings to prevent accidental breakage at the blister. If the blister does break, treat the injury as an open wound. Clean the wound with mild soap and water and cover it with a sterile dressing.

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 tissue below. In deep frostbite both the skin and underlying tissues are frozen.

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 discoloured (flushed, white, yellow, blue).

First Aid for 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 40.5C. 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.**

Hypothermia

Hypothermia is a condition that occurs when inner body temperature drops more than two degrees below normal. It means the body is seriously cold and losing heat faster than it can produce it. The body cannot keep itself warm. Exposure to the cold, along with wind, wetness and exhaustion, causes hypothermia.

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.

LESSON 5: HUNTER SURVIVAL SKILLS

You have three defences 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 7C outside with the sun shining but a 30 km wind lowers the temperature to -7C. Most hypothermia cases develop in air temperatures between -1C and 10C. 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 body is exposed to wind, cold and wet, **think hypothermia**. Watch for these symptoms.
 - uncontrollable shivering, may be absent in later stages.
 - vague, slow, slurred speech.

- memory lapses, confused or unusual behaviour.
- lack of coordination: fumbling hands, numbness, stumbling and lurching gait.
- drowsiness and apparent exhaustion.
- body temperature below 35C.

First Aid for Mild or Moderate Hypothermia

1. Remove any wet clothing and dry the casualty.
2. Warm the casualty by wrapping in blankets, putting on dry clothing and moving him or her to a warm place.
3. Apply available heat sources (hot water bottle, heating pad, if 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.

WIND CHILL INDEX											
Actual Thermometer Reading (°C)		10	4	-1	-7	-12	-18	-23	-29	-34	-40
Equivalent Temperature (°C)											
Estimated Wind Speed (km/h)	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/h have little additional effect	Little Danger (to properly-clothed person)					Increased Danger (Exposed flesh may freeze in 60 seconds)			Great Danger (Exposed flesh may freeze in 30 seconds)		

LESSON 5: HUNTER SURVIVAL SKILLS

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 which may lead to death.
- 2) Place 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.

Prevention of Cold Emergencies

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

- Avoid exposing any part of the body to the cold during the coldest part of the day.
- Wear a hat and layers of clothing made of tightly woven fibres, 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.

This is just a summary of first aid skills. To learn more about first aid training and the important role you can play in emergency situations, contact the Canadian Red Cross Society or St. John's Ambulance.

LYME DISEASE

Description

First discovered in Lyme, Connecticut in 1975, Lyme Disease has been reported in many parts of North America. Lyme disease is a non-fatal bacterial infection which can cause arthritis, heart problems and/or nervous system disorders.

Cause

Lyme Disease is spread through the bite of deer ticks carrying the bacteria "*Borrelia burgdorferi*".

Early Symptoms

(May occur within a month of infection):

- Sometimes a red, circular, blotchy rash centered around the bite (similar to a bull's-eye).
- Flu-like symptoms (headache, fatigue, fever, joint and muscle pain, stiffness, nausea, backache and/or sore-throat, skin rashes and other skin problems, eye problems).

Later Symptoms

- Temporary or chronic arthritis, dizziness, weakness, severe fatigue, irregular heart beat, headache, memory loss, facial paralysis.

Chronic Complications (may continue or reappear months or years after infection):

- Mental lapses, irritability, depression, daytime sleepiness, muscle weakness, numbness, tingling or shooting pain in the hands, feet, back and body.

"SYMPTOMS MAY VARY"

Treatment

- Immediately after noticing any symptoms, inform your physician that you may have been exposed to ticks.
- Early treatment with antibiotics usually prevents complications. Delay makes successful treatment more difficult.

LESSON 5: HUNTER SURVIVAL SKILLS

Prevention

Ticks are most commonly found in marshes, woodland and forest, on bushes, shrubs and long grass. Ticks cling to vegetation and then to any mammal that brushes against them.

In Tick-infested Areas

- Wear a hat, long-sleeved shirt with snug cuffs and collar. Tuck shirt into pants, tuck pants into socks. It is easier to spot ticks on light-coloured clothing.
- Apply tick repellent.
- Check for ticks, especially your back, underarms, groin and head. Check pets. A tick looks like a small black “freckle”.
- Put suspect clothing in a clothes dryer. Run dryer for 1/2 hour.
- If you suspect you have been bitten, watch for a rash or other symptoms for the next two months.

Removing Ticks

Use small pointed tweezers to grasp as close to the tick’s mouth parts as possible. Pull gently and firmly until the tick releases its hold. Save the tick with some moist cotton or grass blades in a vial or a sealed plastic bag for analysis. Wash your hands and the bite area with soap and water. Apply antiseptic. If symptoms are noticed, see your physician immediately.

About Ticks

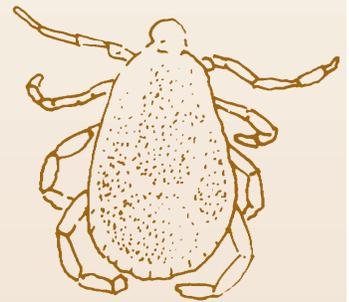
- Deer ticks are slightly larger than the head of a pin.
- Ticks usually feed on the blood of mice and deer.
- Ticks do not jump or fly.

Life Cycle

The female tick mates in the fall and early winter. In early spring, she dies after laying her eggs on the ground. Baby ticks, known as larvae, hatch in late spring. From spring to fall, the larvae feed on the blood of small mammals. The larvae do not eat in winter. The following spring, the larvae become nymphs. During the spring and summer, the nymphs feed on the blood of birds and mammals. In the fall, nymphs become adult ticks and the cycle begins again.



Deer Tick



Wood Tick



LESSON 5: HUNTER SURVIVAL SKILLS

FIRST AID QUIZ

- In what order do you assess the three elements of a primary survey?**
 - Airway, circulation, breathing
 - Breathing, airway, circulation
 - Circulation, airway, breathing
 - Airway, breathing, circulation
- You have decided to give rescue breathing to a casualty of respiratory arrest. Which technique should you use to keep the airway open when there is no suspected head or spinal injury?**
 - Chin lift
 - Head tilt / neck lift
 - Modified jaw thrust
 - Head tilt / chin lift
- Which is the first step in managing external bleeding?**
 - Add bulky dressings to reinforce blood soaked bandages.
 - Apply pressure at a pressure point.
 - Apply direct pressure with a clean or sterile pad.
 - Move the casualty away from danger.
- The purpose of the secondary survey is to:**
 - Find injuries or conditions that are not immediately life threatening.
 - Determine if the casualty is bleeding severely.
 - Survey the scene for hazardous conditions.
 - Find out if the casualty has medical insurance.
- If a person has sustained a severe head injury, you should care for him or her as a possible spinal injury casualty.**
 - True
 - False
- You have splinted a fracture of the forearm and determined that the casualty has no other injuries. It would now be appropriate for you to transport the casualty to a medical facility.**
 - True
 - False
- When splinting an injured limb, you should attempt to:**
 - Only immobilize the painful area.
 - Immobilize the joint above and below the injured area.
 - Splint only if patient is unable to move limb.
 - Splint the injured limb only if you see bone fragments.
- Two of the signs and symptoms of hypothermia are:**
 - Frostbite, shivering
 - High fever, numbness
 - Shivering, numbness
 - All of the above.
- Which of the following statements pertain to the treatment of hypothermia?**
 - Remove wet clothing, wrap casualty in dry blankets and move to a warm place.
 - Apply blankets over wet clothing.
 - Provide cool drinks to the patient, to revert any burns to the mouth.
 - Only unconscious casualties need rewarming.
- A heavy layer of ointment should be applied to third degree burns.**
 - True
 - False

answers:

- | | | | | | |
|----|---|----|---|-----|---|
| 1. | d | 5. | a | 8. | c |
| 2. | d | 6. | a | 9. | a |
| 3. | c | 7. | b | 10. | b |
| 4. | a | | | | |

LESSON 6 FIELD TECHNIQUES

INTRODUCTION

Safe and successful hunting requires knowledge of certain “*field techniques*”. These include: preparing for the hunt, species identification, hunting wildlife, field dressing, skinning, cooling and care of wild meat.

HUNTING TRIP EQUIPMENT PREPARATION

You will need basic equipment on any hunting trip. Plan ahead. Knowing what to expect in the way of terrain, weather, and shelter, and planning for these conditions is essential to a successful hunt. This equipment is important for day trips or long backpacking trips. Basic equipment can be added to or varied to meet the needs of specialized hunting trips. Some basic equipment includes:

1. appropriate clothing
2. compass and maps
3. survival kit
4. first aid kit
5. miscellaneous equipment
6. firearm and ammunition

Clothing

Clothing should be lightweight and not hamper your movements. Your clothing should be functional and you should dress in layers. Break in any new clothes, particularly boots, before your hunt.

Always take extra clothes and socks so you have a complete change if you get wet.

Clothing for outdoor use must have three qualities.

- It must provide insulation to keep you warm. Wool is often the preferred material.
- It should offer you protection from heat, cold, getting wet, cuts and scratches, and from being mistaken for wildlife.
- It must be absorbent to soak up perspiration. It should not be completely waterproof, but should “*breathe*” to allow moisture to evaporate.

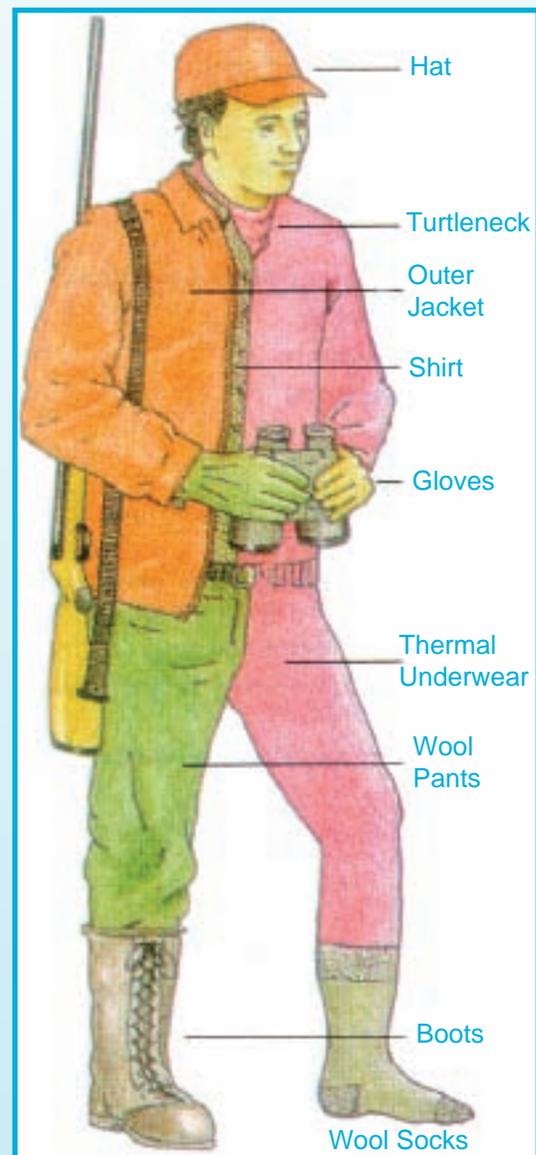
Your clothes should prevent you from getting wet. Clothing that is completely waterproof will shed rain and wet weather, but will not provide insulation or absorb perspiration. Without insulation to keep you

dry, you will likely feel either very cold or extremely hot while wearing totally waterproof garments.

Clothes should protect you from cuts and scratches. Tough pants, jackets, and gloves will help. Your clothes should be strong and not tear easily in heavy brush. Though popular, jeans are not always the best choice. Because of the “*wicking*” quality of jeans, even walking in wet grass can cause you to become soaked.

Outer clothing should be a bright colour to protect you from being mistaken for wildlife. Most states and provinces require the wearing of hunter orange garments; check your provincial regulations.

Always wear layers of clothes. You can easily take a layer off or add one to adjust your temperature. Clothes will also provide shade from the sun.



LESSON 6: FIELD TECHNIQUES

In cold weather you should wear long thermal underwear for extra insulation and absorbency.

Heavy cotton shirts are suitable in mild weather, but wool should be used in cold weather. Cotton loses its insulating ability when it gets wet. Pants can be of any hardy fabric including cotton twill, duck, denim or wool. Wool is a very useful fabric because it provides some insulation against the cold even when it becomes wet.

Polypropylene or “wicking-action” material moves moisture away from the skin and increases the effectiveness of other clothing worn.

Hat

In almost any weather 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.

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 which fit poorly, can cause painful blisters which can be a major injury when walking to/or from camp. Friction from boots that are too large, loosely laced boots, or lumpy or wrinkled socks can cause blisters. Wearing two pairs of wool socks will 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, but avoid wearing boots heavier than you need.

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

Gloves/Mitts

Gloves/mitts are a necessary part of a hunter’s gear. They help to warm and protect your hands from cuts, blisters, splinters, and other injuries.

Jackets

Hunting coats vary with the season. In mild weather a denim jacket is lightweight and hardwearing. A long-sleeved lumberjack shirt of heavy wool is also suitable for mild weather. Down vests are lightweight, warm and allow great freedom of movement. For extremely cold weather conditions, a down-filled jacket with hood is best. Down loses its insulating qualities when it becomes wet.

COMPASS AND MAP (AND NOW GPS!)

A COMPASS AND A MAP (AND MAYBE A GLOBAL POSITIONING SYSTEM RECEIVER) SHOULD ALWAYS BE CARRIED WHEN HUNTING.

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. Even when with a hunting party, don’t wander away from the others - know where they are at all times. This will not only keep you from getting lost, but will also keep you out of the line of fire of your companions.

Finding your way in the wilderness may sound easier than it actually is. After a while every ridge begins to look the same, every marsh is familiar and even lakes can look like they have been cloned. It’s almost essential that anyone going into the bush know how to use a map and compass. Map books and pamphlets are available to help you learn. Consider joining one of the orienteering clubs in Manitoba. Orienteering is a great pastime and it sharpens your skills of map and compass use.

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 learn how to read it.**

LESSON 6: FIELD TECHNIQUES

A good compass may be purchased from nearly any outdoor store at a moderate cost. Get one that you can adjust for magnetic declination.

In addition to a compass, you may want to carry a Global Positioning System (GPS) receiver, especially when hunting in large marshes and some of the flatter forested areas of Manitoba. A GPS receiver will enable you to get a position fix in fog, rain showers, snow storms, at night when the moon and stars are obscured by clouds, and of course, during the day when you are travelling. GPS receivers are (mostly) unaffected by the weather.

Does this mean that your magnetic compass is now obsolete and that you don't have to carry your compass any more? The answer is an emphatic, "No!"

"Why", you may ask? Because a GPS receiver is an electronic device which may fail at any time. The batteries may lose their electrical charge. You may accidentally drop a non-waterproof GPS receiver into the water. The GPS receiver may electronically "freeze-up" due to high relative humidity in the air or you may fall onto a rock and the GPS receiver may sacrifice itself for you. All of these reasons (and more!) means that you should always carry a non-electronic magnetic compass with you – just in case. Remember Murphy's Law: "Anything that can go wrong, will go wrong."

Buying a GPS Receiver

Navigation-quality GPS receivers of various abilities may be purchased from nearly any outdoor store at a moderate cost.

Whatever you do, only purchase a GPS receiver which can display your location as Universal Transverse Mercator (UTM) coordinates while referenced to the North American Datum of 1927 (NAD27) and alternatively to the North American Datum of 1983 (NAD83). "Why", you may ask? Because, old Canadian topographic maps (officially known as the National Topographic System or NTS maps) are referenced to NAD27, while new Canadian topographic maps are referenced to NAD83. The NTS map you may need may still be in NAD27 rather than the newer NAD83.

The GPS receiver you may be looking at may show that it supports NAD27, but not NAD83. Confused? This apparent drawback is not really a problem because GPS receivers support their very own format called the World Geodetic System of 1984 (WGS84), which

coincidentally happens to be almost identical to NAD83 – so you can use WGS84 instead of NAD83.

But remember, the GPS receiver must display your position as UTM coordinates. "Why UTM coordinates", you may ask? Because UTM coordinates help you easily figure out your position to within about 100 metres – without carrying a calculator in the field with you. The UTM coordinate system is ideal for people travelling by automobile, off-road vehicle, small boat, or by foot. On the other hand, good old latitude and longitude coordinates in degrees, minutes, and seconds of arc are much better for people travelling in jet aircraft where hundreds or thousands of kilometres can be travelled in a short duration.

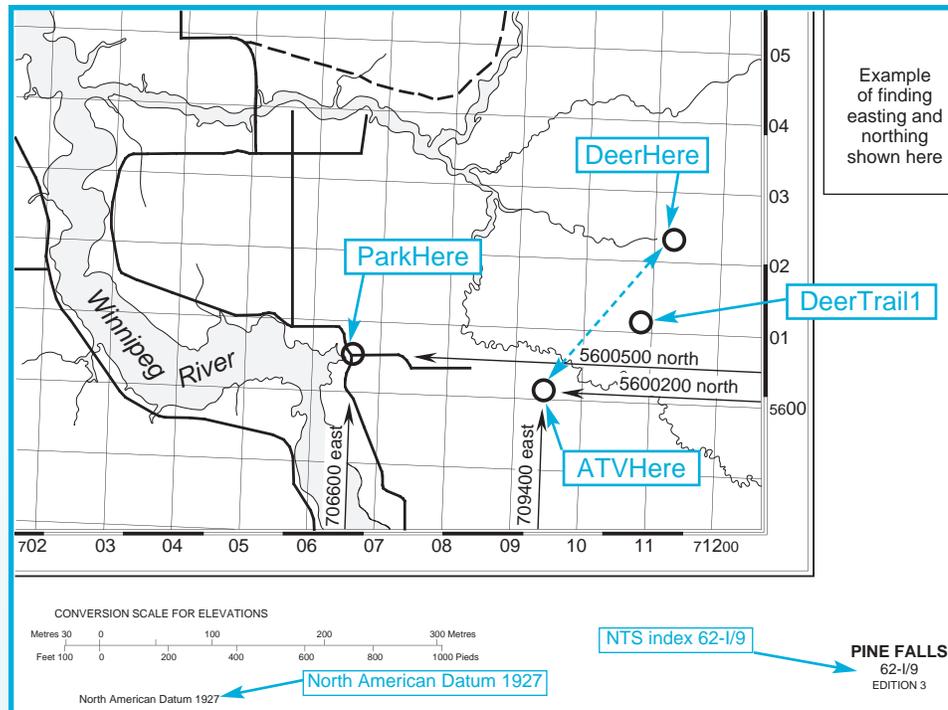
Using Your GPS Receiver and NTS Map

Now that we have a GPS receiver, we can get UTM coordinates from the GPS receiver of where we are standing on the ground. This will help us find our location on a map.

For example, let's assume that we will be hunting in Eastern Manitoba, just east of Pine Falls, near Little Bear creek. Follow these steps:

1. Buy a NTS 1:50,000 scale topographic map of the "Pine Falls" area. The map will have the NTS index number of "62-I/9" and will be "Edition 3". This is found in the bottom right-hand corner of the map.
2. Look at the very bottom of the map, just below the conversion scale for elevations, in tiny print, and find the following, "North American Datum 1927".
3. Immediately change the datum of your GPS receiver to NAD27. If you neglect to do this change, you will find every position to be more than 200 metres out.
4. Find the location on the map where you plan on parking your vehicle. Let's assume that this location will be the junction of two roads as shown on the map on page 6-4.
5. Determine the UTM easting and northing for this location. Use the example found on the right-hand side of the map to help you find the easting and northing. The value you should get is UTM Zone 14, 706600 metres east, and 5600500 metres north.
6. Enter the above coordinates into your GPS receiver as a waypoint. Make the GPS waypoint name something descriptive, such as, "ParkHere".

LESSON 6: FIELD TECHNIQUES



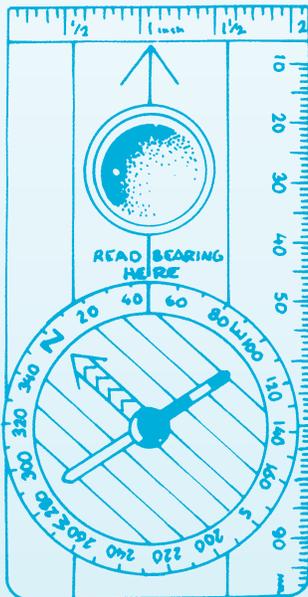
7. Put your GPS receiver into navigation mode, and drive your vehicle to the waypoint known as "ParkHere". Please note that your civilian GPS receiver will be accurate to only within 100 metres most of the time – when used by itself (that is, receiving radio signals only from the NavStar GPS satellites). Only military GPS receivers will be accurate between 10 to 15 metres, and most non-military personnel are not allowed access to military receivers.
 8. Use your all-terrain vehicle to travel eastwards. When you get to your preferred hunting area, stop and park your all-terrain vehicle. Use your GPS to record this spot as a second waypoint. Call the waypoint, "ATVHere". Your waypoint easting and northing coordinates should be something close to 709400mE and 5600200mN in UTM Zone 14. If your waypoint easting and northing values are not close to the above numbers (that is, within about 100 metres), then you are lost. In other words, where you think you are on the ground is not where you actually are located on the map. If this is the case, then use your waypoint easting and northing values to find your actual location on the map. Make a note of this.
 9. Assuming that you are really in the right spot, start hiking north-east and across the creek. If you find any areas of interest, such as yarding trails, create a waypoint (for example, "DeerTrail1") for future reference.
 10. Continue hiking until you locate some wildlife. Assuming that you shoot, hit, and kill a deer, then mark its location as another waypoint, say, "DeerHere".
 11. Use the navigate function of your GPS receiver to find the straight-line distance from "DeerHere" to "ATVHere". If the distance and terrain permit dragging the deer by foot back to the all-terrain vehicle, then use the GPS receiver to help you navigate through the forest.
 12. Otherwise, hike back to the all-terrain vehicle using the GPS receiver to navigate through the forest. Specifically, navigate from "DeerHere" to "ATVHere". Once back on the all-terrain vehicle, use the GPS receiver to drive the all-terrain vehicle back to the deer. Specifically, navigate from "ATVHere" to "DeerHere". Once the deer is loaded onto the all-terrain vehicle, then use "DeerHere" to "ATVHere" to navigate you back to where you had originally left your ATV.
 13. Once back at the "ATVHere" waypoint, you can navigate from the "ATVHere" waypoint to the "ParkHere" waypoint.
- That's GPS in a nutshell. For an excellent, fully-illustrated, detailed guide, please refer to, "GPS Made Easy: Using Global Positioning Systems in the Outdoors" by Lawrence Letham (ISBN 0-921102-41-0) or other such guide books.

LESSON 6: FIELD TECHNIQUES

USING YOUR COMPASS AND NTS MAP

Detailed topographic maps may be purchased at Manitoba Conservation Product Distribution in Winnipeg (www.canadamapsales.com), or from selected sporting goods stores.

Study the legend on the map until you are familiar with the symbols. Remember that maps are drawn to true north, while your compass will point to magnetic north. This difference will have to be adjusted on your compass. It will vary from place to place and is indicated on the topographic map. For example, the declination in the Winnipeg area is about 6 degrees east of true north, while in the Cranberry Portage area it is in excess of 16 degrees.



1. Basic Compass

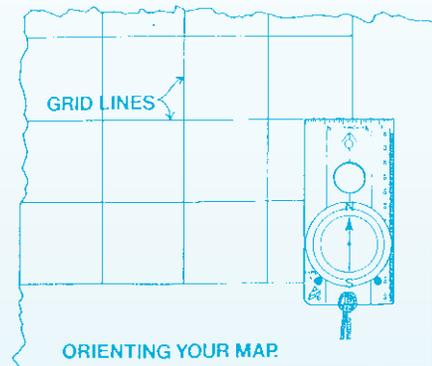
Two basic rules

1. THE COMPASS WILL POINT TO MAGNETIC NORTH.
2. TRUST YOUR COMPASS!!!

Caution: A compass needle can be distracted by metal objects such as gun barrels, heavy belt buckles and knives. High voltage power lines also affect the operation of your compass.

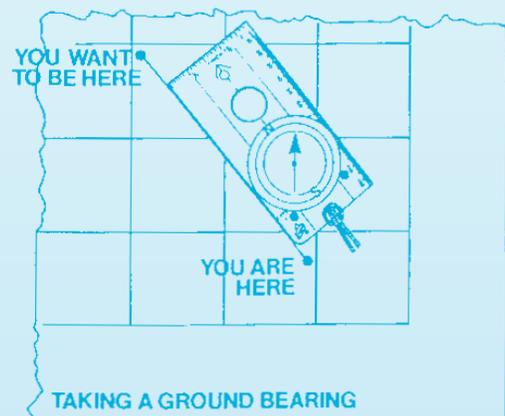
Compass dials are marked from 0 to 360 degrees. Most good compasses have a clear base with straight lines scribed lengthwise. These lines are used to orient your map to the true north. Maps must be oriented to true north if they are to give you a proper picture of the area they cover.

2. Orienting Your Map:



- a) Using the information provided in the margin of the map, set the declination of the compass.
- b) Set the compass to 360 degrees (north).
- c) Place the map on a reasonably flat surface.
- d) Place the side of the compass base or one of the scribed lines over one of the north-south grid lines on the map with the 360 degree mark pointing to the top of the map (north).
- e) Now carefully turn the map with the compass until the magnetic needle on the compass points to 360 degrees. Your map is now oriented to your surroundings.

3. Taking a Ground Bearing From the Map

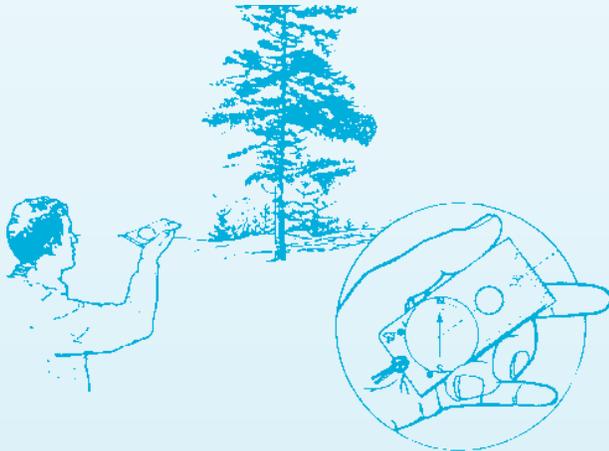


LESSON 6: FIELD TECHNIQUES

Now that you have your map oriented, you may determine the direction of travel from one point on the map to any other.

- Do not move the map.
- Draw a straight line from your location to your desired destination.
- Place the edge of the compass along this line with the compass pointing to your objective.
- Turn the compass dial until the needle points to 360 degrees. The bearing you must take can be read where your straight line intersects the compass dial.
- To travel along this bearing, sight along the bearing, select a prominent feature along this sight and walk to it. When you reach the landmark, take another sight, pick another object along that sight and walk to it and so on.

4. Taking a Ground Bearing Without a Map

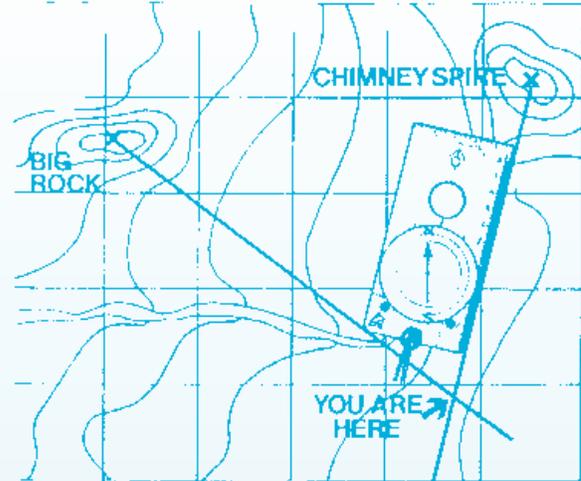


To determine the bearing from your location to a distant but visible point:

- If declination is unknown, set it to zero.
- Sight over the compass to the point you wish to reach.
- Turn the compass dial until the magnetic needle points to 360 degrees. The bearing can now be read at the centre line of the compass. Follow that bearing to reach your destination. It will guide you when you cannot see your objective.

Before entering the woods or an unfamiliar area, take a bearing in the general direction you intend to travel. To return to the area you left, turn the compass dial 180 degrees, sight along the new bearing and you will be heading back the way you came.

5. Locating Your Position on a Map



To locate your exact position on a map:

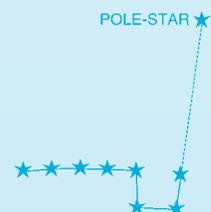
- Set the declination on your compass.
- Orient your map.
- Select two prominent features that you can see and identify them on the map. It may be necessary to move to high ground to do this.
- Take a bearing on the first feature. Place the compass on the map feature set at the determined bearing. Draw a line on the map passing through the feature on the determined bearing.
- Repeat the procedure for the second feature. Where the two lines intersect on the map, that's where you are!

FINDING YOUR WAY WITHOUT A COMPASS

Don't believe that moss grows on the north side of the tree. It's not necessarily so. Use more scientific methods of finding your way without a compass.

1. Pole-Star

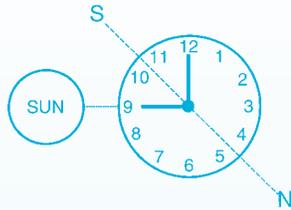
Find the Big Dipper. Extend a line from the two stars that form the front portion of the dipper. Along that line is the Pole-Star or the North Star. It is the last star in the handle of the Little dipper. Face it and you're facing north.



LESSON 6: FIELD TECHNIQUES

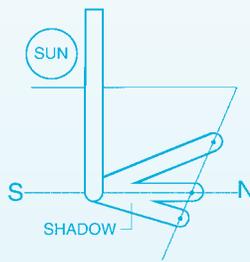
2. The Watch and Sun Method

Hold the watch flat in your hand. Turn the watch until the hour hand points directly at the sun. The point halfway between the hour hand and twelve o'clock will be south, the exact opposite point is north. (This works between 6:00 a.m. and 6:00 p.m. only. For early morning or evening hours, the direction is reversed.)



3. Sun-Dial Method

Place a long stick in the ground. As the sun progresses and the shadow moves, place smaller twigs in the ground at the end of the shadow at intervals of 15 minutes or more. Draw a straight line along the line of twigs you have stuck in the ground. It will indicate east and west.



None of these methods can replace a good compass. They are intended to provide you with a general direction guide in an emergency.

TIPS ON TRAVEL

You should never try to walk to safety unless you know where you are going and you're sure you can make it. Otherwise, stay where you are. If you do leave, leave a note behind outlining your plans. Use direction signals and signs along your trail.

1. Summer Travel

- Never travel at night.
- Before you stride off into the bush, find a high place where you can observe the surrounding area. Look for signs of civilization.
- Wildlife trails offer easy walking, but be careful, they could lead you in circles.
- Streams may be followed downstream to larger rivers and lakes where habitation is more likely.
- Ridges offer easier walking than lowlands. They are drier, generally less densely vegetated and will tend to be more insect-free.

- Stay out of swamps and boggy areas as they sap your energy. Go around.
- Do not attempt to cross large rivers unless absolutely necessary.

2. Winter Travel

- Again: don't travel at night.
- Well-used trails will provide easy walking, but be careful of the direction they lead you.
- Frozen streams, rivers and lakes will provide your best method of travel but be careful of thin ice.
 - Steer clear of rocks and other protrusions, since ice may be thinner because of eddies.
 - Walk on the inside of curves where the current is weaker and the ice is thicker.
 - Where two rivers join, walk on the bank. Turbulence will hinder ice formation.
 - Stay on clear ice where possible. It's easier walking and the ice should be thicker.
 - Carry a pole to test the ice ahead of you. You can use it to support yourself if you break through.
 - Be prepared to throw your pack clear if you break through.

DEALING WITH MOSQUITOES AND BLACKFLIES

Summertime in the Manitoba outdoors gives rise to a variety of insects but none are more plentiful or aggravating than mosquitoes and blackflies.

Your insect control program should begin before you leave home.

- Take your insect repellent with you. It should have about 30 per cent of the active ingredient DEET to be effective against blackflies, although mosquitoes can be discouraged with lesser amounts. String vests impregnated with repellent are also available.
- Clothing should be loose fitting, made of tightly woven fabric and light-coloured. If clothing is snug against the body, mosquitoes can bite right through the fabric. Light-coloured fabrics tend to be less attractive to mosquitoes and blackflies. Long pants, long sleeves and proper foot wear also help to protect you.

LESSON 6: FIELD TECHNIQUES

- Perfumes, scented deodorants and other fragrant cosmetics should be avoided. They tend to attract insects.

In a survival situation mosquitoes and blackflies can test your patience and drive you to the brink of panic. Don't let them wear you down. Stay calm. Insects are a way of life in Manitoba and we must learn to live with them. Here are some ideas to help you deal with the problem.

- Fasten your collar, tie your cuffs around your wrists and ankles, or tuck your pants into your boots. Try to protect your ankles.
- If you have insect repellent, use it. Otherwise, smearing mud on your face, neck, hands and any exposed areas will help to some extent.
- Don't wash. A build-up natural body oil on the skin seems to deter mosquitoes somewhat.
- Mosquitoes and blackflies dislike smoke. Sitting in the smoke of your campfire may prove to be much less aggravating than putting up with the hordes of insects outside your fire circle.

Wind is another good defence against mosquitoes and blackflies. When walking, try to stick to the high points of land where the breeze is strongest. You might consider setting up your camp in a high, open area to use the wind to your advantage. Also, in such a spot, it will be easier for your rescuers to see.

OTHER EQUIPMENT

Depending on the time of year, the length and location of your trip and the wildlife hunted, you may need other types of equipment. Some items you may include are:

- Sharp, strong knife or hand axe
- Bone saw
- Pack frame
- Cheesecloth (to protect meat from flies)
- Stove (portable-propane or multi-fuel), pots, pans, etc.
- Food: Take a variety of freeze dried and dehydrated foods. They are easy to prepare, nutritious and so tasty too!

- Emergency food: foods with a high caloric content (e.g. nuts, chocolate bars, dried fruit, candy, sugar), bouillon cubes, coffee, or tea, if desired.
- Tent: windproof, waterproof, strong, lightweight
- Sleeping bag: down-filled or synthetic filled
- Insolite sleeping pad
- Extra socks and gloves, safety pins
- Several metres of light, strong rope
- Flagging tape
- Sunglasses
- Binoculars
- Flashlight
- Camera and film
- Plastic sheet
- Aluminum foil for a dish, pan, etc.
- Survival Kit (from Lesson 5)
- First Aid Kit (from Lesson 5)
- Knives

Some hunters prefer a sheath knife, others like a pocket knife. It is often wise to carry both when hunting, in case one breaks or is lost.

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.

Sheath Knife

For hunting purposes, the blade of a sheath knife should be no longer than 10 cm. Longer knives are clumsy and not as versatile as a 10 cm blade, which can be used for many chores such as field-dressing, skinning and whittling.

Sheath knives should remain in their scabbards when not in use. The sheath, or scabbard, should be made of durable leather, reinforced at the tip with wire or copper rivets. To keep your sheath in good condition, clean it with saddle soap, never oil. Saddle soap will keep the leather supple.

TREE STANDS

Many hunters are using tree stands to get above their prey's line of sight, to get a better view of approaches and to help move their scent away from the prey. With the proper equipment and technique, this can be a safe and practical hunting method.

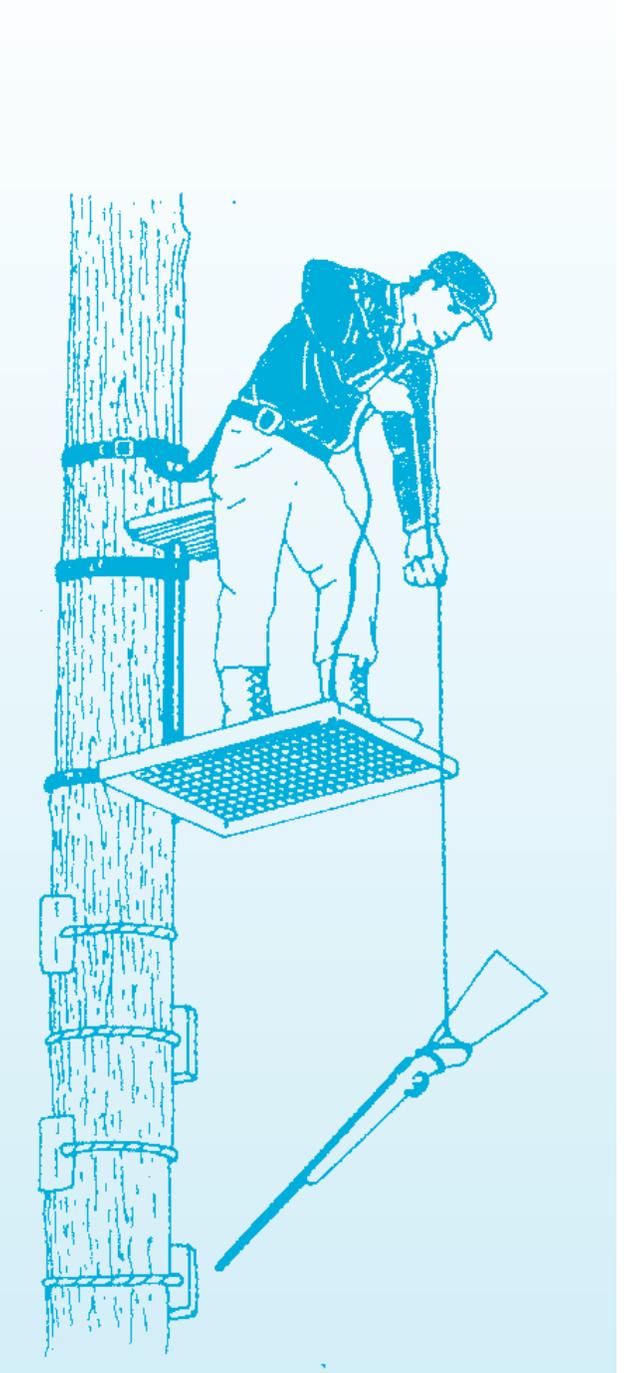
Portable stands may be either climbing or non-climbing. The climbing type is used to climb the tree. The non-climbing type is used with tree steps (screw-in or strap-on). Some hunters prefer to use a lightweight aluminum ladder to get in/out of their tree stands. If it is legal to use screw-in climbing steps in your area, be sure to remove them when your hunt is finished.

All stands and climbing equipment must be securely attached to the tree using pins, screws, straps or chains and these must be removed after hunting. Metal objects left on the tree can cause serious injuries or fatalities when the tree is harvested.

- Do not use any tree stand without knowing how the stand works, how to install the stand in a tree, how to climb up and down a tree and how to safely sit, stand and move in the stand. Practice before you hunt.
- Place your stand 3 to 4 metres high in the largest tree that is suitable for your type of stand.
- Check your stand, safety line and safety harness, before every use. Inspect all parts, look for signs of wear.
- When climbing, always use a safety line. A fall can be deadly.
- Immediately after getting into your stand, attach your safety harness securely to the tree.
- Use a haul line to raise your equipment to the stand.
- Unload your firearm before you climb the stand.
- Do not exceed the recommended weight limit of the tree stand.

CAUTION: Some hunters simply climb a tree and use limbs for a stand, This may be convenient but is very risky.

- Other hunters build permanent stands. Because of the natural growth of the trees and the exposure to all types of weather, these stands quickly become unsafe. It is not easy to tell when a permanent stand has become unsafe; use a portable stand.



LESSON 6: FIELD TECHNIQUES

HUNTING METHODS

Hunting techniques are mentioned here briefly. Some are techniques practised by early man since he hunted with a stone hammer and some are more recent methods. The reason these techniques are only mentioned briefly is that they take field experience and practice and the more time you can spend at it, the more successful you can become. The more knowledgeable you are of the species being hunted, the better you will become.



- 1. Tracking** - used mainly in snow covered areas but some good experienced hunters use this method without snow. It consists of looking for fresh signs of the animal's presence in a chosen area and then physically following the animal until it is sighted.
- 2. Still hunting or stalking** - not generally used in the case of black bear. Frequently practised by elk, deer and moose hunters. Also generally used in the case of grouse and rabbit hunting. Stalking requires slow, supple, silent movements. Clothing is particularly important-something that is not noisy-wind direction and stability must be taken into account. Short steps and frequent stops to scan the surroundings are in order. Of course, all this is done in habitat that has signs of the species being hunted.
- 3. Stand hunting** - used either in a tree stand or on the ground. Some people prefer to find an area that animals are using and set up portable tree stands or build permanent stands (either one-make sure they are safe and legal). Stands are set along natural trails, watering holes, forage areas, etc. Allow for wind direction and stability. This method is used a lot for deer and bear hunters

and to some extent elk and moose hunters. Baiting bear is legal. Baiting deer, moose, elk or caribou is illegal.

- 4. Calling** - moose, elk or deer by imitating the call of the opposite sex, horn rattling, antler scraping, shoulder blade scraping and other traditional methods require practice, and learning from experienced hunters or by trial and error. Electronic calls are illegal.
- 5. Pushing bush/beating the bushes** - still used a lot in southern Manitoba for deer and to some extent moose. A group of hunters will walk through a bush with the hope of pushing animals out into the open where other hunters are positioned to do the shooting. This results in a lot of running shots, so expert marksmanship is required.
- 6. Waterfowl hunting** - usually done on the water using blinds/decoys and calls or field hunting using pits/blinds/decoys and calls. Sometimes waterfowl are hunted by jump shooting at small ponds or along the shores of smaller water bodies. In any case, a well trained retrieving dog will add to the experience. Only take shots at birds you can retrieve. You cannot bait migratory birds.

Whatever method or combination of methods you use, you will experience all types of thrills, and come back with unforgettable memories and many stories to tell. Remember: a successful hunt is not just about harvesting wildlife.

FIREARMS & AMMUNITION

Calibre Selection

Carry a firearm that is in good working condition, properly sighted-in and adequate for the species being hunted. Consult firearm manufacturers' catalogues for recommended calibres.

Sighting in a Rifle

With all the preparation that is required for a hunt, one of the most important things you should do is sight in your rifle. You will assure that the bullet will go where you want it to go. To effectively sight in your rifle you must be familiar with your rifle's sights, the rules of sight adjustment and you must understand trajectory.

LESSON 6: FIELD TECHNIQUES

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. The top of the bead or post should be centered within the rear sight and placed on the bottom of the target.

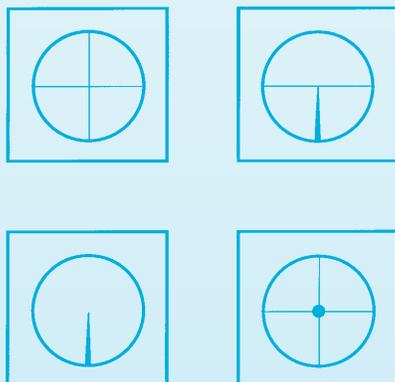
2. Peep or Aperture Sights



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.

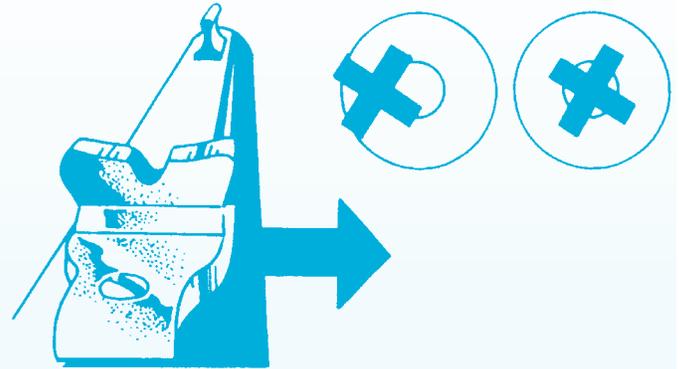
3. Telescopic Sights

Common Reticles



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 crosshairs reticle on the target.

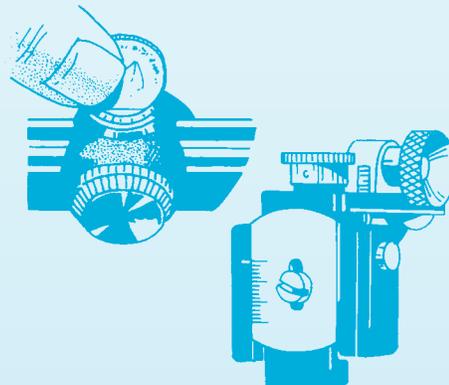
Sight Adjustment



When using a rifle with open sights, if your shots are consistently hitting the target in small groups, but are off centre, then you must adjust the sights. On most modern firearms the vertical (elevation) adjustment and the horizontal (windage) adjustment is on the rear sight. **THE RULE OF SIGHT ADJUSTMENT IS - MOVE THE REAR SIGHT IN THE SAME DIRECTION YOU WANT TO MOVE THE HITS ON THE TARGET.**

To get this group on the centre of the target, move the rear sight to the right.

Peep sights and scope sights work the same way. Turn the adjustment screws in the direction indicated on the sight.



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.

LESSON 6: FIELD TECHNIQUES

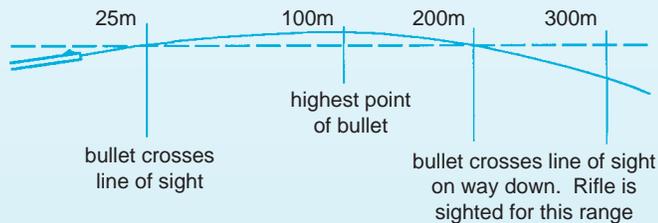
Sighting In

To be effective, a rifle must be properly sighted in. To understand bullet placement, you need to know about "trajectory". Trajectory is the arc or curved path of a bullet in flight. The path of a bullet is curved or follows an arc because gravity pulls the bullet toward the earth.



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 center-fire rifles (.303,.308,.30-06) may be sighted in for 200 metres. The bullet trajectory would look like this.



You can take advantage of this, when sighting in your rifle.

Set up a target with a safe backstop at 25 metres and fire at least three carefully placed test shots. Be sure to use the same type of ammunition (including bullet weight) you will use when hunting. Check the target. If your three shots are well-grouped but not near the centre of the target, adjust the sights.

Remember-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 center-fire rifle should strike dead centre, but 3-7 cm high depending upon rifle calibre and bullet type and weight. Consult a manufacturer's ammunition catalogue.

When sighting in, your rifle should be shot from a well padded rest, under calm wind conditions.

Eye and ear protection are advisable if firing multiple rounds.

CRIPPLING LOSSES

Unfortunately, some animals are shot, escape wounded and die. 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 these factors are under your control. Take time to improve your skills and knowledge so that you do not contribute to the problem.

Follow these steps:

1. Choose a firearm that is adequate for the species being hunted. (consult firearm manufacturer's guide)
2. Practice your shooting skills and ensure your firearm is sighted-in.
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. 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.

LESSON 6: FIELD TECHNIQUES

Marksmanship

A responsible hunter is able and determined to stalk an animal within sure range and fire a single killing shot. Make sure you carry a firearm that is in good working condition, is adequate for the wildlife you intend to hunt and is properly sighted-in. Rifle calibre and bullet weight must be properly matched to the animal you intend to hunt. Consult ammunition guides for further information.

You should note that the 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 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 wildlife.

Vital Target Areas

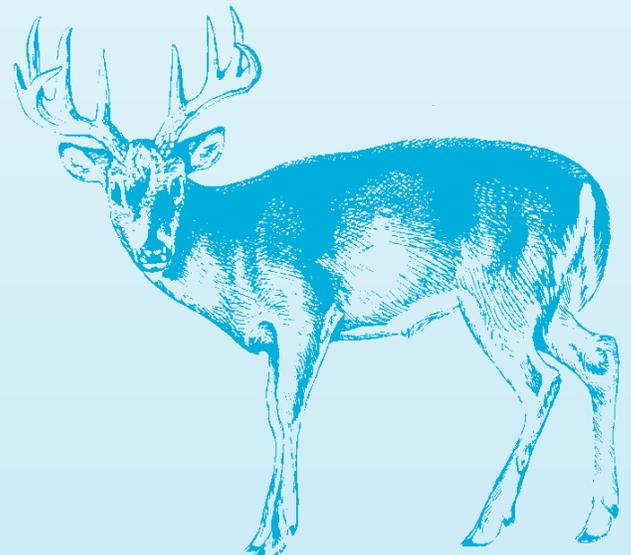
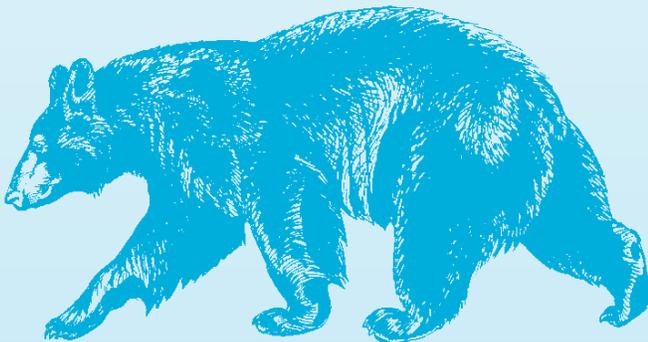
The vital areas include the heart and major blood vessels, lungs, liver, the brain and spinal column. We strongly recommend that you place your shot in the heart/lung region of the animal. This is the largest target area on an animal (46 cm wide by 41cm high on a moose) (18" by 16") and it is the shot 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 most 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 an animal, don't shoot.**

STUDENT REVIEW

Place a pin or tack on each animal shown below where you would place a well aimed shot. Turn to page 6-14 to see if you have scored a vital hit.



LESSON 6: FIELD TECHNIQUES

Tracking a Wounded Animal

After you have fired at an animal, 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.

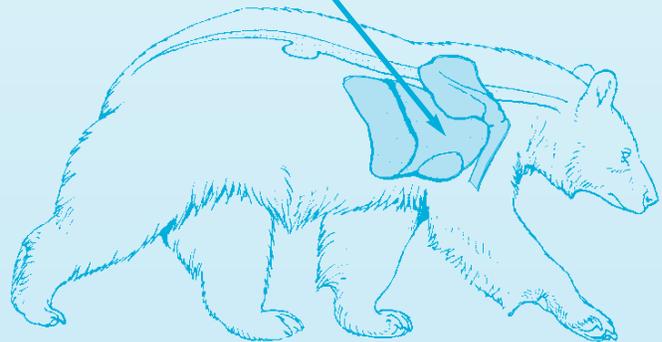
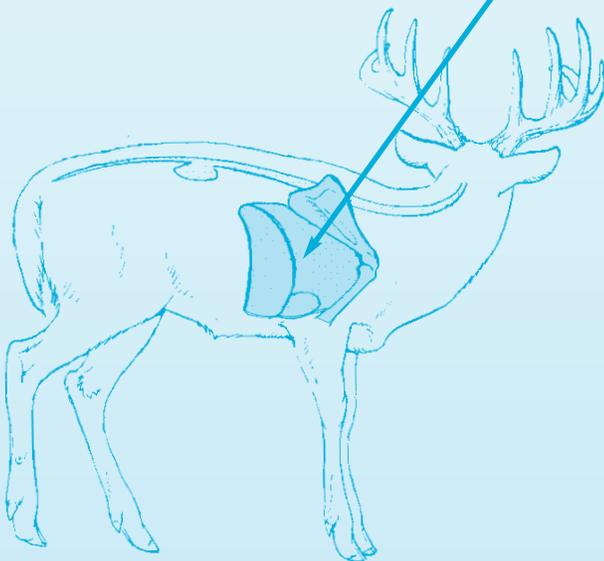
Stomach shot: A poor shot that accidentally hits the animal in the paunch or rumen may not seem to affect the animal. It may walk or run away and lie down within 400 or 500 m if not disturbed or pursued. Sometimes an animal hit in this area behind the diaphragm will hunch over as it moves away.

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.



STUDENT REVIEW

Vital Hit Areas



LESSON 6: FIELD TECHNIQUES

Before you move from your shooting location, mark it by hanging up a glove or a bright 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 left by the animal. When you arrive at the spot, mark it with flagging tape, a sheet of toilet paper 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 original point, until you locate it.

At the hit site, look for hair, blood, or stomach contents that might also indicate where the animal is hit. Of course, the presence of any hair, or tissue indicates you have hit the animal, but the absence of sign does not necessarily mean you missed. Search the area repeatedly, looking at the vegetation as well as the ground for signs. You should always assume a hit. Once you have found signs of a hit and decided where you have likely shot the animal, begin waiting. It is best to wait at least half an hour with any hit, unless of course, you have seen the animal go down or heard it go down heavily, nearby.

If you suspect a poorly hit or a gut-shot animal, wait two 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 rain that is washing away a blood trail, or approaching darkness should be the only reasons to begin tracking sooner.

Two people on the trail of a hit are better than one, although you must both concentrate on walking quietly; avoid talking. One hunter can concentrate on tracking; the other hunter does a visual search ahead and to the sides for the animal itself. Stay in close contact, using hand signals. 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 the moose 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 moose is avoiding obstructions and is meandering on its path, the wound may not be severe. Usually, well-hit animals 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 hit. 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.

LESSON 6: FIELD TECHNIQUES

PROCESSING LARGE ANIMALS

The secret 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 outlined below.

Suggested Equipment for Field Dressing Large Animals

- Rope (3 - 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 plastic field dressing gloves
- Clean cloths or paper towels
- Cheesecloth bags
- 2 sharp knives
- Sharpening stone or steel
- A strong, metal packframe to pack quartered animal out

Approach any downed animal with caution and from the rear. The eyes of a dead animal usually remain open. Check the eyes for a blank, glassy look. Be sure the animal is dead. Unload your rifle and put it safely away with the action left open.

Bleeding (cutting the jugular vein)

While bleeding an animal is traditional with most 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.

Field Dressing

NOTE: Many hunters prefer to use field-dressing gloves.

Field dressing should take place immediately after the kill; do not delay. Gas, resulting from bacterial action, will immediately begin to collect in the stomach (rumen) and cause bloating. The longer you wait, the

more difficult the animal is to clean and the lower the quality of the meat.

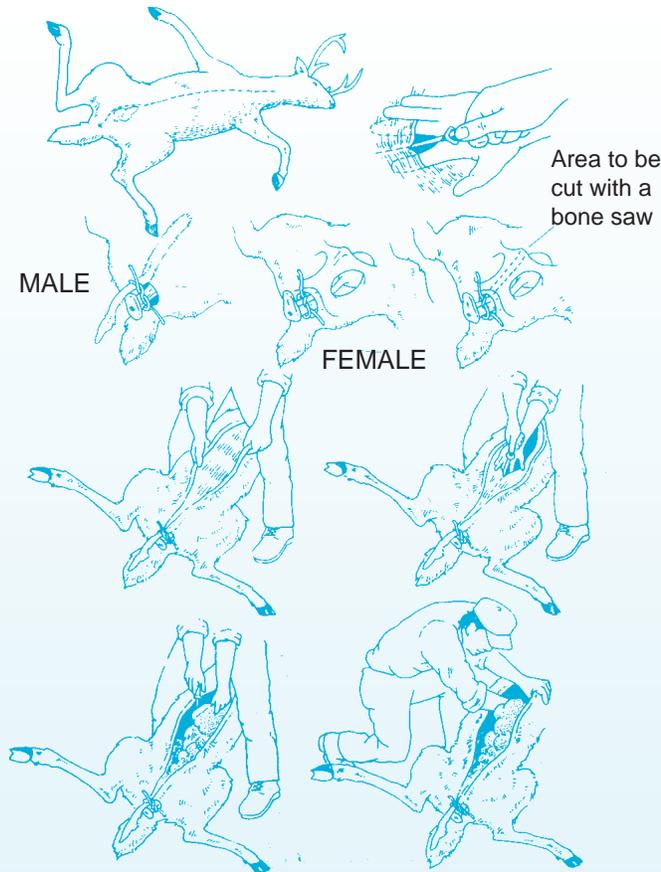
The following method is one technique for deer, moose or caribou. You may find that you prefer other methods.

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 deer 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.
3. 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.
4. 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 centre of the scrotum so that one testicle remains attached to each hind quarter.

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.

5. Repositioning yourself as in step #2, skin the hide back from the centre. This exposes the entire abdominal cavity and keeps hair away from the meat.
Using the same method (fingers spread, palm and knife edge upward), carefully cut the skin open from sternum to pelvic bone.
6. 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.

LESSON 6: FIELD TECHNIQUES



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 2.5 cm 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.

7. Open the chest cavity by slicing the diaphragm away from the inside of the rib cage. The diaphragm is the membrane attached to the back and walls of the ribcage. It separates the vital organs from the abdominal region.
8. 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 animals, cut at the juncture 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. The carcass is now open and you are ready to remove the entrails.

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. Cut and remove any remaining attachment of the entrails from the pelvic area.

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. Immediately 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.

9. Remove the heart, liver and kidneys from the entrails. Place the organs on paper, cardboard or a bed of boughs to allow cooling while you quarter your animal. 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.

Many animals are shot in the evening hours, and the hunter does not have time to quarter or retrieve the carcass before dark. To aid cooling in such a situation, elevate the carcass, using logs or rocks, to allow air to circulate underneath. Using a short stick, prop open the rib cage as far as possible.

Cover the carcass with trees and boughs to protect from birds and place a flag or marker in a nearby tree. The marker makes it easy to locate the kill site the next morning. Do not turn over or invert the carcass. This traps heat and prevents cooling.

LESSON 6: FIELD TECHNIQUES

Quartering

For some animals (i.e. moose), quartering is recommended to aid handling and rapid cooling of the carcass. In 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 hind quarters. 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 and trim away all meat that was damaged by the gun shot.

In Manitoba, you are required to notch your tag as to date of kill immediately before field dressing. Be aware of and be sure to follow the laws of the province you are hunting in.

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.

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 on 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 packframe is recommended to lessen the burden. Handbags are also helpful depending upon the terrain. While backpacking, attach a piece of blaze orange cloth to each quarter to prevent “mistaken-for-wildlife” accidents.

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 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 air tight materials. If you transport in a covered 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 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 a 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 15C (60F) and more importantly, if nighttime temperatures are above 4C (40F), 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.

LESSON 6: FIELD TECHNIQUES

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 4C (40F), the carcass may be aged up to fourteen 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, have unsaturated fats. Unsaturated fat turns rancid rapidly. Removal of the fat prior to freezing enhances the flavour of the meat. Removal of bone saves freezer space. Double wrap and tightly seal your meat to prevent freezer burn.

Important Note for Caribou and White-tailed Deer Hunters

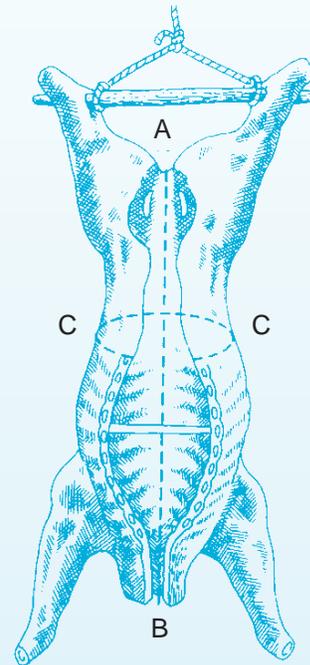
Caribou and white-tailed deer, because of their social (herding) behaviour, have very active scent glands. Meat quality can be affected by the tarsal glands on the inside of the hind legs at the hocks, metatarsal glands on the outside lower portion on the hind legs and the large gland on the underside 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 skin 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.

Diseased Animals

Please report any observations of injured or diseased animals to a Conservation Officer.

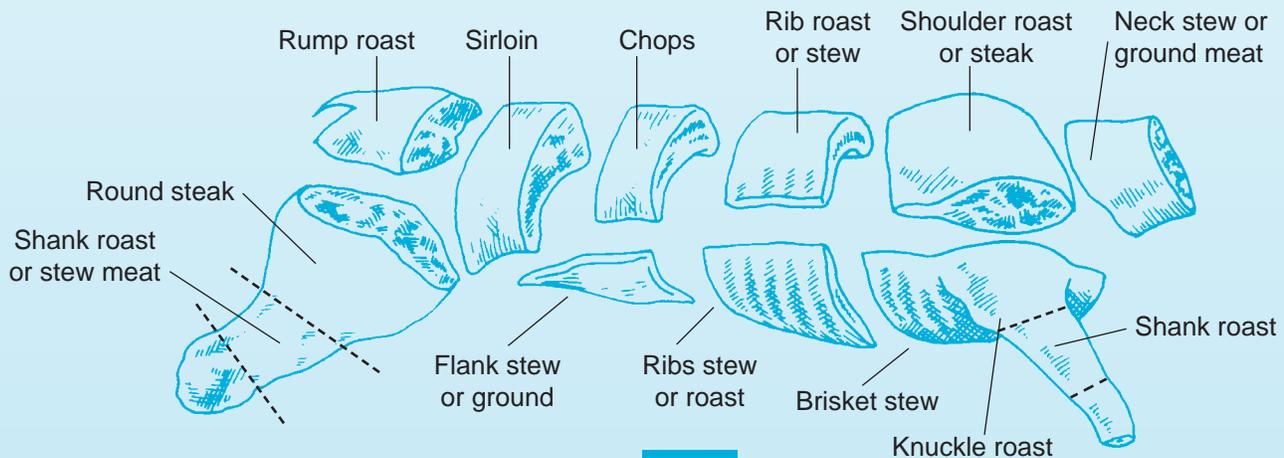
Home Care of Wild Meat

The carcass skinned and wiped free of hair with a damp cloth, should be hung in a cool place for aging—at least thirty-six 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 hindquarters at points "C - C".

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

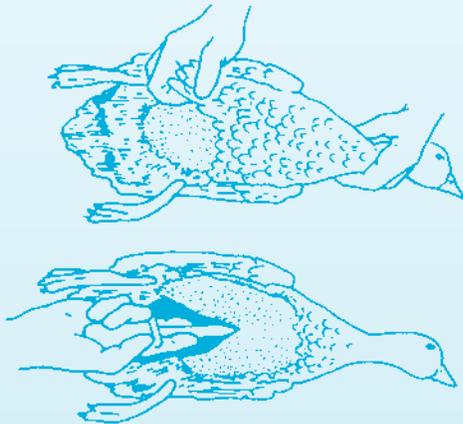


LESSON 6: FIELD TECHNIQUES



PROCESSING SMALL 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 BIRDS

1. Pluck off the bird's belly feathers.
2. Make an incision at the anus, circle it with a knife, 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: No person shall possess or transport a migratory bird unless at least one fully feathered wing is attached to the bird.

The wing and plumage may be removed from a migratory bird when the bird is prepared for immediate cooking.

LEAD POISONING AND NON-TOXIC SHOT

In North America, thousands of ducks, geese, swans, shorebirds and their predators become sick or die of lead poisoning each year. In areas that have been hunted, waterfowl and shorebirds may pick up spent lead shot as grit, or accidentally while feeding on land or water. Waterfowl that eat cereal crops are more likely to pick up lead pellets when feeding than birds that eat grasses and/or other vegetation. When the lead pellets in the bird's gizzard are ground down, dissolved and absorbed into the body, lead poisoning results. In a bird the size of a Mallard duck as few as three pellets over a lifetime could be fatal. Not all birds that swallow lead pellets will die.

Where

Heavily hunted areas will offer a greater opportunity for birds to ingest lead shot. Birds with varied degrees of lead poisoning from swallowed lead pellets have been diagnosed and documented at many locations in North America. Recent studies indicate that birds do not display signs of lead poisoning for at least three weeks after ingestion. Because most birds migrate quickly through Canada, the effects are not noticed until the birds are in the United States. When waterfowl become sick they look for seclusion and are usually eliminated by predators.

Prevention

The only successful method of reducing the loss of waterfowl and other birds to lead poisoning has been to eliminate the use of lead shot. Since 1991 non-toxic shot has been required for all waterfowl and upland bird hunting in the United States. Several years ago, Manitoba established non-toxic shot zones and there is now a regulation in place to ban lead shot for waterfowl hunting across Canada (1999) and replace it with environmentally friendly non-toxic shot.

LESSON 6: FIELD TECHNIQUES

Approved Non-toxic Shot

To meet hunter needs, shot shell manufacturers are developing pellets that are as effective for harvesting waterfowl as toxic lead pellets. More than forty metals and alloys have been tested for toxicity in North America. To date, steel, tungsten-iron, tungsten-polymer and bismuth have been approved, with steel being the most popular and most economical non-toxic shot currently available.

Using Non-toxic Shot

The vast majority (95 per cent) of modern shotguns are unaffected by non-toxic shot. Early manufactured steel shot loads (pre 1980) were made with the same wads as used in lead shot shells. Steel pellets are harder than lead pellets and were prone to wearing through the wad and scratching shotgun barrels and chokes. New wads are made of a thicker high-density polyethylene that protects the barrel and choke when using steel and tungsten-iron. Tungsten-polymer and bismuth shot are soft like lead and are loaded with the same wads as used in lead shot shells. If there is a concern about using non-toxic shot in a particular gun, contact the manufacturer.

To effectively use non-toxic shot:

- allow the birds to get closer before shooting (40 metres maximum).
- use a modified or improved cylinder choke.
- pattern your shotgun to find the best load for the waterfowl species you are hunting and which load performs best at different ranges (distances).
- practice on clay targets before going waterfowl hunting each year.

CHOOSING THE RIGHT SHOT SIZE

Your shotgun, the type of waterfowl you are hunting, and the particular hunting situation, are all factors that determine what shot size you should use. Finding the right shot size is important to prevent wounding loss.

Shot sizes are standardized regardless what type of metal or alloy the pellets are made of (for example, a No. 4 steel pellet and a No. 4 lead pellet are both .130 in. or 3.3 mm in diameter). However, steel pellets weigh about 30 per cent less than lead or other non-toxic shot pellets of the same size. When using steel

shot, a good rule of thumb is to choose a steel shot size two to three sizes larger to provide adequate downrange pellet energy (the force at which the pellets hit your target). At 40 metres, the pellet energy of a No. 2 steel shot is the same as a No. 4 lead shot.

Every choke/load combination is different. Even identical shotgun models may have different shot patterns with the same shot loads. That's why it is so important to pattern your shotgun to find out which loads perform best for different ranges and waterfowl species. Patterning your shot gun involves shooting several different shot types at large sheets of paper from different distances to determine which is most effective for particular hunting situations. Instructional brochures on patterning are available from shell manufacturers or hunting organizations like the Manitoba Wildlife Federation.

STEPS TO BETTER WATERFOWL HUNTING

1. Always pattern your shotgun and match the choke to the shot size and pattern density needed for your type of hunting.
2. Practice on clay targets before hunting season to improve your style, sharpen your skills and boost your confidence.
3. Learn to judge distances. Set up distance markers (decoys work great) while shooting clay targets. When hunting set decoys at known distances in front of your blind, or within the effective shooting range. Allowing the birds to get as close as possible will increase your success.
4. Learn to identify waterfowl. It takes time and practice, but is well worth the effort. Manitoba has specific regulations on the number and species of waterfowl that can be hunted.
5. Learn to call waterfowl and how to set decoys. Knowing how and when to call will help bring the birds to well placed decoys and is a very effective method of waterfowl hunting.

LESSON 6: FIELD TECHNIQUES

SPECIES IDENTIFICATION

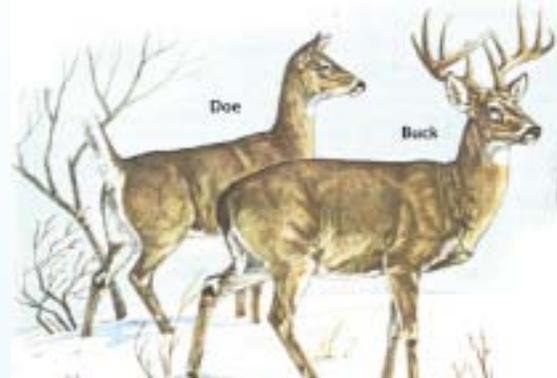
Knowing the animals you hunt is important for legal, ethical and recreational reasons. Hunting licences allow you to take only certain species of wildlife. Often the hunter is required to know the sex and age characteristics of the wildlife hunted. Other animals are protected and must not be hunted. The responsibility rests with the hunter to make positive wildlife identification. A responsible hunter confines his/her shooting to the species being hunted.

Also, safety is a prime concern. Be sure of your target before you shoot. **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. Know winter and summer colours, size, antler development, tracks and other characteristics of the wildlife you hunt. Know legal from non-legal animals.

Pictured and described in this section are some of the animals you may encounter while afield. Excellent wildlife identification field guides are usually available at libraries and bookstores.

LARGE WILDLIFE SPECIES



WHITE TAILED DEER

Odocoileus virginianus

White-tailed deer are the most commonly hunted animals in North America. Originally, mule deer were the deer found in Manitoba but modification of the habitat and hunting by settlers reduced populations dramatically. The change in habitat encouraged expansion of white-tailed deer into the province from the south. Whitetails, as they are commonly called, have expanded along developed areas to north of The Pas and Lake Winnipeg. While mule deer almost disappeared from the province, whitetails have increased to record numbers and appear to be adapting well to reduced cover in agricultural areas. Highest densities of whitetails are in the southwestern portion of the province.

White-tailed deer are the smallest members of the deer family in Manitoba. Adult bucks weigh 90-135 kilograms (200-300 lb) with does weighing 25-40 per cent less. Fawns weigh 2-3.5 kilograms (5-8 lb) at birth depending on the nutritional state of the doe and the number of fawns carried. The fawns grow quickly and by hunting season usually weigh 35 to 45 kilograms (75-100 lb). Whitetails are lower than people realize which allows them to go under fences and low-hanging trees and brush. Their belly is only 40 to 50 cm (15-20 in.) from the ground and they measure from 70 to 115 cm (28-45 in.) to the top of the shoulder. They only appear taller because of their long necks and antlers on the bucks.

Whitetails have extremely keen senses of sight, hearing and smell. They can detect movement at long distances and while they can ignore common recurring sounds such as traffic and farm equipment, they are immediately alert at new or unnatural sounds. Deer make extremely good use of wind currents and can

LESSON 6: FIELD TECHNIQUES

frequently smell danger at considerable distances. If moderately alarmed, white-tailed deer often raise their tails when bounding away. This behaviour alerts other deer in the vicinity and maintains visual contact between the deer as they run through cover. Whitetails can run up to 55km/hr (36 mph) for short periods of time.

White-tailed deer are classified as generalist “browsers” which means they make use of a wide variety of vegetative food sources without concentrating on one particular item. This feeding behaviour has allowed them to adapt to a wide variety of habitats from open prairie and agricultural lands to heavy forest. As summer range is as important as winter range to survival and reproduction, the highly nutritious feed in cropland areas (along with some secure cover) results in the highest deer densities in the province. Their diet varies widely from area to area and also at different times of the year. In the spring and summer a variety of green foliage is eaten. During fall, woody twigs, acorns and domestic crops are sought wherever they occur. The winter diet is mostly woody twigs and cedar/juniper (where available) but may also include tame forage.

Mating habits of the white-tailed deer can be described as polygamous, one buck mating with several does. During the fall mating season or “rut”, which in Manitoba peaks during the latter half of November, bucks may fight for a doe but usually only if the two bucks are of similar body and antler size. “Rubs” and “scrapes” are evidence of buck activity in the area. If does do not become pregnant during their first estrous cycle, they will cycle again in twenty-eight days. Late maturing does and bucks have been observed mating in February. About six to seven months after the mating the fawns are born. The doe’s first-born is usually a single fawn. Older does have two or three fawns each year with twins being most common if nutrition levels have been good. The fawns are spotted when they are born and remain hidden until they are old enough to follow the doe. In most years only about 20 per cent of fawns live to one year of age.

Numbers of white-tailed deer in Manitoba fluctuate according to the severity of winter weather. For example pre-fawn numbers in 1995 were about 200,000, the highest recorded in the province and a result of several successive mild winters with thin snow cover. Even in normal winters, deer mortality is about 10 per cent of the population. Bucks have used up any energy reserves during the rut and are often the first to succumb to severe winter weather. Fawns also have poor energy reserves, particularly if they are late born and cannot withstand excessive cold and deep snow conditions for an extended period.

Seasons are restricted where deer populations are low (bucks only if numbers are very low). When deer numbers are high and they cause excessive damage to market gardens, agricultural crops and are involved in more vehicle collisions, additional hunting opportunities are provided (second deer licences).

Hunters must become familiar with the differences between mule deer and white-tailed deer.



MULE DEER

Odocoileus hemionus

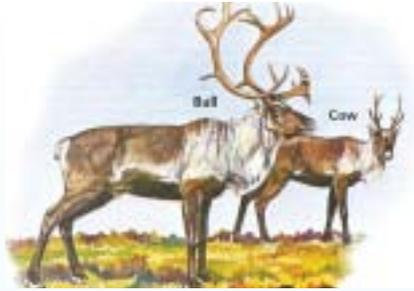
Western North America is the range of the mule deer. They live in a wide variety of prairie, brushland, desert or mountain habitats.

Mule deer differ from white-tailed deer in several ways. The whitetail’s antlers consist of tines rising from a beam that curves forward. Mule deer have a main beam that forks upward into two times which may fork again on the larger bucks. The ears of the mule deer are larger and their tail is shorter and less conspicuous. Another difference is the way they run. White-tailed deer typically run and leap, carrying their tails up:mule deer bound with a stiff-legged gait, carrying their tails down. Mule deer and white-tails are similar in size. The larger bucks weigh over 160 kgs (350 lb), but most weigh about 115 kgs (255 lb). Adult does weigh from about 40 to 70 kgs (90-155 lb).

Like the white-tailed deer, mule deer are browsers. During the summer, leaves and various flowering herbs and weeds form the bulk of their diet. With the approach of winter their diet changes to buds, twigs and the stems of woody plants. Grasses may be eaten in early spring, when they are the only green plants available.

Mating occurs from September to December with the fawns being born from April to June. The mule deer does give birth to one, two or three fawns. **In Manitoba, it is illegal to hunt mule deer.**

LESSON 6: FIELD TECHNIQUES



CARIBOU

Rangifer tarandus

The three recognized varieties of caribou present in Manitoba historically were found throughout the boreal forest and tundra. These mid-sized members of the deer family are still found in reduced numbers through most of their historic range and continue to be important to aboriginal peoples for meat and the hunting culture.

Barren-ground caribou frequent the northern tundra, migrating into the Northwest Territories for summer calving and back into the northern forests of Manitoba and northwestern Saskatchewan for the winter. Woodland caribou as the name suggests are found throughout most of the coniferous forest from Nopoming Park to the treeline and show little migratory behaviour. Coastal caribou, made up of the Cape Churchill herd and the Pen Island herd, exhibit characteristics of both barren-ground and woodland caribou. The Cape Churchill herd occupies the area between the Churchill and Nelson rivers and does not follow a major migration pattern. The Pen Island herd migrates between the Nelson river and Ontario.

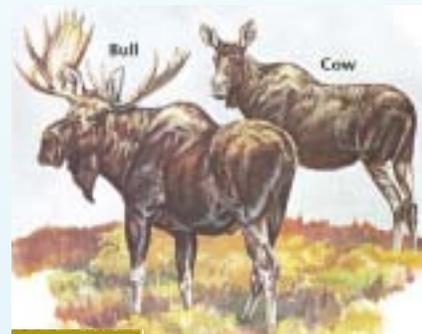
Caribou are unique among deer in that both males and females have antlers. The proportion of antlered females in various herds varies considerably. Antlers on females are much smaller than the antlers on males and the antlers carried by barren-ground caribou are much larger than those on woodland caribou.

Of the caribou in Manitoba, barren-ground are the smallest bodied variety with bulls weighing an average of 110 kg (about 230 lb). Woodland caribou are the largest, weighing 180-270 kg (400-600 lb). Caribou hooves are also quite different than other members of the deer family, with a distinctive crescent shape, particularly in winter when the hooves grow and the pads shrink so the animal walks on the outer horny rim of the hooves.

Caribou tend to be associated with areas of mature vegetation that contain the slow growing lichens that are important winter food for caribou. Additional food

sources such as sedges and tender portions of shrubs are also important, especially in summer. Caribou feed in winter by pawing 'feeding craters' in the snow to obtain buried vegetation. They also take advantage of lichens growing on lower tree branches.

Caribou are polygamous (mate with more than one). During the fall rut, conflict between mature bulls is a common occurrence. Seven and a half to eight months after mating a single calf is born. Twins are very uncommon. The calves are extremely hardy and are able to keep up with the cows within a few hours. Mating and calving occur over very short time spans as the caribou are almost continuously on the move.



MOOSE

Alces alces

Moose are found in the northern forests of North America, Europe and Asia. In Europe and Asia, they are referred to as elk which causes some confusion as elk in North America are a different species. The word moose is an Indian name meaning "eater of twigs". This refers to their browsing habits which are similar across their North American distribution. Although often associated with coniferous forests, moose appear to adapt readily to aspen parkland areas. In Manitoba, moose are found in most ecoregions but are rare to uncommon on the open tundra and intensive agricultural areas.

Moose are the largest member of the deer family in North America. Four subspecies are found in North America, the largest being in Alaska where a large bull may weigh 600 kg (1300 lb). They are smaller in the southern part of their range; in Manitoba large bulls would weigh 400 to 500 kg (880-1100 lb). Cows are smaller in size. Moose are generally solitary animals with a good sense of smell and hearing but have poor eyesight. Occasionally groups of from three to six are observed in winter feeding areas. Under the moose's throat is the "bell" or dewlap. This is a flap of skin that may be 25 cm (10 in) in length and has no known function.

LESSON 6: FIELD TECHNIQUES

Moose are polygamous. Bulls sometimes fight for the cows during the fall rut which peaks in Manitoba around September 26. Moose cows can potentially breed as yearlings and continue to eighteen years of age, but the peak breeding years are four to twelve years of age. In May or June, eight months after mating, one or two calves are born. Most cows have one calf, two are common if the habitat provides adequate nutrition and triplets have been reported.

In winter, moose feed on stems and twigs of trees and shrubs. During the summer they feed on available green vegetation found on land as well as on aquatic plants found in streams and lakes. As a result, moose are usually found close to water sources both for feed and as an escape from insects.

In Manitoba the boreal shield and boreal plains ecozones. Small numbers also occur in the prairie ecozone in the Turtle Mountains, Pembina Valley, Spruce Woods and other scattered locations. Moose densities vary considerably from fewer than one moose in 10 sq. km. in most habitats to over one moose per sq. km. in Riding and Turtle mountains.



ELK

Cervus canadensis

There are four subspecies of elk in North America with the one in Manitoba being generally referred to as *manitobensis*. Before the colonization of North America, elk were the most widely distributed of the deer family, inhabiting forests, prairies and mountains from Atlantic to Pacific and from Mexico to Central Canada. As the continent was settled, the elk numbers decreased leaving only

remnants of the original populations in portions of Western North America. Protection of the few elk remaining in Manitoba in the early 1900's allowed them to increase to huntable numbers.

The elk were given their name by the first settlers in North America. In Europe, the moose is referred to as an elk while the species with the same scientific name as North American elk are called red deer. Some of the North American Indians called the elk, "wapiti". Elk are the second largest members of the deer family in Manitoba and the subspecies *manitobensis* is the second largest of the elk subspecies in North America. The average weight of bull elk is about 350 kg (770 lb) with cows being smaller at about 275 kg (600 lb).

Elk are both grazers and browsers, eating various grasses, forbs, leaves, twigs and bark. If numerous, they can compete with domestic livestock and other wildlife for food. In recent times, as numbers increased in agricultural areas, the impact of elk on tame forage and fences had to be considered in the development of management plans.

Elk are gregarious. Cows, calves and young bulls are found in herds while adult bulls remain alone or in small groups. In early September, when mating starts, bulls collect a harem of as many cows as possible. The harem varies in size from a few cows to a group of twenty or more, depending on the size and strength of the bull. The bull spends most of his time defending the harem from other bulls. Sometimes other bulls will try to steal part of the harem or challenge the herd bull for possession of the harem. The bull may be "boss" of the harem but it is an older cow that usually gives the alarm and leads the herd away from danger.

Some of the elk herds spend much of the winter on Wildlife Management Areas or park lands. In some areas they are provided hay to keep them off private lands where they may damage fences and haystacks. During summer and mild winters they are more dispersed in smaller groups.

Elk are found in three major herd areas; Riding Mountain National Park, the Duck Mountain Provincial Park and Forest and the southern Interlake.

BLACK BEAR

LESSON 6: FIELD TECHNIQUES



Ursus americanus

The black bear is a shy, independent and powerful animal that is found only in North America. Historically, the black bear adapted to forested habitats throughout most of North America and was a resident in all of Manitoba except the treeless tundra in the far north. Manitoba's bear population has been largely eliminated from the southern agricultural zone but remains common throughout the northern coniferous forests and are abundant in the Porcupine, Duck and Riding Mountains, the Interlake's aspen parkland and the southeastern part of the province.

The black bear has barrel-shaped body with massive legs and feet. The average weight for adults is about 115 kg (250 lb) for males and 90 kg (190 lb) for females. However, black bears commonly weigh up to 180 kg (400 lb) with reports of male bears exceeding 275 kg (600 lb). Adults usually stand 80 to 100 cm (3 to 3.5 ft) at the shoulder and range about 130 to 170 cm (4 to 6 ft) in length. They have a moderate sized head, a long muzzle with straight facial features and large rounded erect ears. The fur is thick and long and there is a wide range in colour phases. For example, in some areas of Manitoba, over 50 percent of black bears are brown and chocolate colours. Bears frequently will live over twenty years in the wild.

Bears have a reputation for having poor vision but they can actually distinguish colours and have clear near vision. They have an acute sense of hearing and a keen sense of smell. Black bears appear to be awkward as they generally walk with their head hung low and with a slow shuffling gait due to their flat footed stance. They can, however, run at a speed of 55 kph (35 mph) for short distances. Their feet are broad with five toes, the soles have no fur, and their non-retractile curved claws which measure 2.5 to 3.3 cm. (1 to 1.5 in) long.

Black bears are carnivores. Although they have strong canines their molars are not designed to shear meat but are more suitable for grinding and crushing a variety of foods. Bears are opportunistic feeders and they rely primarily on vegetable matter. In the spring their diet is mainly grasses, forbs, and tree buds, while in the

summer and fall their diet expands to include berries, insects and nuts. Given the opportunity bears will eat carrion, fish, young ungulates, farm produce such as beehives and oats, garbage and other foods available from people. After a summer of voracious feeding, the bear will develop a thick layer of fat which provides energy reserves during denning. Bears enter the den from September to November and emerge the following April.

Bears do not usually reach reproductive maturity until their third summer. Some females do not breed until they are five or six. Bears are polygamous and females usually breed every other year in June or July. The fertilized egg does not implant until the following November to allow the female to devote her energy to foraging for food. In January, from one to four cubs weighing about 225 gm (8oz) are born in the den. They will remain with the female bear for at least the next eighteen months after which they become independent.

The black bear is classified as a big game animal under The Wildlife Act. Regulations and policies in place are designed to provide hunting, viewing and research opportunities to Manitobans and tourists, while maintaining the population at current levels. Hunting strategies are also designed to keep problem bear occurrences at acceptable levels. The resident and non-resident black bear hunting industry generates substantial direct economic benefits to the province.

Bears successfully coexist with and are very tolerant of humans. Generally, when people venture into the woods they are not even aware that bears are present because of their secretive nature. Bears are most frequently observed in areas where they have been attracted by human provided foods such as garbage and various items available in outdoor recreation areas. When bears are encountered, the interactions are usually harmless because bears will usually move away. However, when a bear feels threatened it will often lay back its ears, utter huffs, smack its lips and stamp its feet. It may even charge, but in almost all instances the charge is a bluff. Department offices can provide details on what to do in bear country to minimize damage and to assure human safety.

GRAY WOLF

LESSON 6: FIELD TECHNIQUES



Canis lupus

The gray wolf has been the subject of myths and legends that have resulted in fervent persecution throughout its history. Efforts to exterminate this species have been world-wide and have been successful in many countries. Prior to eradication efforts, wolves existed almost everywhere in North America. Manitoba's wolf population reduction programs were discontinued in the 1970s and this species is now common in our northern boreal forest and tundra. Wolves also occur in varying densities in the transitional zone between agricultural areas and the northern forests which includes the Sandilands/Agassiz Provincial Forests, the central Interlake and Westlake areas, and the Riding and Duck Mountains.

Gray wolves are large carnivores with long legs. Adult males range in weight from 20 to 70 kg (45 to 150 lb) and females from 18 to 55 kg (40 to 120 lb). Gray wolves have achieved weights as high as 80 kg (175 lb). They have heavy skulls with massive masseter muscles which produce powerful bites. The wolves have a long muzzle with teeth that include massive canines that are used primarily for holding prey and carnassial teeth (last upper premolar and first lower molar) which are designed for shearing flesh. The fur has long guard hairs and fine underfur, and exhibits wide variations in colour. Light or white colour phases predominate in the arctic areas while black and gray is most common in the boreal forest regions but variations include cream, tan, brown, bronze, and red.

Wolves have a keen sense of smell, acute hearing and their eyesight at long distances is reported to be quite good. They run with a lumbering, bounding gait with their tail streaming out behind or slightly elevated. They can attain speeds of over 60 kph (37 mph) and can travel for long distances at an easy gait of 8 kph (5

mph). These characteristics serve them well in their ongoing need to detect prey and to run it down for food. Wolves in Manitoba prey primarily on ungulates such as moose, deer and elk, but also frequently rely on beaver, other rodents and snowshoe hare. They are opportunistic and as a result will feed on carrion, berries and insects when other preferred foods are not available.

Wolves run in packs and generally occupy an established home range. The pack is generally comprised of a dominant or alpha male and female and their offspring. Pack size can vary from three to more than twenty individuals but usually is limited to fewer than twelve. Social interaction between pack members is important in maintaining the hierarchy of the pack. Vocalization, including howling and growling, facial expressions, posture, tail position, head posture are all important in communicating within and between packs and maintaining the hierarchy within a pack. Usually only the dominant pair breed and each pack produces one litter a year in May, after a sixty to sixty-three day gestation period. The pups are born blind, but their eyes open at six to nine days. They emerge from the den for the first time at about three to four weeks and are weaned at about six to eight weeks. They begin to become active members of the pack by late August as they join the adults for their first hunting lessons.

The gray wolf is classified as a big game animal under The Wildlife Act and may be taken by hunters. It may also be taken by registered trappers.

Wolves are concentrated in more remote areas where conflicts with human interests is usually minimal. In these areas the management strategy is one of non-intervention. In transitional areas where livestock operations encroach into the natural domain of the wolf, wolves do take domestic livestock for food. The management strategy in these instances is to provide livestock producers with advice and assistance to minimize the vulnerability of livestock to these attacks. When necessary, lethal means are used to remove offending wolves.

UPLAND BIRDS

LESSON 6: FIELD TECHNIQUES

HUNGARIAN PARTRIDGE

Perdix perdix



Gray partridge, Hungarian partridge or “Huns” are a true partridge. Native to Europe, they were first introduced to North America in California and Washington prior to the turn of the century. Introductions into Manitoba took place in the south central area of the province in 1924. Populations expanded rapidly. Gray partridge are now found in agricultural areas, with the highest concentrations being found in southern Manitoba. The first hunting season in Manitoba took place in 1931.

Gray partridge are one of the few non-native upland birds that can survive our harsh winters. Birds are found everywhere from abandoned farm yards to the CPR rail yards in Winnipeg.

Populations vary considerably and fluctuations are related to predation, habitat conditions, winter food availability and the use of pesticides. Pesticides can kill the bird directly through food contamination or indirectly through the elimination of insects on which partridge feed.

Gray partridge are monogamous (mate with only one) and remain in flocks except during the spring when mating takes place. Hens lay a clutch of fifteen to seventeen eggs. Incubation is twenty-four to twenty-five days. Both male and female attend the young.

RUFFED GROUSE

Bonasa umbellus



The range of ruffed grouse or “partridge” (not a true partridge, but a common name used in some areas) extends from Alaska and Canada south through the forested regions of the western, northern, and eastern United States. Both a red and grey phase are recognised.

Mature forests are not suitable for a good ruffed grouse population. A combination of openings, brush, and forest hardwoods (primarily aspen), or a mixture of hardwoods and conifers, provides the best habitat. These variations in vegetation types are needed for successful reproduction, food and protection from predators.

Before courtship begins, the male selects what is known as a “drumming log” and establishes his territory to attract females. The male stands on the “log” which may be a fallen tree, a stump, or even a rock, and drums. The drumming sounds like the muffled thumping of a distant motor that accelerates to a rapid whirr. This noise is made by the rapid beating of the wings against the air. The same log may be used in successive years by the same or different males. Drumming logs are defended against other males by a strutting display which involves the spreading the tail into a fan and erecting the neck feathers into a ruff while advancing towards the intruder.

Females lay an average of eleven eggs with the peak of hatch being mid-June. Incubation is twenty-three to twenty-four days. Chicks are capable of flight in about ten to twelve days. During this period a greater proportion of the ruffed grouse diet is comprised of insects.

SPRUCE GROUSE

Dendragapus canadensis

LESSON 6: FIELD TECHNIQUES



Spruce grouse or spruce partridge (not a true partridge) are found in the coniferous forests of Alaska, Canada, and the Northern United States. They are sometimes referred to as the “fools hen”. This name is due to the bird’s gentle nature and its lack of fear of man.

Their mating performance is similar to that of the ruffed grouse except that the spruce grouse’s “flutter flight” takes place in a tree or while jumping into the air, rather than on a log. As with the ruffed grouse, the spruce grouse also does a considerable amount of strutting.

Spruce, fir, or pine needles are the principal food of spruce grouse in winter.

Females lay an average of five to seven eggs, and not more than ten. Incubation is twenty-one days and chicks are capable of flight in ten days. Males are seen with broods but apparently take no part in defence of the chicks.



**WILLOW
and
ROCK**

PTARMIGAN

Lagopus lagopus and Lagopus mutus

The range of ptarmigan is circumpolar extending across North America, Europe and Asia. They are found on tundra muskeg flats and willow covered hillsides.

Willow ptarmigan are the largest of the three North American species (willow, rock and white-tailed). Ptarmigan differ from other grouse in that their feet are feathered to the tip of their toes. In the winter, willow ptarmigan are white except for the black bill, eyes and tail. Males have a scarlet comb over their eyes. During the summer they are rusty-red with white belly and wings.

Rock and willow ptarmigan are found in northern Manitoba. Because they inhabit remote areas, only a small percentage of the total population is hunted.

Females lay an average of seven eggs. The incubation period is twenty-two days. Unlike other grouse, male ptarmigan tend to remain with the female through the incubation and brood rearing period, and will defend the brood.

LESSON 6: FIELD TECHNIQUES



SHARP-TAILED GROUSE

Pedioecetes phasianellus

Sharp-tailed grouse are often called prairie chicken by mistake. Sharp-tails can be distinguished from prairie chickens by the sharp tail as the name indicates, and V-marked under parts. Sharp-tailed grouse are a lek species. Males congregate on leks or “dancing grounds”. Through ritual display, dominant males occupy and defend the centre of the ground. Females generally walk into the ground and move to the centre before accepting a male.

The sharp-tail’s range extends from Alaska and Canada to the central and western United States. Habitat is varied. They are found in grasslands with brush, or immature forests. In boreal forest they are frequently found in recently burned areas.

Females lay an average of twelve eggs. Incubation is twenty-three to twenty-four days. Chicks are capable of flight in about ten days. Young sharp-tails feed primarily on insects. Broods start to disperse around eight weeks of age. Young birds infrequently remain in the areas in which they fledged.



TURKEY

Meleagris gallopavo

The wild turkey is the largest upland bird in Canada. An adult gobbler will sometimes weigh over 9 kgs.

Historically, turkeys were found from southern Ontario to Mexico. There are five subspecies of turkey in North America with the “Eastern” being the most common. The other subspecies are the Merriam, Rio Grande, Florida, and Gould’s . Our present domestic turkey originated from the race of turkey known as the Mexican. In Manitoba, most wild stock probably originated from the Eastern and Merriam subspecies.

Turkeys have been successfully introduced into other parts of the United States and Canada. These introductions have been made by transplanting wild turkeys from an established population to new locations. Many states and provinces have had successful hunting seasons as a result of these transplanted birds. Wild turkeys were first introduced in Manitoba in 1958.

Turkeys prefer wooded areas with scattered openings. Turkeys eat berries, seeds and insects.

Manitoba offers a turkey season with a spring/fall format. Gobblers are successfully hunted in the spring using a call when males have established breeding territories and are accompanied by a harem (usually three to five females). The fall season is more opportunistic as birds do not readily respond to a call.

LESSON 6: FIELD TECHNIQUES

WATERFOWL

INTRODUCTION

This large and important group of birds includes the wild ducks and geese that are found in Manitoba. They nest each spring, raise their young over the summer and migrate south in the fall. Many other waterfowl are protected species. These include: swans, loons, grebes, cranes and a wide variety of shore birds. Care must be taken not to confuse these birds with migratory birds that may be legally hunted - ducks and geese. Coots, rails and snipe are other birds that may be taken by the hunter.

All hunters have a responsibility to correctly identify their targets before shooting. When hunting waterfowl, the ability to accurately identify and recognize each species can provide additional enjoyment to the hunt.

WHAT TO LOOK FOR

Several characteristics can be used to distinguish one waterfowl species from another. Among these are habitat, action, colour, shape and sound.

Habitat

Each species of waterfowl usually has special habitat requirements. Being familiar with these requirements will aid you in identifying waterfowl in their various habitats. Some species, such as dabbling ducks like the mallard, prefer shallow marshes and small potholes. Others, such as the canvasback, prefer deeper bodies of water. Mallards and pintails are usually the only ducks feeding in stubble or on swathed grain fields.

Action

Wing beat and flocking behaviour are also useful identification characteristics. Flying mallards and pintails form long lines and have a slow wing beat characteristic of pond and dabbling ducks. Shovelers and teal flash by in small bunches.

Colour and Shape

Waterfowl silhouettes will vary, showing large or small heads, broad or narrow bills, fat or slender bodies, long or short tails. Colours can be seen at close range. Depending on light conditions, birds may not appear in their true colour, but colour patterns can be key to their identity.

Sound

The sound of their voice or the noise made by their wings when in flight may both be used as aids in identifying waterfowl. Wings of goldeneye whistle in flight while those of most other ducks do not. Not all ducks quack. Many whistle or squeal. Experience will help you to identify waterfowl from their sounds.

DUCKS

Based on their habitats ducks are commonly separated into two broad groups - puddle ducks and diving ducks.

Puddle Ducks

Puddle ducks usually frequent shallow marshes and river edges rather than large lakes and bays. They usually feed by “dabbling” or dunking their heads in the water. They ride high on the water and jump directly upward when taking off.

The coloured wing patch, called the “speculum”, is generally iridescent (shiny) and bright.

Ducks feeding on croplands will probably be puddle ducks because this group can walk and run on land. Ducks feed mainly on vegetation.

Diving Ducks

Diving ducks usually frequent large, deeper lakes and rivers. They feed by diving, often to considerable depths. To escape danger they can swim long distances under water. They may then emerge only far enough to expose their head or bill before submerging again.

Wing patches of diving ducks lack the iridescence (glistening colour) of those of puddle ducks. To compensate for their short tails, they use their large paddle shaped feet as rudders in flight.

These are often visible when they are flying. When launching into flight, most of this group run or patter along the water before becoming airborne. Because their wings are small in proportion to their bodies, they have a rapid wingbeat in comparison to that of puddle ducks.

Their diet is chiefly fish, shellfish and aquatic plants. The flavour of their meat is often different than that of puddle ducks, which feed mainly on grain.

PUDDLE DUCKS



MALLARD

Mallards are among the largest ducks - two and a half to three pounds (1140 to 1360g). They are often called green heads because of the shiny green head of the mature drake.

Shovelers and gadwalls are sometimes confused with hen or juvenile mallards. In any plumage a mallard can be identified by the iridescent (shiny) blue wing speculum (reflection).

Mallards and pintails are the only ducks that regularly feed on grain crops. Some of the best mallard shooting occurs on swathed grain fields, providing benefit to the landowner as well as recreation for the hunter. Usually among the last ducks to leave in the fall, mallards decoy well and are excellent table fare.



PINTAIL

Pintails weigh about two to two and a half pounds (910 to 1140g). The pintail is smaller than a mallard and not as abundant. In flight or in hand, the long neck and sharp tail are distinctive features. The colourful male breeding plumage is seldom seen in fall birds since pintails are a relatively early migrant and most will have moved south by late October. Like the mallard, pintails feed on swathed grain and can cause considerable crop damage. Field shooting provides excellent opportunities and helps to protect crops. Pintails, with slightly darker flesh than the mallard, are an excellent tasting bird.

LESSON 6: FIELD TECHNIQUES



GREEN-WINGED TEAL

Green - winged teal are among the smallest of ducks seldom exceeding 12 oz. (340 g). Their erratic, twisting flight and small size give the impression of great speed and a difficult target. Fall birds are mottled brown with little indication of the colourful male winter plumage.

Although green - winged teal are a late migrant, most will have left before the latter plumage develops.

The species can easily be confused with blue - winged teal, particularly in the early plumages. In hand, the iridescent green wing speculum provides positive identification.



BLUE-WINGED TEAL

The blue - winged teal is a small duck weighing slightly less than one pound (450 g). The small size combined with a rapid, twisting flight pattern can provide a challenge to the hunter. Numerous in early fall, the species are among the earliest to leave, some migrating as far south as South America. By late September, blue - wings are fat and plump.

In spite of their small size, blue - wings are a desirable table bird.

Although not common, cinnamon teal are also found on the prairies. In female, juvenile or eclipse plumage, it is very difficult to separate them from the blue - wing teal.

LESSON 6: FIELD TECHNIQUES



WIGEON

Wigeons are a medium sized duck seldom exceeding two pounds (910 g). They are also often called “baldpate” because of the white crown on the head of the winter male. In addition to wing markings, the bluish bill and feet are reliable characteristics for identification.

Even in early plumages, males will generally show some trace of the green eye mask so prominent in breeding plumage. Wigeons are largely vegetarian in their diet and remain until mid-fall, often well into October. Usually seen in small tightly bunched flocks, their flight is fast and erratic.



SHOVELER

The shoveler is a small to medium bird of up to about one and a half pounds (680 g) in weight. The large spoon-shaped bill is a feature distinctive enough to make identification of the shoveler or “spoonbill” relatively quick and easy. Mallards are similarly coloured, but lack the large bill.

Shovelers are not particularly wary and their steady, direct flight makes them a relatively easy target. This species usually leaves in early fall. As table birds, they are not highly regarded perhaps due to their diet of snails and aquatic insects.



GADWELL

Gadwall ducks are medium sized up to two pounds (910 g). They are common early in the fall. By October, most have moved south. Hunters may confuse gadwell with hen mallards. The white-wing speculum is unique to this puddle duck species and in hand should be positive identification.

Gadwall ducks fly in small compact flocks and are easily decoyed within shot range. After a shot, they will often circle back and make a second pass over the hunter and his/her decoys.

DIVING DUCKS



BUFFLEHEAD

Weighing up to a pound (450g), the bufflehead is one of the smallest diving ducks. Like the goldeneye, the bufflehead nests in tree cavities. Buffleheads are late migrants, occasionally remaining all winter on open water areas where available. Late in the fall, males are seen in their distinctive winter plumage. The large iridescent head with a fan-shaped, white patch behind the eye is outstanding. Typical of ducks that eat animal food, their flesh may have a rather strong taste.

LESSON 6: FIELD TECHNIQUES



SCAUP

Scaup are medium sized ducks of up to two pounds (910 g) and are common throughout much of the province. As with other diving ducks, scaup are more likely to be encountered around larger areas of deeper water.

Although it closely resembles the ring-necked duck, scaup do not have the white ring on the bill characteristic of the ring-neck duck.

Both sexes have blue coloured bills, hence the common name “blue bill” is often used for the species. Scaup migrate at about the same time as canvasbacks, when ice begins to cover the lakes.

Flying in tight compact groups, decoying this species will provide hunters with excellent shooting opportunities.



CANVASBACK

One of the larger ducks, canvasbacks weigh up to three pounds (1360 g). The large head with its straight flat profile is a reliable identification feature and may be used to distinguish the species from the red head. Reputed to be the fastest of our ducks, the canvasback has a very rapid wing beat typical of a diving duck.

Canvasbacks are not common throughout the province. Hunters are most likely to encounter these ducks around deeper lakes and reservoirs.

The canvasback is an excellent table bird, considered by many to be gourmet fare.

LESSON 6: FIELD TECHNIQUES



RED HEAD

The red head is similar in appearance to the canvasback but smaller, weighing about two and a half pounds (1140 g). It has a rounded head shape rather than the flat sloping forehead of the canvasback. Hens may be confused with lesser scaup but they lack the yellow eye and white speculum of that species.

Red heads are fairly common in localized areas, particularly around the larger sloughs or lakes. The species is an early migrant and birds are generally gone by late October.



RING-NECKED DUCK

Similar in habits and general appearance to the scaup, ring-necked ducks are slightly smaller in size, averaging a little over one and a half pounds (680 g). Ring-necks are not as widely distributed over the province as are scaup.

They are commonly seen in northern areas. In hand, the white band bill and pearly grey speculum will confirm identification.

Ring-necked ducks are vegetarian in their food preference.



GOLDENEYE

One of the larger diving ducks, goldeneye may weigh up to two and three quarter pounds (1250 g). In flight, their distinctive wing-whistling sound has earned them the name of "whistler" by many hunters.

Goldeneye, along with the much smaller bufflehead, are unique in their nesting requirements. Both species nest in tree cavities such as abandoned woodpecker holes. Goldeneye are commonly found on deep water bodies in wooded areas.

LESSON 6: FIELD TECHNIQUES

GEESE

Geese and ducks are waterfowl and as such they have many similar characteristics. For example, both have webbed feet, similar feathers and bills of similar shape.

However, geese are generally larger than most ducks. Geese have no eclipse plumage and both sexes are identical.

Most species of ducks mature by their first spring while geese take up two years or more before reaching maturity.

Pairs of geese mate for life and both the gander and the goose help to rear their young.



CANADA GOOSE

There are a number of varieties of Canada geese. Although Canada geese are similar in appearance, they may vary considerably in size. The smallest are under three pounds (1400 g) with others weighing as much as 12 pounds (5500 g). Both sexes look alike, having a dark head and neck with a distinctive white chin strap.

The distinctive honking of these geese can often be heard even before the “V” shaped flocks are sighted.

In the fall, geese feed on stubble grain fields. Usually twice a day, in the morning or afternoon, they fly from nearby water bodies to these feeding areas. If

undisturbed, flocks will usually return to the same location for several days. Goose hunters try to “spot” or locate feeding flocks. When the geese are finished feeding and have gone back to the water, pits are dug or blinds constructed near the feeding areas. Decoys are set out and the concealed hunters wait for the geese to return.



SNOW GOOSE

Snow geese are all white with black wing tips and weigh about six pounds (2700 g). Both sexes are similar in appearance but juveniles are more grey than white. Head and neck feathers are usually stained with rusty orange.

Care must be taken not to confuse snow geese with protected species like whooping cranes, pelicans or swans. Swans lack the black wing tip. Cranes trail legs and feet in flight. Pelicans fly with the neck curved and have a distinctively large head and bill.

Snow geese fly in loose “V” formations but the lines tend to shift and change. A popular name for the species is “wavey”. The call of the snow goose is a distinctive, shrill, high pitched “yelp” rather than a honk.

Snow geese are generally less predictable in their feeding habits than Canada geese and will not usually return to the same feeding area for extended periods.

Flesh of snow geese is much darker than that of other geese.

LESSON 7: FIREARMS SAFETY

INTRODUCTION

In early times people used whatever materials were available as tools for hunting animals. Stones, rocks, and branches were most likely used as clubs. In time, people learned to make wooden spears with fire-hardened tips. Later, chipped stone points were tied to spears, and spear throwers were developed to increase the spear's range and velocity. Bows, arrows, and poison-tipped arrow heads further increased the hunter's accuracy and killing power.

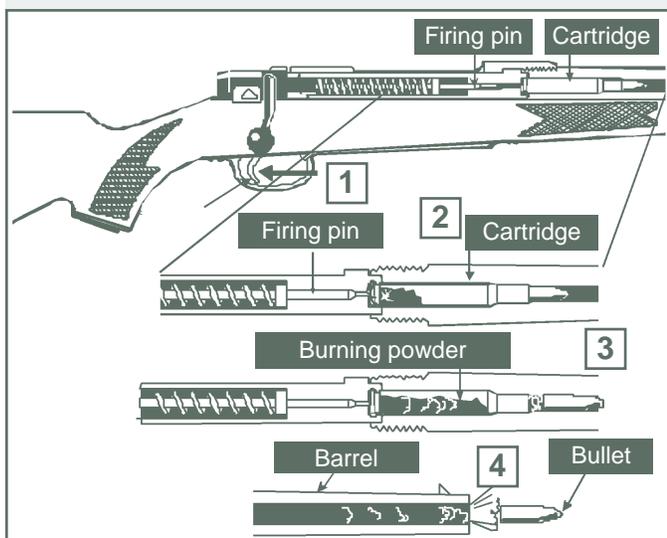
All of these hunting tools had limitations. The hunter had to get close to the quarry, the projectiles had limited velocity, and limited accuracy. However, the invention of gunpowder and firearms changed all that.

Firearms enabled hunters to increase their range and accuracy, and greatly increase their killing power. This power makes a firearm an extremely effective hunting tool, and a dangerous item if misused.

Firearm safety is critical for all persons using firearms, especially for hunters, who may share areas with other people. The distance over which modern firearms are lethal makes firearm safety a primary consideration for everyone.

How Firearms Work

Firearms are simple machines. They consist of a tube or barrel open at one end, with a chamber at the other. A round of ammunition fits into the chamber. When the primer is struck by the firing pin, it explodes, causing the powder in the case to burn. The gases formed by the burning gun powder push the bullet (projectile) along the barrel and out the end at high speed.



FIREARM CHARACTERISTICS

Parts of a Firearm

This chapter focuses on rifles and shotguns only, since these are the only guns that can lawfully be used for hunting. Handguns are illegal for hunting and will not be discussed here, although there are many books that describe their use for sport shooting. The basic parts of a firearm include:

Action: the mechanism for inserting, ejecting and firing cartridges (there are several types).

Barrel: the tube that directs the bullet.

Bore: the inside surface of the barrel.

Breech: the closed end of the barrel.

Butt: the end of the stock held to the shoulder. The fore end of the stock makes a grip for the barrel.

Chamber: the part of the breech that contains the cartridge.

Magazine: holds the ammunition.

Muzzle: the open end of the barrel.

Receiver: the metal frame which contains the breech, locking mechanism, and reloading mechanism.

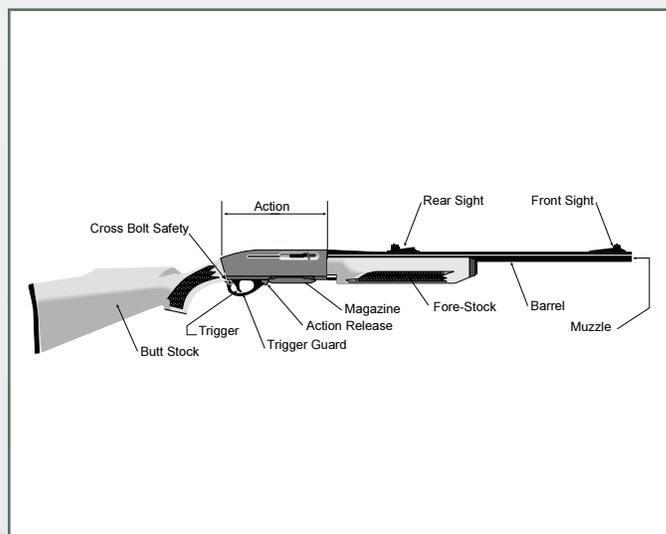
Safety: a mechanical device intended to prevent the firearm from accidental discharge.

Sights: fixtures for aiming the firearm.

Stock: the grip for the firearm, usually made of wood (also plastic or composite material).

Trigger: the mechanism that is used to fire the firearm.

Trigger guard: protects the trigger.



DIFFERENCES BETWEEN RIFLES AND SHOTGUNS

There are four basic differences between rifles and shotguns. These differences determine the specific uses of each of these firearms.

1. Grooved vs Smooth Bore

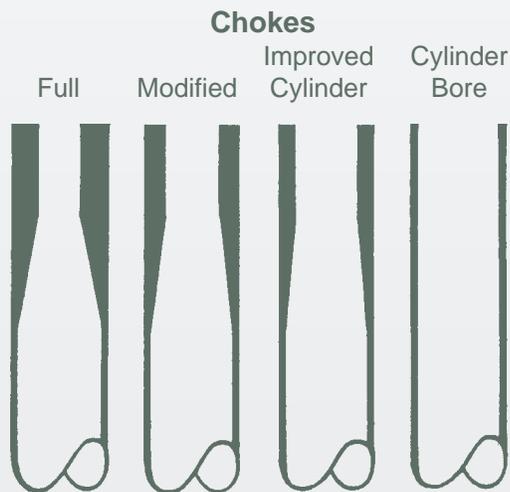
A rifle gets its name from the presence of spiral grooves in the bore called "rifling". These grooves spin the bullet, thereby increasing the rifle's range and accuracy. A shotgun's barrel wall is thinner than that of a rifle, and its bore or inside surface is smooth.

2. Single vs Multiple Projectiles

A rifle cartridge consists of a single bullet or projectile in a case. A shotgun shell consists of a number of shot pellets inside a paper or plastic cylinder with a brass base.

3. Long Range vs Wide Spread

A rifle bullet may travel more than 915 metres per second (3,000 ft./sec.) and have a range of several miles. A shotgun, however, spreads or sprays its charge of shot in a widening radius. The exact spread of the shot is determined by a constriction or narrowing at the muzzle called "a choke". The shot



pellets travel at about 335 metres per second (1,100 ft./sec.) and have a maximum range of only a few hundred metres.

4. Presence of Sights

The sights on a rifle are constructed for accurate aiming, while those on a shotgun are less accurate and used more for simply pointing.

CALIBRE AND GAUGE

The calibre and gauge are measures of the bore or inside diameter of the barrel used by a particular rifle or shotgun.

The *calibre* is a direct measure of the inside diameter of a rifle barrel. It is expressed in hundredths of an inch, e.g. a .22 calibre rifle has a bore of 22/100 inch in diameter.

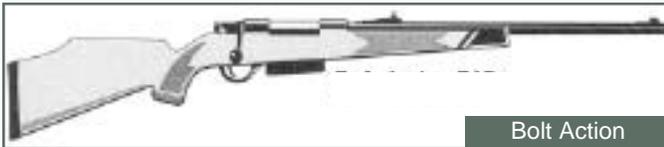


The *gauge* refers indirectly to the bore diameter of a shotgun. It is not a direct measure but is calculated as the number of lead balls of the bore diameter required to make up one pound. Thus, a 12 gauge shotgun has a bore diameter such that twelve lead balls of the bore diameter would weigh a pound. This means of gauge measurement has no connection to the variety of shot sizes that may be found in shotgun ammunition. The one exception to the indirect measurement of gauge is the .410 shotgun. In this case, the measurement refers directly to the actual bore diameter in hundredths of inches.

LESSON 7: FIREARMS SAFETY

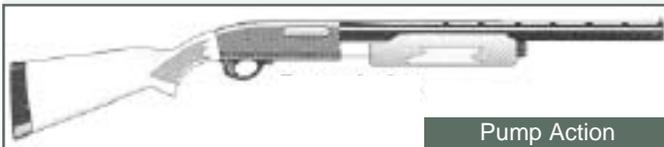
ACTIONS

Actions are the firearm mechanisms that fire the ammunition then eject used ammunition cases and insert or allow you to manually insert a new cartridge into the chamber. Except for single shot firearms the action mechanism picks up a cartridge from the magazine with each complete cycle. There are five basic types of actions on firearms. They may be found on either rifles or shotguns.



1. Bolt Action

A bolt action firearm operates on a lift, pull, and push sequence similar to a door bolt. This is a common type of action on hunting rifles. A new cartridge will be fed in manually from the magazine.



2. Pump Action

A pump action operates by pushing the action release button and pumping the fore-end of the stock back and forth in order to open and close the action.



3. Lever Action

A lever action firearm has a metal handle which is located just behind the trigger. To open the action, you pull the handle downward away from the stock.

4. Hinge Action



A hinge action firearm opens or “breaks” in the centre, similar to the movement of a door hinge. To open the action, the release handle is pushed to one side and the barrel or barrels are pressed downward. The used shell is then ejected, new shells are inserted manually and the barrel is closed. This is a common type of action in shotguns.

5. Semi-automatic action

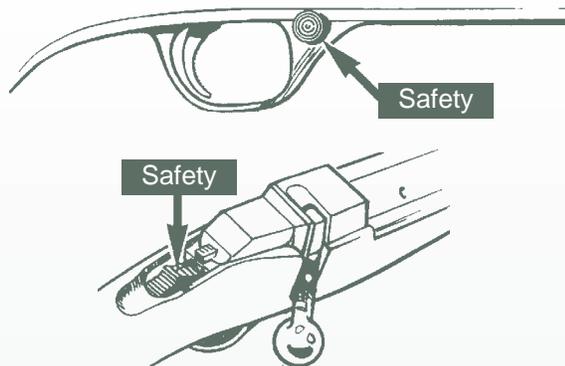


The action of a semi-automatic firearm is opened by pulling back a handle. Once the first round is shot, the action ejects the used case and inserts a new round from the magazine into the chamber. Most models of semi-automatics will stay open when empty.

You must be able to recognize which type of action a rifle or shotgun has and be able to operate it safely and correctly. Before handling any firearm, you must know how to open the action by using the action release so you can check that it is empty.

LESSON 7: FIREARMS SAFETY

THE SAFETY



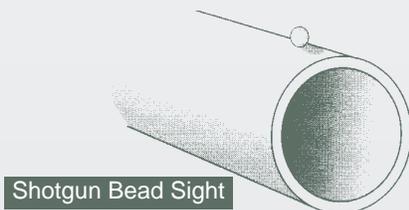
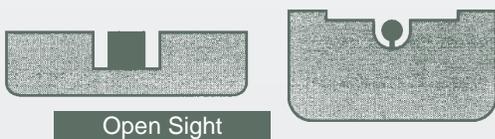
The safety on a firearm usually locks the trigger, thereby blocking the firearm's action so it cannot be fired. In order to fire a firearm, the safety must be in the "off" position. Be sure you know where the safety is located and how it works before loading your firearm.

SIGHTS

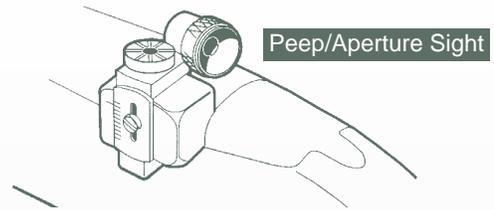
A sight is a device used to aim the firearm. There are three basic types of sights: open, aperture and scope. Rifles may have any of these three types of sights. Most shotguns have only a front sight called a bead, although some may also have open sights.

Open Sights

Most factory-issued rifles are equipped with an open rear sight and front bead sight. To aim, you must line up the front bead with the rear open sight and with the target.



Aperture Sight



The aperture sight is called a "peep" sight because it has a small hole that you peep through to aim at the target. All you have to do is look through the peep hole at the rear sight, then hold the front sight on the target.

Scope Sight



The scope sight is a mini-telescope mounted on the rifle. It simplifies sighting because you need to focus on only one object—a known target. The scope sight helps you see the target better because it magnifies it, making the target appear larger and closer. It is also designed to gather light, so you can sight a target even under dim light conditions. To use the telescopic sight, shoulder the rifle bringing the telescopic sight up toward your eye while looking at the target.

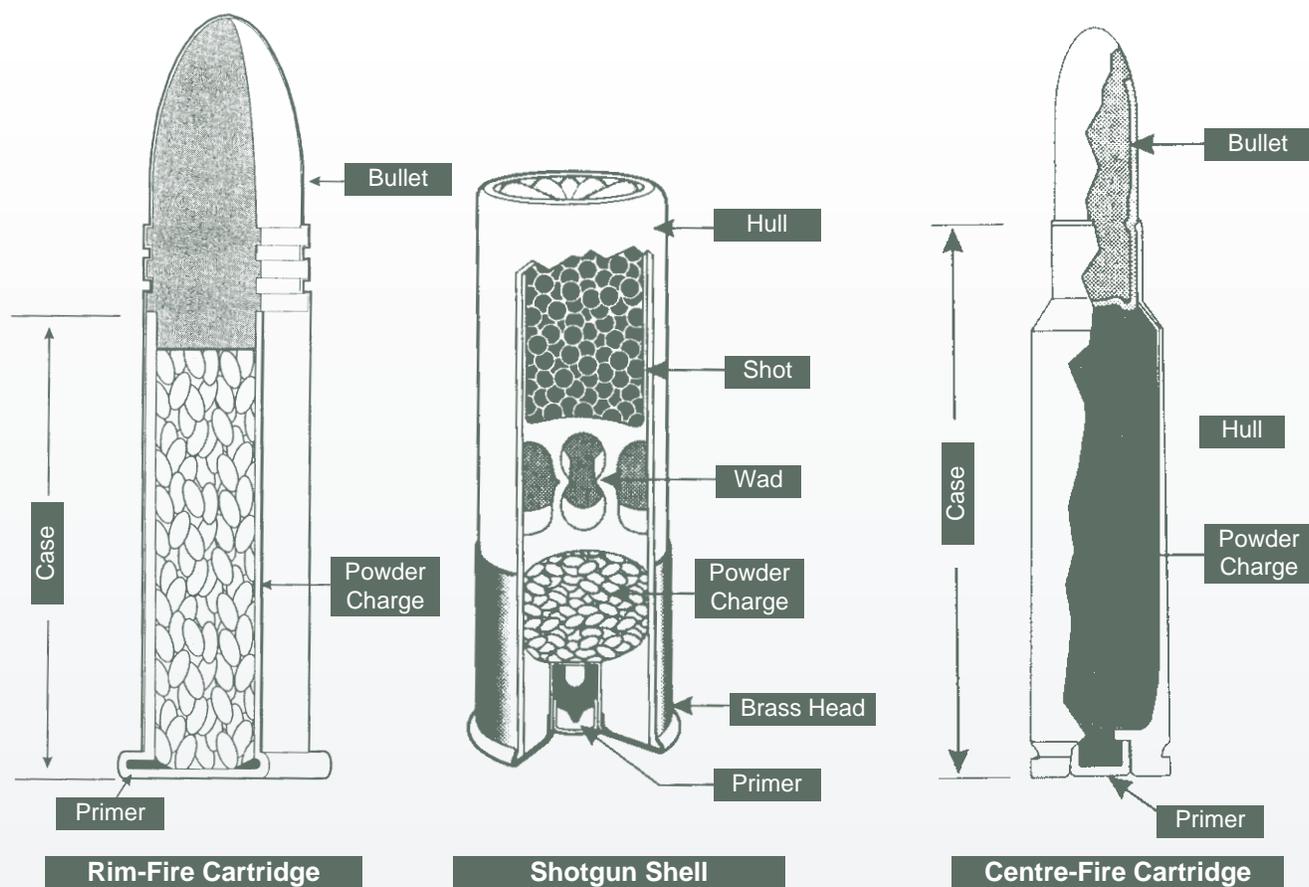
AMMUNITION

The ammunition used in rifles and shotguns varies in size, appearance, and makeup. Rifle ammunition is made up of four basic components, while shotgun ammunition has five components.

A *bullet* is a projectile that is shot from a rifle. It is made of lead and may have a jacket of harder metal such as copper. *Shot* is commonly fired from a shotgun. The shot consists of a number of pellets combined in one shotgun shell.

Hunting bullets usually have a soft or hollow point. These bullets are designed to expand or flatten upon impact, thus expending all their energy upon entry. Target bullets often have solid points which make a small hole because they do not expand. Bullets and shot come in a variety of different sizes and weights.

LESSON 7: FIREARMS SAFETY



The *case* is a container in which all other ammunition parts are assembled. The case is commonly made of brass, steel, copper, paper, or plastic.

The *powder charge* is a chemical compound which, when burned, forms gases which propel the bullet or shot through the barrel.

The *primer* is a chemical mixture which explodes when hit. The flame of the primer explosion ignites the powder charge.

In the shotgun shell, there is a fifth part called a *wad*. Wads are used to separate the powder from the shot, and to hold the loose shot together as it travels through the barrel.

Rimfire and Centre-fire

There are two basic types of modern ammunition – *rimfire* and *centre-fire*.

In rimfire ammunition, the priming chemical is located around the inside bottom rim of the cartridge case. The rim must be soft enough to allow the firing pin of the firearm to dent the rim when it strikes it. This process crushes the priming compound, which

then explodes, igniting the powder. Rimfire ammunition is commonly used in .22 rifles.

In centre-fire ammunition, the primer is located in the centre of the cartridge case bottom. The firing pin strikes the primer, exploding the priming compound and igniting the powder charge.

The potential killing power of a bullet is determined by its energy upon impact. The factors that determine impact are the bullet weight and the charge of powder which combine to create the velocity or speed of the bullet. A bullet's potential killing power can be determined by using charts provided by ammunition manufacturers.

CHOOSING A FIREARM AND AMMUNITION

Your choice of a firearm and ammunition depends on 3 factors:

1. the hunting laws and regulations;
2. the type of species that you are hunting, and;
3. the habitat in which you are hunting.

LESSON 7: FIREARMS SAFETY

The ammunition you choose depends on the wildlife you are after and the habitat. Full metal jacket hard point ammunition, tracers and explosives are prohibited and illegal for all hunting.

You must make sure that the ammunition matches the firearm you are using. The calibre or gauge will usually be imprinted in the metal of both the firearm (on the breech end of the barrel) and the flat end of the casing of most ammunition. Shotgun ammunition usually has information concerning the shot size contained within and the length of the shell printed on the side of the casing. Rimfire ammunition, because of its small size, may not be imprinted. Check the label on the box of ammunition carefully for calibre or gauge and shotshell length, bullet weight, type of bullet and velocity. Be positive that the ammunition you use exactly matches the ammunition specifications printed on the firearm. There is a considerable difference between *.303 British* and *.303 Savage* ammunition for example.

Be sure your shotgun is designed for modern cartridges and powder. A 12 gauge shotgun may be chambered for 2 3/4 inch or 3 inch (sometimes called magnum) length ammunition or both. For shotguns you must be sure of the correct gauge and also the length of the cartridge it is designed to use. This information should be printed along with the gauge on the outside of the barrel at the chamber end.

FUNDAMENTALS OF RIFLE SHOOTING

Marksmanship

Marksmanship is the ability to hit your mark or target. It is important that a hunter be a good marksman for two major reasons.

The first reason is safety. If you have the ability to hit your target, you will be self-confident. When you know you can shoot accurately, you will not need to spend time thinking about how to shoot, but can concentrate instead on where to aim. You will have time to think—Is this shot safe? Is the path to and beyond the target clear?

The second reason is to make a humane kill. An accurate shot will kill quickly, cleanly and humanely. A good hunter practices marksmanship skills until his shots are consistently accurate and studies animal anatomy to know where vital organs are located.

Shooting excellence depends on several fundamental techniques which must be learned and practiced. They are aiming, trigger squeeze, breath control, follow through and shooting position.

AIMING

Dominant Eye

The “dominant eye” is the eye you use for sighting purposes. The dominant eye is the stronger of your two eyes. The eye will judge speed and range and focus more accurately than your other eye.

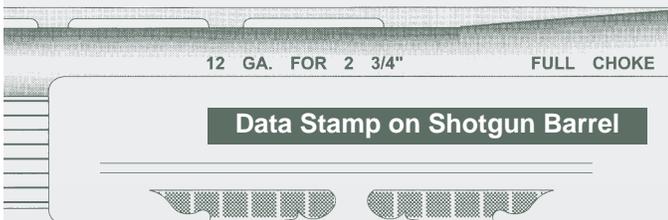
Even though you are right-handed, you may have a left dominant eye. If you are not sure which is your dominant eye, your instructor will be able to help you determine which of your eyes is the dominant eye.

Trigger Control

Correct trigger control is essential for an accurate shot. When the sights are aligned on your target, squeeze the trigger slowly and steadily. Do not jerk the trigger. Anything other than a smooth squeeze will cause the sight picture to waiver and will send the shot off target.



Data Stamp on Rifle Barrel



Data Stamp on Shotgun Barrel

LESSON 7: FIREARMS SAFETY

Breath Control

Controlled breathing is necessary to shoot accurately. As you breathe in and out, it is normal for your chest to rise and fall and your arm to waiver. So will your gun barrel unless you control your breathing at the exact moment you fire.

When you are in a shooting position, with your cheek against the stock, take a deep breath, exhale a portion of it and hold your breath while you aim and squeeze the trigger. This should allow you to hold the barrel and sights in perfect alignment on the target at the final instant when the gun fires.

If you hold your breath too long, you may lose control and your shot will be off the mark. If you run out of breath before firing, relax, take a deep-breath and do it again.

Follow Through

Follow through, which simply means continuing to hold still until after the bullet has been fired, is important to accurate shooting. If the rifle is moved a split second too soon, your aim will be off target. Follow through will ensure the rifle isn't moved until the bullet is well on its way to the target.

GENERAL RULES OF FIREARMS SAFETY

Proper firearm handling is the most important element of hunter safety. Careless handling of firearms can cause death or injury to hunters or their companions before they see their target or even reach the bush.

Ten basic rules must be followed whenever a firearm is handled or used. The first four rules apply whether you are in a home or building (such as a gun store), in a vehicle, at a shooting range or while hunting. The ten basic rules are:

1. Always point the muzzle of a firearm in the safest direction.
2. Open the action of a firearm as soon as you pick it up for any reason.
3. Look into the chamber and magazine to ensure the firearm is unloaded after opening the action.
4. Do not put your finger in the trigger guard until ready to fire.
5. Be certain the barrel is free from obstruction. This should be done before loading and periodically during movement in the field.
6. Check for the correct ammunition for the firearm you are using.
7. Use the safety but don't rely on it.
8. Never climb a tree or fence or jump a ditch with a loaded gun.
9. Be sure of your target and beyond before you pull the trigger.
10. Treat every firearm as though it were loaded.

FIREARMS SAFETY AT HOME

When you have firearms in your home you must make sure they are safe from misuse by anyone. You must be especially careful if there are children in your home. Some important rules to follow for safety at home are:

Every time you handle a firearm for any reason and before storing a firearm, point the muzzle in a safe direction, check to see that both chamber and magazine are empty. The only guaranteed safe firearm is one which has the action open.

Firearms may be stored in a variety of ways, away from dirt and moisture and locked in a secure location. A firearm should never be left in a position where it can be knocked over, nor left where it can be handled by the inexperienced. Lock up your firearms.

Firearms and ammunition should always be stored separately. This will make it difficult for an unauthorized or inexperienced person to obtain both a firearm and ammunition at the same time.

Firearms should be carefully cleaned and maintained at regular intervals. This will ensure proper operation and enable you to become familiar with the firearm and its safe operation.

Let all members of your household know there are firearms and ammunition in the house. Do not make them a mystery and therefore an attraction for children by hiding them. Explain the potential danger of improper use and handling of firearms to all household members, and especially to children.

LESSON 7: FIREARMS SAFETY

Safe Loading and Unloading Procedure

At all times ensure your firearm is pointed in the *safest* direction. Load and unload your firearm away from others.

Safe Loading Procedure:

1. Point the firearm in a safe direction
2. Open action
3. Ensure barrel is clear
4. Load correct ammunition in chamber or magazine
5. Close action
6. Engage safety

Safe Unloading Procedure:

1. Point the firearm in a safe direction
2. Open action
3. Clear chamber and magazine

BEFORE LEAVING HOME

There are a number of things you can do before you leave home that will improve your safety and enjoyment of hunting.

Join a gun club. This will allow you to meet and talk to experienced firearms users. You may be able to take specialized instruction at the club and you may also get experience handling a variety of firearms with other members.

You will also have a safe place in which to practice with and adjust your firearm. If you do not belong to a gun club, find a safe place to practice shooting. Check municipal shooting by-laws. Use a place that has a safe backstop such as a hillside or sand pit. Make sure that there are no large rocks or other hard surfaces that will deflect the bullet in unknown directions.

Be certain that there are no buildings or animals in the area, and that nobody can blindly walk between you and your target. Be sure that you have permission to use the property.

Before hunting, your rifle must be *sighted-in*. This means that the rifle's sights must be adjusted so that the bullet will hit a target at a specific range.

Set up a target with a safe back-stop at 25 metres and fire at least three test shots. Be sure to use the same type of ammunition you will use when hunting.

Check the target. If the group of hits is not at your point of aim, adjust the rear sight in the same direction you wish to move your hits. If the shots are not grouped together, it could be due to your technique or some other mechanical factor. Get someone to help you with your technique.

If your shots are on the point of aim at 25 metres, they will be on the point of aim again at approximately 200 metres due to the bullet's curved trajectory. Use the ballistics table provided by an ammunition manufacturer to determine the trajectory for your particular firearm and bullet type at various ranges.

After your rifle is sighted-in, *practice shooting* under various light and weather conditions and at various distances.

Practice shooting so you know what your sight picture looks like.

Know the vital areas of the animal you will be hunting. You can learn this from other hunters or books. Know what your sight picture is in relation to the animal you are targeting.

Practice using your firearm so you are very familiar with its safety, action, weight, loading and unloading procedures. Learn about the ammunition you will be using, its velocity (speed) and range.

Sometimes a loaded firearm will not immediately fire when the trigger is pulled. When a "hang fire" occurs, slowly count to *sixty* while pointing the muzzle in a safe direction, then remove the defective cartridge.

SAFETY WHEN TRAVELLING

You must take precautions for safety when travelling with a firearm.

In preparation, always be sure that the firearm is clean and that the barrel(s) is/are free from obstructions. Many strange things can happen during storage to plug up a barrel. Decide on the appropriate ammunition and take only that type of ammunition with you. This will eliminate possible confusion and loading the wrong ammunition.

It is illegal as well as dangerous to carry a loaded firearm in a vehicle. Unload your firearm before approaching your camp, boat, car or truck.

Carry your firearm in a protective case and position it securely so it will not move about during travel.

LESSON 7: FIREARMS SAFETY

Keep firearms and ammunition out of sight in your vehicle. Lock your vehicle when it is unattended. Exposed firearms may tempt someone to break into your vehicle to steal them.

If you are going on public transportation such as a bus, train or plane, check first with the carrier's agent concerning their regulations on firearms and ammunition.

SAFETY WHEN HUNTING

When hunting, there are a number of basic safety rules you should follow.

1. Load or unload your firearm with its muzzle pointing in the safest direction, well away from you and others.
2. Use but do not depend on the safety. Keep your finger outside the trigger guard except when you are ready to fire.
3. Be aware of your companions' positions to avoid pointing your muzzle at them. Never shoot in their direction. Always point your muzzle in a safe direction and be able to control its direction whatever the circumstances, even if you fall or trip.
4. When entering a farm yard or meeting another person, unload your firearm and leave the action open so that others can see it is safe. Remember, the only obviously safe firearm is one with the action open.
5. Always identify your target positively. Don't shoot until you see the whole animal.
6. Never use a rifle scope to observe other hunters or to identify an object.
7. When stopping to rest in the field always unload your firearm. Leave the action open and store it temporarily with the muzzle pointed in a safe direction.
8. Be sure your barrel remains free of obstructions. Snow or mud can easily enter the muzzle and escape the notice of a care-less hunter. The result can cause the barrel to explode.
9. Never drink alcohol or use drugs when hunting or handling firearms.

CARRYING POSITIONS

There are a variety of ways to carry a firearm. Attention must be given at all times to *safe* muzzle direction no matter which carry is used.



Ready Carry

The *two-hand* or *ready carry* is the safest firearm carrying position for hunters, as it gives the best control of the muzzle. Grip the small of the stock in one hand and the fore end in the other, holding the muzzle upwards.



Cradle Carry

The *cradle carry* is another safe carry. Grip the small of the stock in your trigger hand while cradling the barrel in the bent elbow of your other arm. However, note that the muzzle points to one side, which means that this carry should not be used when walking with anybody on this side.

LESSON 7: FIREARMS SAFETY



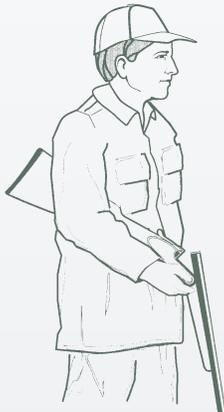
Trail Carry

The *trail carry* is good when you are walking abreast with your companions. This position should not be used when walking behind someone. Hold your firearm by the stock in one hand at your side with the muzzle pointing slightly downward and forward.



Shoulder Carry

The *shoulder carry* is safe when walking beside or behind (but not in front) of someone. Lean your firearm over your shoulder with the muzzle pointing in the air.



Elbow or Side Carry

The *elbow or side carry* is safe in open terrain but should not be used in the bush as branches can get tangled around the firearm and push the barrel downward. Hook the firearm over your elbow of your trigger arm; it will point to the ground. Again, do not use this carry when walking behind someone.



Sling Carry

The *sling carry* is used when you must walk a long way or need to keep both hands free. Do not use it in dense bush because the firearm may get caught and be pulled off your shoulder. Hang the firearm from one shoulder by its sling. The muzzle should be pointed in the air behind you.

THE VITAL FOUR ACTS OF FIREARM SAFETY

Assume every firearm is loaded.

Control the muzzle direction at all times.

Trigger finger must be kept off the trigger and out of the trigger guard.

See that the firearm is unloaded - PROVE it safe.

PROVE it safe:

Point the firearm in the safest available direction.

Remove all ammunition.

Observe the chamber.

Verify the feeding path.

Examine the bore for obstructions.

The firearm is now unloaded and safe until it leaves the direct control of the person who unloaded and PROVED it safe.

SAFETY IN OPEN COUNTRY

If you are hunting in open country there are some special rules to follow:

Never shoot near a building; some person may be using it as a shelter.

When crossing a fence or area of unsure footing, unload your firearm and leave the action open. If you wish to cross a fence alone, place it on the other side of the fence and cross further down the fence row. If you are in a group, one hunter should hold the unloaded firearms while the others cross the fence. Remember to check your muzzle for dirt if you lay your firearm on the ground. A piece of tape over the end of the barrel will prevent the entrance of dirt or snow as long as it is intact and will not interfere with shooting.

Don't shoot at animals over the rise of a hill since people or livestock may be in the line of fire over the hill.

SAFE TARGET IDENTIFICATION

Proper firearm handling is always important to hunter safety. However, when you raise your firearm to shoot something you are faced with a critical situation in which an unintended victim such as another hunter or person or animal may be shot or killed. You must always ask yourself:

"Am I sure of my target?"

"Is it a legal animal?"

"Is there anything else in the line of fire or beyond the target?"

Answer all these questions before you squeeze the trigger.

An incorrect decision may result due to inexperience or ignorance of the characteristics and habits of wildlife, the tension and eagerness of an inexperienced hunter. If you make an incorrect decision you are responsible for any unintended results.

Use self control and discipline. Resist the impulse to shoot, even if it means losing a fine animal. You will have maintained and demonstrated the control that distinguishes a true hunter.

POSITIVE TARGET IDENTIFICATION

Attitude

One of the most important aspects in identifying the target has nothing to do with animals at all. This factor is the emotional state and attitude of the hunter—the eagerness and tension that may cause you to shoot without properly determining the target.

The confidence and relaxation of an experienced hunter are the result of experience. Self control and experience are the best guides for the young or inexperienced hunter. Knowing the sorts of pressures you will face as a new hunter can prepare you in understanding and overcoming these feelings.

As a novice hunter, you will face a number of problems. You are unfamiliar with your surroundings. You may be frustrated by an inability to spot wildlife with the same ease as more experienced companions. You may feel that you must kill an animal to be a success. These factors, combined with lack of confidence, may cause you to fire at the slightest suggestion of sound or movement and make you believe that you see features not actually there. How can you overcome this?

The secret is self discipline. The true hunter appreciates that the safe and ethical conduct of the hunt is the major aspect of the hunting experience and that it takes precedence over "success" in shooting. He will not, therefore, jump at the chance to kill an animal if it means that he/she will, in so doing, spoil the experience by endangering or offending others.

An experienced hunter does not become involved in accidents and violations through overeagerness. He is relaxed and confident in the knowledge that the conduct of the hunt and the pleasure of the outdoor experience are the most important aspects and, at the same time, the most easily attainable ones.

You should realize that experienced hunters are much more impressed by the young hunter who conducts himself well than by one who shoots at the expense of safety and courtesy.

Slow down. Look carefully, then look again. The few seconds taken to positively identify your target will pay off not only in safety but in enjoyment, accuracy and success.

LESSON 7: FIREARMS SAFETY

Target Identification

Target identification starts before your hunting trip begins. The excitement of a hunt can make it difficult to be completely sure about what you think you see. Being sure about your target is impossible if you do not know what you are looking for or where to find it.

Learn the appearance, characteristics and habits of the animals that you are hunting, as well as those of other animals that may be in the same area.

This will:

Allow you to positively identify the animal you are hunting;

Enable you to determine if it is the correct species, legal age and sex;

Allow you to understand where you will likely find the species you are after and where it will likely not be. Be suspicious of an “animal” in an unlikely place or habitat.

Prevent needless killing of harmless animals that may appear threatening to a person ignorant of their behaviour and habits.

Identification Strategy

An identification strategy is a series of steps or checks you must go through to positively identify your target.

Don't be fooled by a flash of colour or a sudden movement. Your imagination and excitement may make you see more than is really there. A moving patch of brown may be a deer—or a domestic animal—or another hunter. Even if it is a deer it may not be the proper age or sex to make it legal.

Don't assume that other hunters follow the safe practices that you do. You will wear *hunter or blaze orange clothing* to be visible to other hunters during most rifle seasons, but they may not do the same. Always be prepared for the unexpected.

Don't squeeze your trigger until the entire animal becomes visible. This will let you positively identify exactly what you are shooting at. Look for unique features or characteristics that can belong only to the animal you are hunting. The hunter who looks for specific features rather than general colours or movement is the one who will never make an incorrect identification.

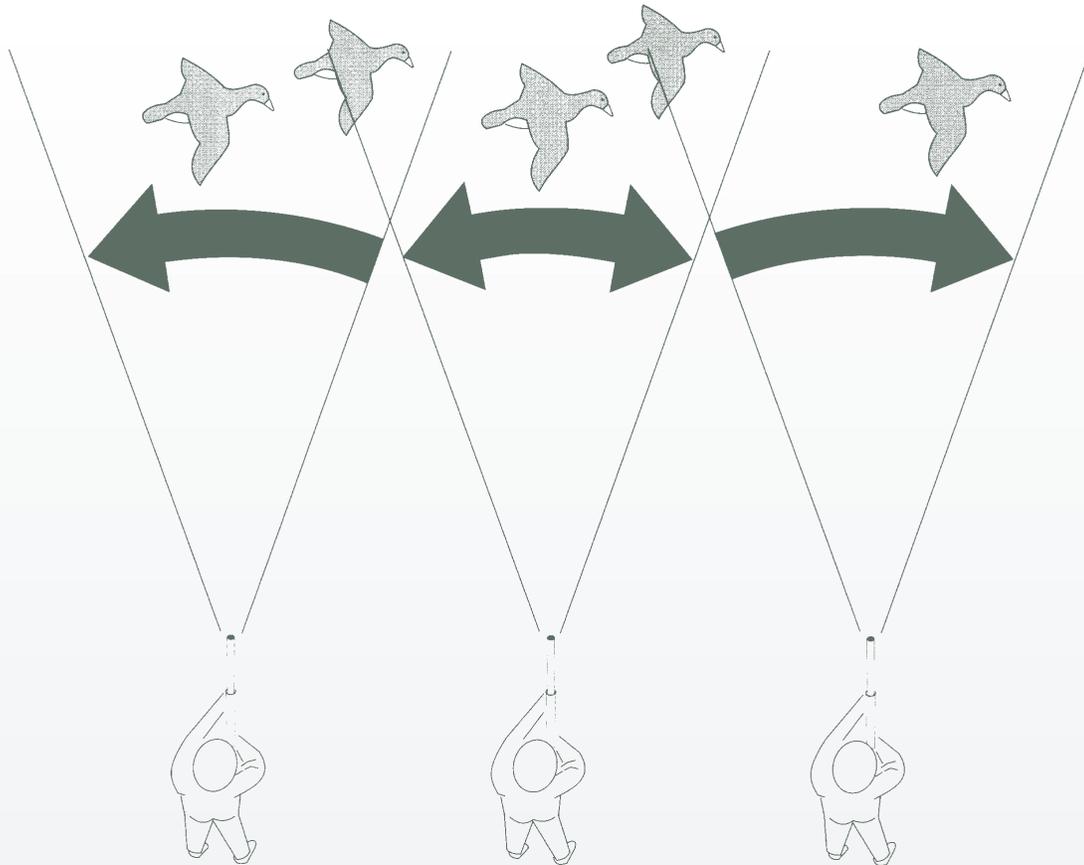
Check List: *Look, then look again.*

1. Is it the right kind of animal?
2. Is it of legal age and sex?
3. Is the shot clear to the target and beyond?

Remember that other hunters have the same identification problems that you do. Protect yourself by wearing hunter or blaze orange during rifle and muzzle loader seasons.

Never carry a deer or other harvested wildlife on your shoulders unless you attach a flag or other marker to let other hunters know you are underneath.

LESSON 7: FIREARMS SAFETY



DANGER BEYOND THE TARGET

Any firearm can be deadly if you don't take into account what may be behind your target. A centre fire rifle can be dangerous at a range of several miles. Most accidents, however, occur at close range.

1. Never fire toward the surface of lakes, rivers or ponds. A bullet can skip like a flat stone (ricochet) and cause damage in an unexpected direction.
2. Never fire over the crest of a hill, into brush or woods or anywhere else where you cannot see what may be hidden behind the target.
3. Never fire toward rocks or other hard surfaces where the bullet may deflect or ricochet.

Zones of Fire

You must establish *zones of fire* so you will not endanger your companions when you shoot. Discuss and plan with your companions where you will be in relation to them, determine your zones of fire and only shoot within your zone.

If you are hunting birds, position yourself in a line facing the same direction with a safe distance between you and the other hunter. Each hunter will shoot only those birds that fly in the space in front of him/her. No one should shoot into or across another's zone.

When you are hunting and decide to separate from your companions, determine your planned destinations and the directions you will each travel before you go. This will help to establish your zones of fire.

Every member of the hunting party must know the zone of fire of the others to avoid entering them or shooting into them.

LESSON 7: FIREARMS SAFETY

FUNDAMENTALS OF SHOOTING

Shooting a shotgun is different from shooting a rifle. With the rifle you must aim precisely. With a shotgun you “point” at the target. Accurate shotgun shooting requires a fast sequence of movements involving the body, gun and eyes. These movements need to be performed in one smooth, coordinated movement for accuracy.

There are some shotguns which are equipped with adjustable sights and some models that fire slugs. These types use the same shooting techniques required for accurate rifle shooting.

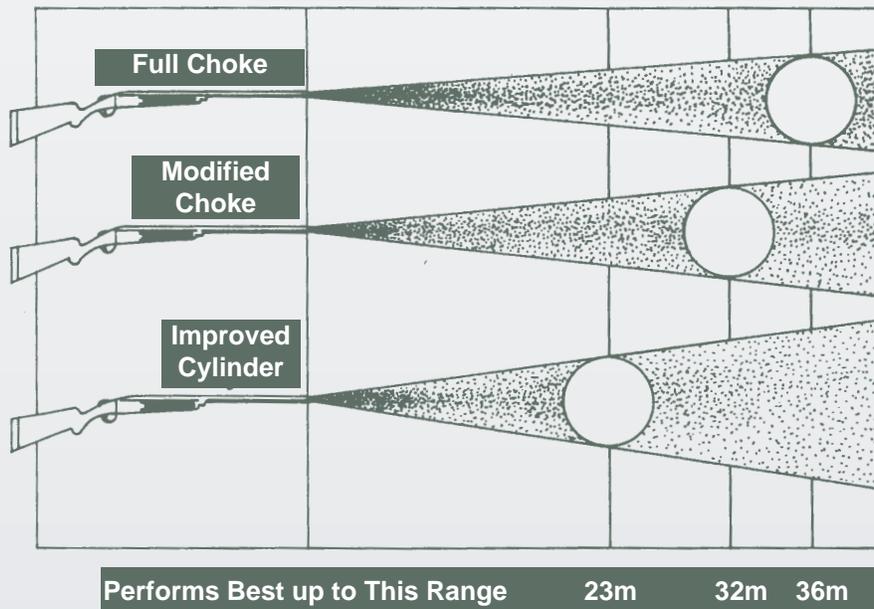
You do not fire a shotgun with slow, steady trigger pressure as you do a rifle. The shotgun trigger is consciously “slapped”. Slap the trigger quickly, but not hard.

Leading

“Leading” means shooting ahead of the moving target. Leading is necessary when shooting at any moving target. If you shoot directly at a moving target, by the time the shot reaches that spot, the target will have already passed by. With correct lead, the shot and the moving target will reach the same spot at the same time.



“Lead” the Target – Swing Through



LESSON 7: FIREARMS SAFETY

BLACK POWDER AND MUZZLELOADING

Black powder hasn't been used to fire guns since early in the last century. In recent years hunting with black powder firearms or muzzleloaders has been revived.

Selecting Black Powder Firearms

Black powder enthusiasts will find a wide choice of firearms available today. There are muskets, pistols, muzzleloading rifles, and shotguns. Black powder shooting need not be expensive. A black powder gun costs about the same as a standard shotgun. Muzzleloaders can also be made from inexpensive do-it-yourself kits. If you do have an antique gun, before using it, have it inspected by a firearms expert to be sure it can be fired safely.

With percussion cap models, the breech plug should be removed and the nipple, drum and threads checked for rust and deterioration.

Special attention must be given to antique black powder shotguns. If they are corroded, they are not safe to fire. Antique shotguns, especially those with Damascus barrels, are particularly susceptible to corrosion.

Today, the safest guns for black powder use are reproductions of muzzleloaders.

Before buying a black powder gun, the newcomer to this activity should first attend several black powder shoots as a spectator. Talk with the participants and learn why they like a particular model. A gun which is good for target shooting is not necessarily the best model for hunting. Know the gun's capabilities and those functions which it can perform before purchasing a black powder firearm.

If you intend to hunt large animals with your black powder gun, give consideration to the size of calibre you choose.

Selecting Powder and Ball

Muzzleloaders require different loads for hunting and for target shooting. There are four types of black powder, Fg, FFg, FFFg, and FFFFg. Each type has a different burning rate depending on the coarseness or size of the powder granules.

Fg is very coarse and is the ammunition used to fire muskets with large bores.

Most muzzleloading shotguns, big bore rifles and pistols between .54 and .69 calibre fire FFg, the second coarsest powder available.

A faster burning black powder is FFFg. It is the powder used with most cap and ball revolvers, single shot pistols and rifles ranging from .36 to .54 calibre.

FFFFg is very fine powder and is seldom used except when priming flash pans of flintlocks. It is extremely fast burning and creates pressures too great for most black powder guns.

There are also synthetic black powder substitutes available. These substitutes such as 'Pyrodex' are not quite as unstable and corrosive as black powder.

Most muzzle loading rifles fire round lead balls or conical shaped bullets called mini-balls.

Tables showing the correct bullet diameter, powder type, and charge in grains for various black powder guns are listed in most publications about black powder shooting.

Selecting Accessories

The black powder shooter must have certain shooting accessories close at hand.

- (a) *Patching Material* - linen or cotton fabric (not synthetic) cut into individual patches or one inch wide strips. Vaseline, shortening or commercial lubricant to lubricate the bullet and a knife to trim the patches.
- (b) *Powder Horn or Flask* - a container for powder made of material such as horn, brass or copper that will not generate sparks or static electricity.
- (c) *Powder Measure* - a brass measuring scoop to ensure the correct powder charge is loaded.
- (d) *Starter* - a short and long starter are usually combined in one tool. The short starter seats the ball firmly in the muzzle and the long starter is used to move the ball down the barrel.
- (e) *Ramrod* - the ramrod is used to push the tight-fitting bullet down the length of the barrel.

Ramrod Accessories

- (f) *Worm* - a corkscrew tip on the ramrod used to remove cleaning patches which have stuck in the bore.
- (g) *Ball screw* - a tip on the ramrod used to remove the lead ball without discharging the firearm.

LESSON 7: FIREARMS SAFETY

- (h) *Nipple Prick or Vent Prick* - a length of wire slender enough to be inserted through the vent hole in a cap-lock or the flash-hole in a flintlock to clear any fouling or obstruction. A nipple wrench should also be carried to replace a broken nipple.
- (i) *Cap Holder and Loading Block* - The cap holder is a small strip or disc of leather punched with holes which will hold extra caps securely. The loading block holds pre-patched and lubricated balls.
- (j) *Possibles Bag* - A shoulder bag or pouch in which the necessary accessories are carried.

Loading

Before loading, the barrel of the muzzleloader should be wiped with a cleaning patch to remove any fouling or oil residue. The patching cloth is moistened with Vaseline, shortening or saliva, then wrapped around the ball forming a tight seal. With a sharp knife or razor, trim excess patching from around the ball after seating.

To test a percussion cap firearm, fire a cap in the unloaded gun. If the gun is in good working condition, a small curl of smoke will come out through the barrel. Or, if the muzzle is held near a leaf or blade of grass, the puff of air which comes out of the barrel will move it.

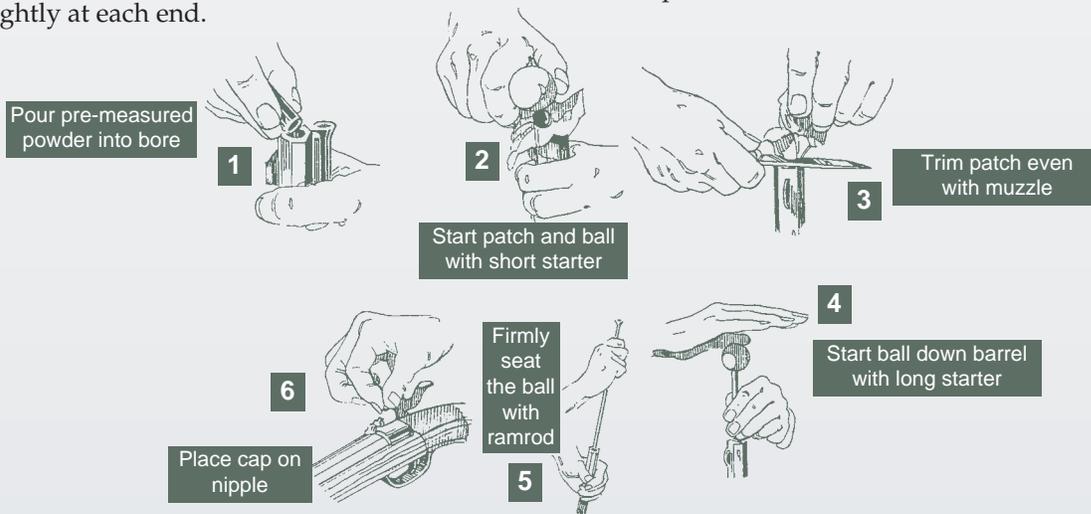
To test a flintlock, prime the flash pan and flash-hole with powder and touch it off with the muzzle pointing in a safe direction. Smoke should show from the muzzle.

If the nipple vent on the percussion cap gun or the flash-hole on the flintlock appears to be closed, work the hole clear with a nipple prick.

For convenience when on a hunting trip, pre-measured powder loads may be carried in small plastic pill containers or in individual paper tubes twisted tightly at each end.

Safety Considerations

1. Muzzleloaders must be handled with the same care afforded other firearms.
2. Most muzzleloaders use black powder or synthetic substitutes only. Black powder is highly combustible and can be ignited by a small spark. Never smoke near black powder and be sure to store black powder far away from any open flame such as a camp fire. **Some modern muzzleloaders are designed to use smokeless gunpowder. If you are not sure which gunpowder to use, refer to the manufacturer's specifications. DO NOT GUESS!**
3. Never pour powder from the horn or flask directly into the muzzle. After a shot has been fired, smouldering residue often remains in the barrel which could cause an explosion or backfire into the powder container.
4. Hold the muzzle away from the body when loading. This will protect you from burns if the powder is accidentally ignited.
5. Be certain the ball is seated firmly in place. To shoot with a ball lodged midway down the barrel will damage the gun and could severely injure the shooter.
6. Wipe the bore with a damp patch after each firing.
7. It is important to know when a gun is loaded. Experienced muzzleloaders mark the gun's ramrod at levels which show the bore depth when the bore is empty and when charged with a heavy hunting load. When the ramrod is inserted in the barrel, it is immediately apparent whether or not the gun is loaded and if loaded, with how heavy a charge. This safety precaution is especially important.



INTRODUCTION TO BOWHUNTING

BECOMING A BOWHUNTER

Thousands of years before the first written language, early man hunted and fought with the bow and arrow. Many cave pictures show man's earliest activities. Archery was important to man's survival until firearms were invented in the 16th century.

When man stopped using the bow to hunt wildlife and as a weapon, archery hunting was enjoyed by only a few people. It remained this way in North America until the early 1900's. The writings of Saston Pope and others increased interest in archery. Within the last thirty years, archery has grown rapidly and more people are participating.

Bowhunting is also rapidly growing. Every year hundreds of hunters, in spite of age or experience, try this age-old method of hunting. Many regions have a "Bowhunting Only" deer season and special bowhunting areas. In most provinces other certain species of wildlife and fish can also be taken with a bow and arrow.

The expertise of seasoned bowhunters is the result of hours of experience in the field. Those who love bowhunting share their expertise and experiences hoping that you will become a good Bowhunter.

It is not possible in this short space to give you more than a brief look at bowhunting. There are many places in your area where you can learn about proper equipment for bowhunting and how to shoot a bow. These places include archery and bowhunting clubs, archery dealers, archery lane operators and school programs.

You should learn to bowhunt before you go bowhunting. Take the National Bowhunter Education Course. This course can teach you step by step how to become a qualified bowhunter. Most courses are completed in two sections. The first section, "How to Bowhunt", covers how to get near wildlife for a close, clean shot; read signs and other related skills. The second section, "The Field Experience", includes such things as how to handle the bow, follow a trail and use tree stands and ground blinds.

BOWHUNTING EQUIPMENT

The basic equipment for all bowhunters includes a bow, arrows, spare bowstring, quiver, arm and finger protection, proper clothing and a licence. Other bowhunting equipment includes a compass, knife, field glasses, broad head sharpeners, pliers, extra

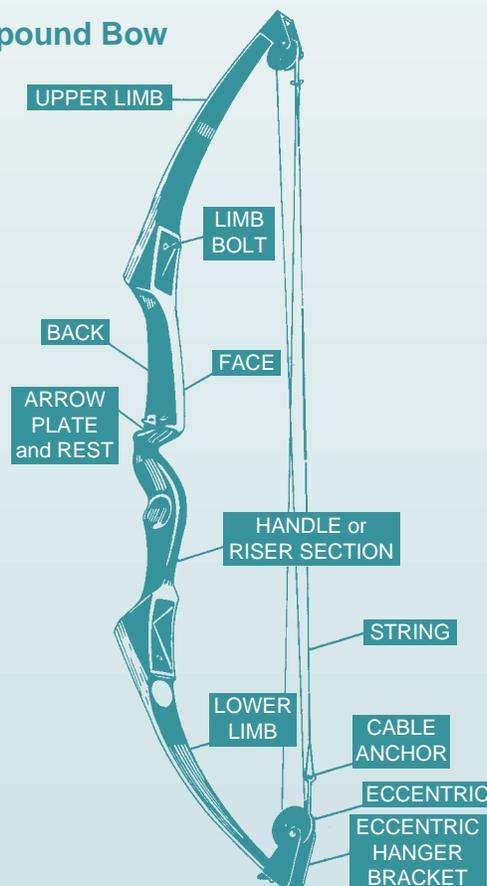
tab and armguard, map, matches, hauling line, safety shooting line, fire starter, fluorescent tape and plastic bags to name a few of the items. Additional equipment beyond the basics is determined by the wildlife hunted and the likes and needs of the bowhunter.

Bows

Modern bows are generally of three designs: straight limb bow, recurve bow and compound bow. Few straight limb bows are used today because the modern bows are considered better. Arrows leaving compound bows travel faster than most recurve or straight bows. Cables and pulleys are used to make compound bows easier to hold when at full draw. When the bowhunter has drawn the bow approximately halfway, it becomes easier to pull because of the pulley system. Pulleys and cables on compound bows should be checked often and replaced, if worn or damaged.

Hunting bows come in different "draw weights" ranging from 45 pounds and up. "Weight" means the number of pounds of force needed to draw the bowstring a certain distance. Beginners often mistakenly use a bow for hunting with a draw weight that is too light or too heavy.

Compound Bow

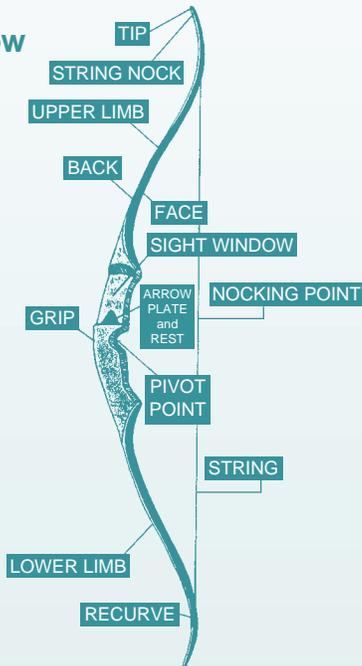


INTRODUCTION TO BOWHUNTING

Bows for hunting large animals must be able to shoot an arrow equipped with a sharp broad head. A special hunting licence is required to bowhunt during special bowhunting seasons.

An arrow from an up to date bow travels 46-91 metres (150-300 feet) per second and can go beyond 183 metres (200 yards). Most wildlife is taken by bowhunters at under 37 metres (40 yards). Longer shots are not advisable.

Recurve Bow



Arrows

The most important piece of bowhunting equipment is the arrow. No matter how strong the bow, an arrow that is crooked or not of the correct stiffness will not go where you aim it. Modern arrows are made from wood, fibreglass, aluminum, stainless steel and graphite. Aluminum and fibreglass arrows cost more but are the most popular because they do not warp or break as often as wood arrows.

Arrows should be matched in stiffness to the bow's draw weight in order to fly properly. Matching the stiffness increases the accuracy of the arrow. The length of the arrow should be matched to the arm length of the bowhunter.

The nock is the slot on the fletching end of the arrow where the bowstring fits. The purpose of the fletching is to make the arrow fly straight.

Fletching and Flu-flus

Fletching may be plastic vanes or feathers. The number of vanes or feathers on a shaft varies from 3-6. Flu-flu fletching is used to limit the distance an arrow will travel. Sometimes it is slightly spiralled to spin the arrow helping it to fly more evenly.

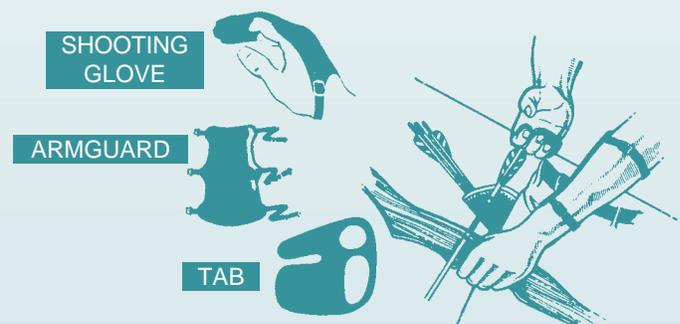
Broadheads

There are many types of broadheads used for bowhunting, the broadhead differing with the wildlife hunted. The most important fact about broadheads is that they must be razor blade or scalpel-type insert. Some broadheads can be bought sharpened and ready for use, others need to be sharpened by the bowhunter.

An arrow makes a quick, humane kill because it cuts arteries and veins causing a large amount of bleeding. The arrow and bleeding create shock which produces a numbing effect. The razor sharp broadhead probably causes little or no more discomfort than a shaving accident. As bleeding occurs, a near painless death follows. Instinct makes the animal run, not pain.

Quivers

There are a number of good quivers (arrow holders) available. The three most common types are: bow quiver, back quiver and hip quiver. A good quiver does three things: it covers the broadheads, it holds the arrow securely until needed and it is quiet in use.



Arm and Finger Protection

The bowhunter's armguard should generally cover the forearm to keep clothing away from the bowstring when shooting. A shooting glove or tab usually serves as finger protection and smooth release of the string. There are various types of releases, which you may want to look at but make sure they are legal in your area before using them.

INTRODUCTION TO BOWHUNTING

Camouflage

Camouflage is used to break up the human outline and blend it with the background of the area where you are hunting, a neutral colour helps to avoid wildlife see movement while it is being stalked. Camouflage clothing should be made from soft material, such as wool or flannel, which makes no noise when you move. Proper fitting is important; so that the clothing does not interfere with your movements, such as at full draw. Camouflage should be complete; covering the head, face, hands and feet.

Bowhunting equipment does require some cleaning and care. Bowstrings should be waxed with a special wax made for bowstrings. A touch of oil on pulleys and cables on compound bows will make these and other moving parts last longer.

BOWHUNTING SAFETY

Most of the safety rules for using firearms also apply to bows and arrows. Over the years, there have been very few fatal accidents where a bowhunter shot another person. Most accidents in bowhunting involve self-inflicted wounds. Only nock the arrows or draw a bow if there is not a person in front of you. Never point a bow and arrow playfully or otherwise at anyone or anything that you do not intend to shoot. Do not shoot an arrow straight

up in the air. Always be certain of the flight path of an arrow before releasing it from the bowstring. Never take skyline shots in which the arrow disappears over a ledge or hill. Always be aware of the location of sharp broadheads whenever hunting arrows are used or carried. Use equipment in good condition. Imperfect equipment can send the arrow astray possibly injuring the bowhunter or others.

CONSERVATION REGULATIONS

Manitoba, like most other areas in North America, has regulations to control bowhunting. These regulations are continually being studied and updated based on field observation.

Bowhunting clubs work with provincial wildlife officials to revise bowhunting laws. You have a responsibility to read and know the bowhunting regulations before you go hunting. A qualified bowhunter knows his responsibilities and carries them into the field.

You will receive a copy of the annual regulations brochure with your hunting licence. A copy may also be obtained from your district Conservation Officer or hunting licence vendors.

THE BOWHUNTER'S CREED

I firmly resolve to follow these bowhunting principles:

- *That I will support national, state and provincial agencies and conservation organizations in the management of all wildlife.*
- *That I will at all times support and promote hunting with the bow.*
- *That I will abide by the wildlife regulations and at all times conduct myself as a responsible, courteous bowhunter.*
- *That I will respect landowners' rights.*
- *That I will assist all bowhunters in locating places to hunt, but I will not impose myself knowingly on another hunter.*
- *That I will enjoy the challenge of the hunt and will study the habits of wildlife I hunt.*
- *That I will use legal bowhunting equipment and will search long and hard to track down and recover any wounded wildlife.*
- *That I will not undertake or commit any act, which could appear to be harmful to the ancient and honorable art of bowhunting.*

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 (e.g. the arrangement of food, cover, water and space is an important factor of habitat quality for wildlife).

attitude: your mental position, the way you think (e.g. negative or positive).

azimuth: directions in degrees measured from north (also bearing).

bacteria: a class of microscopic organisms living in the bodies of plants and animals, organic matter, soil or water.

bag limit: the maximum number of animals or birds that a hunter may legally take.

band: (verb) to mark an animal, bird, or fish in some manner for future identification.

baseline: a line, generally a highway, unimproved road, or some other evident feature, from which bearings are taken.

base plate: the rectangular base on which the compass housing is mounted.

bearing: direction in degrees measured from north (also azimuth).

birth rate: the number of young born each year to each species.

blaze: a slash or paint spot on a tree, used to indicate a trail.

bough: a tree branch.

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 (i. e. deer yards.)

cadmium: a toxic metallic element

calibre: the diameter of a rifle bore, measured in thousandths of an inch or in millimetres.

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 (e.g. dog, cat, bear).

carrion: the flesh of a dead animal.

carrying capacity: the maximum number of animals that any area can support without damage to the habitat.

census taking: taking an official count of the population of a species in an area.

clear-cut: (noun) an area of forest land from which all merchantable trees have been harvested. (verb) the harvesting of all merchantable trees from an area of forest land.

climax stage: a stable stage achieved by communities of plants or animals through favourable adjustment to their environment.

clutch: a nest of eggs laid by a female bird.

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: to use without using up; "The wise use of natural resources".

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 (usually provided by plants and trees).

cover: a place of concealment for an animal.

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.

den: a cavity in a tree or in the ground used by mammals for protection, hibernation and/or the rearing of young.

density: (of species or population) the number of

GLOSSARY

individuals per unit area; the physical closeness of individuals to each other

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: where successional stages or vegetative conditions within plant communities come together.

elevation: height above sea-level.

endangered: species that are in danger of extinction, usually because of environmental changes and/or human activity.

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; caring about how our activities affect our natural resources.

estrous (estrus): 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: a species that no longer exists.

extirpated: species no longer native in Manitoba.

fauna: all of the animal life of an area.

field dressing: removing the intestines and inner organs of an animal to prevent the meat from spoiling.

floral: all the plant species of an area.

forage: plants which serve as food for herbivores.

G.P.S. Global Positioning System: using satellites to determine your locations.

gestation period: the time from fertilization to birth.

habitat: a place where a plant or animal lives; it provides food, water, cover and space.

habitat management and conservation: maintaining or altering habitat to sustain or increase the carrying capacity of an area.

harvest: gathering of food i.e. gathering game for food.

herbivore: an animal 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.

home range: the area travelled by an animal during its normal activities (territory).

humane: consideration for others / animals i.e. a humane kill, making sure the kill is quick and painless, without suffering.

hunter orange: a fluorescent orange colour which is highly visible.

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: 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 factors: factors which limit the number and distribution of wildlife (food, water, cover, space and arrangement).

limiting out: taking as much wildlife as you are legally allowed.

Lyme disease: a bacterial infection which can cause arthritis, heart problems and/or nervous system disorders; it is spread through the bite of deer ticks.

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: movement of animals from and back to a region for nesting, feeding or wintering.

migratory birds: commonly used to describe ducks and geese which move from one area to another in the

GLOSSARY

spring and fall.

migratory species: a species that moves from one area to another (usually seasonal).

moult: the natural loss of hair, fur, skin or feathers followed by the appearance of new growth.

omnivore: an organism that eats both plants and animals.

orientating a map: turning the map so that north on the map corresponds with north in the field, done with the aid of a compass.

orienteering: using a map and compass to navigate along an unfamiliar course.

overpopulation: an exceeding of the carrying capacity; a population density exceeding the capacity of the environmental resources to fulfill the requirements of the individual organisms, usually accompanied by a high mortality (death) rate because of inadequate nutrition, insufficient shelter, and increased predation, disease or parasitism.

overwinter: to survive the winter.

pelt: an animal hide with fur.

plumage: the complete covering of feathers.

poaching: illegal hunting (taking, bagging) of wildlife.

population: all of the individuals of one species that inhabit a given area.

population cycle: the periodic rise and fall in the numbers of a given animal species in a given area. The changes in the size of a population from low to high numbers and the return to low numbers (snowshoe hare, grouse, lynx..).

population dynamics: the decrease or increase in species populations.

predator: any animal that hunts down, attacks, and feeds upon other animals (e.g. cat-mice, fox-rabbits).

prey: an animal that is killed and eaten by another (e.g. a rabbit killed and eaten by a coyote).

productivity: the rate at which the breeding population produces new members; the capacity of an environment to produce plant and animal life.

range: the extent of the geographic area in which a plant or animal naturally occurs.

regulation: a rule or law.

reproductive potential: the potential number of young animals that can be produced 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: an even-toed ungulate that lacks upper incisor teeth and chews the cud (e.g. moose, deer, caribou).

seasons: period of the year when specified wildlife may be hunted.

sign: tracks, blood, body wastes, indications of feeding, bedding, etc. left by an animal.

species: a class of individuals having common attributes and designated by a common name (i.e. grouse, moose...).

succession: the orderly replacement of one type of habitat by another on a given site.

success ratio: a comparison between the number of hunters and the number of animals killed during a specific hunting season.

tag: to mark birds, animals, or fish so they can be tracked, counted, their survival rate measured, the take by hunters determined, growth studied, aging techniques verified, breeding habits determined, etc...

Also, when a hunter places the required tag from a license on a legally killed animal.

territory: the area occupied by an individual or groups of organisms; the area which an animal defends against intruders.

threatened wildlife: a species whose numbers have been reduced to such a low extent that it is likely to become endangered.

topography: the characteristics of the ground surface, including its elevations and the position of its natural and human-made features.

ungulate: a mammal with hooves,(i.e. deer, moose, caribou).

upland animals/birds: non-aquatic wildlife (usually small) including rabbits, grouse, and other wildlife, and excluding waterfowl and shore birds.

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.