

Introduction

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

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



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

If we are to live, play and work together in harmony then we must conform to the standards of behavior that are expected of us. These standards of conduct or "ethics" are important guidelines for living in peace and friendship with other people.

Definition of Ethics and Laws

Ethics are standards of behavior or conduct which are considered to be morally right. Ethics begin with the standard of behavior of an individual person. Each individual must make a personal judgement about whether certain behavior is right or wrong. If a person truly believes that a specific action is morally right, then it is ethical for him to act this way.

For example, if a hunter truly believes that it is right to shoot a duck with a shotgun while it is sitting on the water, then it is ethical for that particular hunter to do so. His behavior is consistent with his personal code of ethics. If, however, a hunter believes it is wrong to shoot a sitting duck, then it would be wrong for him to do so. Such action would not be ethical for him.

Very often, groups of people share the same ethical beliefs. When a group of hunters have similar ideas concerning ethical hunting behavior, they often form a hunting party, club or association which expects its members to act according to the group code 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 laws by state or federal legislatures. When a majority of the people believe a certain ethic or standard of behavior is right for all and they expect everyone to act according to that belief, then that ethic may become law. For an ethic to become a law legislative procedures which are basically the same for creating all laws must be followed. Most hunters have a personal code of ethics which is 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 on the prairie, a hunter may come upon a doe antelope with a broken leg. According to his personal code of ethics, he believes it is morally right to kill a seriously injured animal in order to end its suffering. However, according to law, it may be illegal to hunt or kill doe antelope except during an open hunting season for antelope and the hunter has a valid permit to hunt doe antelope in the area.

What should he do? One ethical course of action is to advise the nearest Fish and Wildlife Division office or conservation officer 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 behavior 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 his conduct. Whatever his acts, they are dictated by his own conscience rather than by a mob of onlookers."

The basis of a personal code of ethics is a "sense of decency". You must ask yourself repeatedly, "What if someone else behaved the way I am-would I respect him?"

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 neighbors, you developed a certain standard of acceptable behavior. If you have been on hunting trips, even before you were old enough to hunt game yourself, you gained important insights into how you are expected to act while hunting and learned some hunting ethics. These, and other experiences, will guide your behavior in the future and can help you earn self-respect and the respect of other hunters.

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

- 1) First is the "shooter stage"-a time when shooting firearms is of primary interest.
- 2) Next is the "limiting-out stage"-when the hunter wants, above all, to bag the legal limit of game he is hunting.
- 3) The third stage is the "trophy stage"-the hunter is selective, primarily seeking out trophy animals of a particular species.
- 4) Then the "technique stage"-the emphasis is on HOW rather than WHAT he hunts.
- 5) The last stage is called the "mellowing-out stage"-this is the 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 his development, bagging game will be more symbolic than essential for his satisfaction. The hunter's personal code of ethics will change as he passes through each of these five stages, often becoming more strict and imposing more constraints on his behavior and actions when hunting.

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

Ethics for Consideration

Various people have proposed ethical standards which they feel should be adopted by all hunters. These are presented for your consideration in the remaining sections of this chapter. 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. In the final analysis, your standards of conduct while hunting will be the true indicator of your personal code of ethics.

Hunter-Landowner Relations

The ethical hunter realizes he is a guest of the landowner while hunting on private land. He makes sure he is welcome by asking the landowner host for permission before he hunts. On the rare occasions when permission is denied, he accepts the situation gracefully.

To avoid disturbing the landowner early in the morning, an ethical hunter plans ahead and obtains permission to hunt on private land before the season opens. He understands that the landowner usually does not mind if he brings a friend or two along but he will destroy his welcome if he arrives with a carload of companions.



While hunting, the ethical hunter takes extra care to avoid disturbing livestock. If he is hunting with a dog, special precautions are taken to ensure it does not harass cattle, chickens, or other farm animals. He understands that, if disturbed by loud noises or other activity, dairy cows may fail to produce milk and poultry may crowd together in the chicken coop and suffocate. Beef cattle when frightened and forced to run may suffer a weight loss costly to the rancher.

He leaves all gates as he finds them, and if closed, he ensures they are securely latched. He crosses all fences so as to avoid loosening the wires and posts. He only goes on those portions of private land the owner has granted permission to hunt. He never assumes he is welcome on private property simply because other hunters have already been granted permission to hunt there.

An ethical hunter is careful to avoid littering the land with empty shell boxes, sandwich wrappings, pop cans, cigarette packages or other garbage, including empty shotgun shells. He never drives or walks through standing crops nor does he send his dog through them when crop damage might result. When driving across pastures or plowed fields, he keeps his vehicle on the trail or road at all times. He understands that the ruts left by vehicles on hillsides can cause serious soil erosion when water runs down these tire tracks. He hunts as much private property on foot as possible rather than by driving over it in his vehicle. When parking his vehicle, he is careful not to block the landowner's access to buildings, equipment and roadways.

If he notices anything wrong on the property such as open gates, broken fences or injured livestock, he reports it to the landowner as soon as possible.

An ethical hunter limits the amount of game he and his friends take on a landowner's property to less than the bag limit. He realizes the landowner may accept one man taking his bag limit on a given day but two or three taking their limit is being greedy.

Unless he is a close personal friend of the landowner, an ethical hunter does not hunt on a specific farm or ranch more than two or three times each season. He does not want to wear out his welcome.

Before leaving, he thanks the landowner or a member of his family for the privilege of hunting the property and he offers a share of his bag if he has been successful. In appreciation of his hospitality, a thoughtful and considerate hunter offers to spend a half hour helping the landowner with his chores. If the offer is accepted, he cheerfully pitches bales, mends fences, forks manure or does whatever else is required. He may even use his special skills if he is a plumber, mechanic, painter or carpenter.

If he owns property elsewhere such as a farm, ranch or lake cottage, an ethical hunter will invite his host to use them. He notes the name and address of his host and sometime later, perhaps around Christmas, he sends a thank you card expressing his appreciation for the landowner's hospitality.



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

Regard for Other People's Feelings

When hunting on public lands, an ethical hunter shows the same respect for other users of the land and their property as he shows for landowners on private land.

He hunts in areas where his activities will not conflict with other people's enjoyment of the outdoors. And he treats the land with respect-being careful not to litter the back country or seriously damage its vegetation. He limits his use of vehicles to travel to and from his hunting area, always remaining on trails or developed roadways.

He knows that alcoholic beverages can seriously impair his judgement while hunting. He restricts his enjoyment to such drinks to the evening hours after the firearms have been stored away and he can relax with his companions and recollect the enjoyment of his day afield. Even then he limits his drinking to ensure that his actions do not offend others-either his companions or other people who may be sharing the campground with him.

An ethical hunter recognizes that many people are offended by the sight of a bloody deer carcass tied over the hood of a car or a gut pile lying in full view of the road. He knows some people may be offended at the sight of such things. 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, the ethical hunter makes a special effort to avoid offending non-hunters. He is constantly aware that many of these people are his friends, neighbors, relatives and even members of his immediate family.

He appreciates the fact that, for a variety of reasons, many people do not hunt nor do they want to hunt in the future. Likewise, he understands some people are opposed to hunting for one reason or another. He does not regard these people as "kooks" and "bambi lovers" or anything else other than normal human beings whose likes and dislikes differ from his own. He accepts the fact that non-hunters and anti-hunters are just as sincere in their beliefs as he is about hunting.

He appreciates that many trappers abide by their own code of ethics. They commonly leave their cabins unlocked in back country areas so someone who is in trouble may use them in a time of need. However, anyone doing so is expected to replace anything they use as soon as possible and advise the owner of their actions. An ethical hunter will never abuse this privilege nor will he tamper with equipment along a trapline.

Relationship With Other Hunters

An ethical hunter shows consideration for his companions. When leaving for a hunt, he ensures he is ready to go at the appointed time and he does not invite others to join the group unexpectedly.

Once in a field, his consideration extends to other hunters as well. He realizes the true satisfaction in hunting does not depend on competing with others for game.

An ethical hunter avoids doing anything that will interfere with another one's hunt or his enjoyment of it. He does not shoot along fencelines adjacent to fields where others are hunting nor does he try to intercept the game they are hunting.

If disputes arise with other hunters, he tries to work out a compromise-perhaps a cooperative hunt-whereby everyone can enjoy themselves.

An ethical hunter does not hog an unfair number of shots-he does just the opposite. He gives friends the advantage of getting a good shot whenever possible. He shows special consideration for the inexperienced or handicapped hunters allowing them to hunt from the most advantageous position.

Each hunting season, an ethical hunter invites a novice hunter to accompany him in the field. He takes the time to share his hunting knowledge with his companion and introduces him to the enjoyment of hunting ethically. He realizes that a man learns something very important about his own ethics when he teaches others to hunt.

He does not shoot over his limit to fill the bag limit of others nor does he take his own limit unless he plans to use all he has taken.

He observes the rules of safe gun handling at all times and firmly insists that his companions do the same. He politely lets others know when he thinks their behavior is out of line.

Self-Respect

An ethical hunter realizes it is his responsibility to know how to take care of himself in the outdoors. And he respects his limitations.

He never places his life or that of others in jeopardy by failing to notify someone where he intends to hunt and how long he expects to be gone. If his plans change once he is afield, he leaves a note on his vehicle designating his destination, time of departure and expected time of return. He respects the limitations of his health and physical fitness.

He consults with his family doctor regularly to ensure he is physically capable of coping with the rigor of strenuous hunting activity. If unfit, he builds up his fitness before he goes hunting. He ensures his vision is adequate and, if necessary, wears glasses or contact lenses to correct any visual impairments.

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



Respect of Wildlife

An ethical hunter is not just a sportsman, he is also a naturalist. His interest in wildlife extends beyond game animals to the variety of other living things that inhabit the outdoor world. He is just as thrilled by the sight of a bald eagle as a bighorn sheep. He knows and studies nature's ways and realizes that wildlife can be enjoyed year round-not only during hunting season.

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

When hunting big game, an ethical hunter will always attempt to get close enough to his quarry to ensure a quick, clean kill. He realizes that in doing so, his quarry may discover him and escape before he has a chance for a shot. But he always gives his quarry this sporting chance.

Never under any circumstances will an ethical hunter shoot indiscriminately at a flock of game birds or a herd of big game in the hope of hitting one. He will always attempt to kill his quarry quickly and humanely.

Through considerable practice before a hunt, he will learn the distance at which he can be most confident of killing game cleanly. He will ensure his rifle is accurately sighted in and determine the most effective shot size for his shotgun.

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



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

An ethical hunter shows as much respect for his game after it is taken as before he shoots it. He never allows the meat or other usable parts of the animal to be wasted. Even though he may not want the antlers or hide of the animal, he recovers them to give to other people who will use them. The fur and feathers of many game birds and animals are useful, for example, in making flies used by fishermen.

Respect for Laws and Enforcement Officers

An ethical hunter obeys all laws which govern his hunting activities. Although he may occasionally disagree with a specific law, he will not deliberately disobey it. Instead, he

Importance of Ethics

will work through his elected representative to change laws he feels are unjustified.

An ethical hunter will not condone law breaking by others by ignoring illegal acts he observes when afield. He rightfully insists that all members of his hunting party obey the law and he reports law breaking by other people to the appropriate law enforcement agency. If asked to serve as a witness, he accepts his responsibility as a citizen and sportsman to do so.

Future opportunities to enjoy sport hunting in North America will depend upon the hunter's public image. If hunters are viewed as "slobs" who shoot up the countryside, vandalize property, 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 an increasing number of hunters follow the honorable traditions of their sport and practice a personal code of hunting ethics which meets public expectations, the future of sport hunting will be assured.



When he meets a state or federal wildlife officer, wildlife biologist or technician checking hunters in the field, he is cooperative and provides the information they request concerning his hunting activities. If he does not understand the reason for providing certain information he asks for an explanation.

The Role of Hunter

Throughout history hunting has been a tradition of man. Until recent times man hunted, through necessity, for food. As civilization progressed, man's need to hunt for survival was reduced, so that now, most hunting is recreational. Notwithstanding this change in purpose, hunting has remained as a legitimate and viable activity in today's modern society.

Hunters themselves have long been concerned for the welfare of wildlife. Through their actions, hunters have identified problems such as:

- a) pollution and its effect on wildlife
- b) habitat and abuse
- c) helping to focus public attention on the plight of rare and endangered species

For example, hunters have been largely responsible for:

- a) initiating wildlife laws and their enforcement

- b) wildlife research and management
- c) establishment of parks and wildlife preserves

Hunters were instrumental in initiating and organizing institutions such as The Audubon Society and The American Ornithologists' Union. Today, hunters are active supporters of Ducks Unlimited, Wildlife Federations and numerous local sportsmen clubs. These organizations reflect the sincere interest and dedication of hunters to the sound management of our renewable wildlife resources.

In addition, hunters contribute to the welfare of wildlife through their purchases of licenses and state and federal hunting stamps and payment of federal excise taxes on sporting arms and ammunition. The license fees and excise taxes amount to millions of dollars each year which provides nearly 80 percent of the working funds of state wildlife agencies.

Through your role as a hunter, your involvement and dedication will help ensure the continued availability of abundant wildlife resources throughout North America.



Compass and Maps

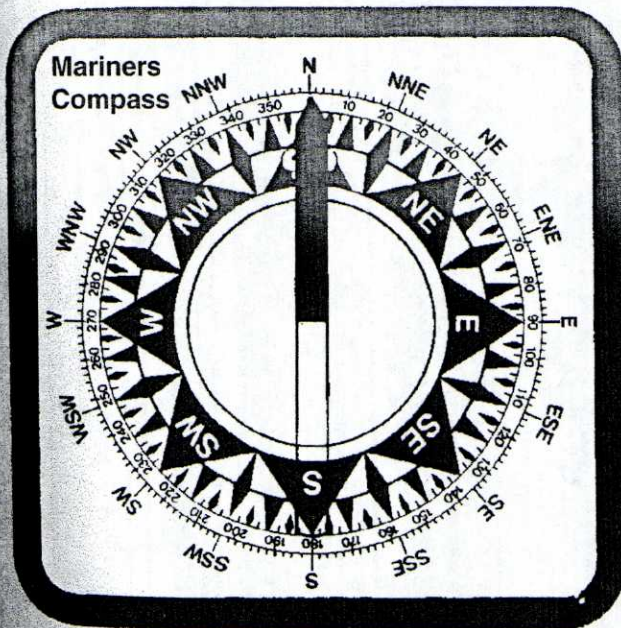
Compasses

A compass and a map of the region around camp should always be carried when hunting in unfamiliar country.

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

A pocket compass is satisfactory when the hunter just needs to know north, south, east and west directions to find his destination. There are two types of pocket compasses. One has a magnetized needle which pivots at its balance point and swings around the dial. The other has a revolving dial instead of a magnetic needle, which turns as the compass is moved.

A compass dial is divided into 360 degrees, numbered clockwise on the dial. The degree numbers shown on the dial are called azimuth directions. The letter N for NORTH is marked at the 0 degree point on the dial. South is at 180 degrees, east at 90 degrees, west at 270 degrees.



Usually one end of the needle is colored or one end is shaped like an arrowhead so you can tell which end of the needle is pointing to the north.

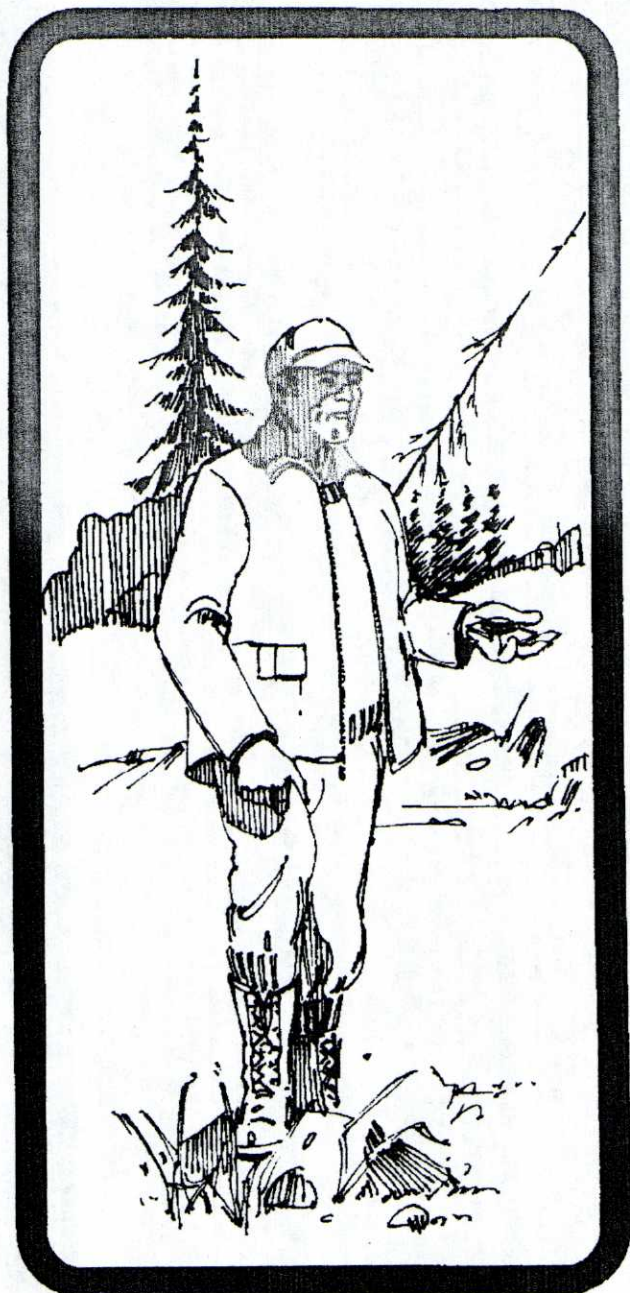
Do not rely on memory to tell you which end of the needle is the north end. In the confusion which sometimes happens when a person realizes he is lost, or if someone is injured, it is easy to forget which end points north.

If there is any chance you will forget which is the north end

of the needle, scratch a mark on it. Write on a piece of tape and tape it to the back of the compass, or inside the cover, "north gray" or "north red" or "north arrow", or whatever applies to your particular instrument.

To tell which end of the needle points north, test it at home on objects and places where you know which is the true direction.

Be sure to hold the compass horizontally and flat. Otherwise the needle may stick or show an inaccurate reading. The compass must be kept away from metal objects. Stand several feet away from any firearms, axes, or knives when taking a compass bearing. Even a metal belt buckle can distort the needle's action. If you are near



bridge girders or railroad tracks, move to a different position that is distant from the metal structure.

When hunting game, a compass is used to guide the hunter back to camp. For example, if the hunter decides to stalk deer in a range of hills about two miles distant, he would take a compass reading before leaving camp. If the compass showed the direction of the hills is southwest of camp, he would know that after hunting in the hills he must walk north-east from the hills to get back to camp. The direction should be checked at intervals along the way.

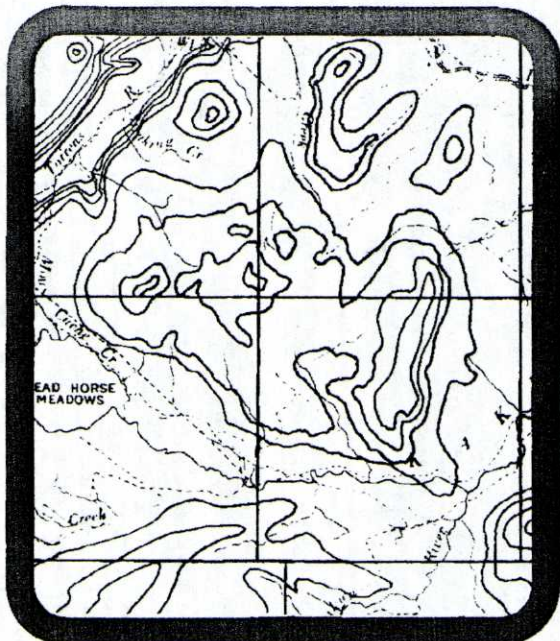
Should the hunter, on reaching the hills, walk several more miles, he must take this into account when reading the compass for directions back to camp. If he had turned to the right when he reached the hills and walked in that direction for several miles, he would then be almost directly west of camp, not southwest as he was on leaving camp. To reach camp, he must now travel east.

General compass directions such as these, although not exact, are accurate enough to direct a hunter who has traveled only a few miles distance, back to the campsite. Following the compass directions will bring him back to the general area where he began his trek and he will then be able to recognize landmarks which tell him exactly where camp is.

When camp has been set up beside a "base-line" such as river, road or railway, the hunter can easily find his way back to camp with a compass. If he is hunting north of the base-line, he knows that as long as he doesn't cross that base-line, all he needs to do to find camp is walk south from where he is and he will be in line with camp.

A compass is best used in combination with a map. The map will show which directions to take to get to a specific location. The compass will keep you walking in the right direction.

Maps



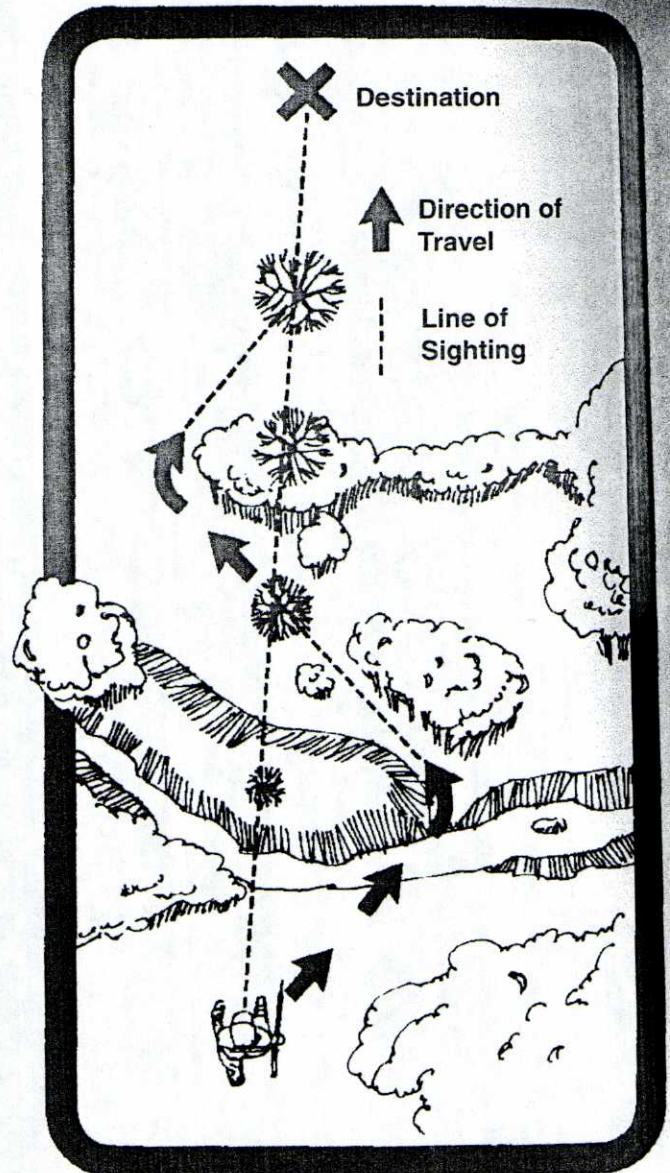
Hunters use three main types of maps for finding their way in wilderness country:

- printed maps prepared and published by governments or private mapping firms;
- hand drawn maps prepared by the hunter from his own observations and information received from his companions or guide based on their knowledge of the hunting area;
- mental maps based upon the hunter's memory of the direction, approximate distances and turns he made during the hunt.

Maps tell you where you are in relation to your surroundings. Identify two or more landmarks such as lakes, mountains, ridges or high peaks, which can also be recognized and located on the map. You can then judge where you are in relation to these places.

Use of Maps and Compass

The latitude and longitude lines which form the grid framework of printed maps are aligned with true north. A



printed map shows north at the top, with latitude lines forming the top and bottom edges of the map and longitude lines, running true north and south, forming sides.

A compass points to magnetic north. For this reason, printed maps usually have a declination diagram, or state the degree of declination in the region, in the map margin. DECLINATION is simply the degree of angle formed by the intersection of a line running true north and south (longitude) and another line running toward magnetic north (meridian).

To follow a straight course by compass the hunter should carry the instrument in his hand and refer to it frequently to be sure he stays on course.

Sometimes the hunter prefers to pick out landmarks on the way to his destination, checking his course as each spot is reached. A landmark should be chosen that is on the course of the hunter's ultimate destination and one which will be visible until it is reached. On reaching the marker, he chooses another landmark in the distance and checks his bearings again with the map and compass.

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

Survival Kit

Everyone who ventures into the woods, to hunt or fish, to hike or even just for a short walk, should take along a personal survival kit. (see chapter on survival). This kit should be small and light and should be carried with you at all times. The heavier you make this kit, the more unlikely you will be to take it along. The best survival kit is one that is small and compact enough to be carried in a pocket of your jacket.

Survival Kit Components

CONTAINER-an empty pipe tobacco can, approximately 3 1/4 x 4 1/2 inches (8 cm x 11 cm) is a convenient size, which may also be used for cooking.

CONTAINER LID-painted a bright color so it can be found if lost with a ground to air signal card taped inside.

HANDLES-holes should be drilled in the container and handles attached for cooking.

MATCHES-long stemmed, wooden, strike anywhere matches or windproof matches with a striker.

FLINT AND STEEL

FIRE STARTER TABLET-burns approximately 6 minutes.

ABSORBENT COTTON-excellent tinder, easily ignited with matches or flint and steel.

KNIFE-small pocket knife with 2 blades.

FISHING EQUIPMENT-2 spoons (red and white Len Thompson #6), 2 dry flies (Royal Coachman), 2 wet flies (Black Gnat), 2 snelled hooks (size 8), 4 lead split shot, 15 yards (4 m) monofilament line (10 lb./4 kilo) test.

SAFETY PINS-4 assorted sizes.

NEEDLE AND THREAD

NAILS-4 assorted sizes

PENCIL AND PAPER

SNARE WIRE-3 yards (2.7 m) of copper or brass wire

OXO CUBES-2

TEA BAGS-1 or 2 small packages

SIGNAL MIRROR-with signaling instructions

TAPE-tape lid to container with 18 inches (46 cm) of waterproof tape.

Items may be added to this list but do not include large amounts of food, cooking pots and other gear you would normally take camping.

Each time you go hunting, fishing or camping, practice using one or two items in your survival kit. This will give you confidence in your kit if you should ever need to use it. Replace any item that has been used.

Glossary of Firearms Terminology

- ACTION:** The mechanism of a firearm located directly behind the barrel, by which a gun is loaded, locked, fired, unlocked, extracted and ejected.
- ANVIL:** That part of the cartridge primer which is a solid surface, against which the firing pin strikes to set off the priming powder.
- AUTOLOADING:** See SEMI-AUTOMATIC.
- AUTOMATIC:** A firearm that will insert, fire and eject continuously all cartridges in its magazine with a single, continuous trigger pull.
- BALL:** The round lead missile fired by smoothbore firearms. (The term is used today when referring to some types of bullets fired from rifled barrels.)
- BALLISTIC COEFFICIENT:** a number which indicates how a bullet's shape, length, weight, diameter and nose design affect its stability, velocity and range against air resistance.
- BALLISTICS:** The study of what happens to moving projectiles in the barrel and in flight--their trajectory, force, impact and penetration. "Internal ballistics" refers to what happens inside the barrel before the bullet or shot leaves the muzzle, "external ballistics" is what happens after the bullet or shot leaves the barrel and travels to its final point of impact and "terminal ballistics" is what happens to the bullet at the final point of impact.
- BARREL:** The metal tube of a firearm made from iron or steel, through which the bullet or shot charge passes when the firearm is fired.
- BASE WAD:** The paper filler at the rear of the powder charge of the shotgun shell.
- BATTERY:** The metal arm of a flintlock mechanism, against which flint strikes to create sparks in the flash pan. (Also called the "frizzen".)
- BEAVERTAIL:** A wide, flat fore-end of a rifle or shotgun.
- BEDDING:** That part of the stock into which the barrel fits.
- BELT:** The narrow band around the rear section of a cartridge case just forward of the extractor groove. (The belt arrests the progress of the case into the chamber and controls headspace.)
- BERDAN PRIMER:** See PRIMER
- BLACK POWDER:** A finely-ground mixture of three basic ingredients--saltpeter (potassium nitrate), charcoal (carbon) and sulfur.
- BLOWN PATTERN:** A shotgun pattern with erratic shot distribution, generally caused by gas escaping past the wads and getting into the shot.
- BLUING:** a process of treating metal gun parts in a bath of metallic salts and water, which colors them blue to prevent rust.
- BOATTAIL:** The tapered rear end of a bullet. (Also called "taper heel", this design is used to increase ballistic efficiency at long range.)
- BOLT:** A steel rod-like assembly which moves back and forth in a bolt action, sealing the cartridge in the chamber during firing.
- BOLTFACE:** The forward end of the bolt which supports the base of the cartridge and contains the firing pin.
- BORE:** The tunnel down the barrel of a firearm through which the projectiles travel.
- BORE DIAMETER:** The measurement from one side of the bore to the other. In a rifled barrel this means measurement of the bore before the rifling grooves are cut.
- BOXER PRIMER:** See PRIMER.
- BREECH:** The rear end of the barrel (in modern arms, the portion of the barrel into which the cartridge is inserted. See CHAMBER).
- BREECHBLOCK:** The part in the breech mechanism that locks the action against the firing of the cartridge.
- BREECHLOADER:** a firearm loaded through the breech.
- BUCKSHOT:** Large lead pellets used in shotshells.
- BULLET:** a single projectile fired from a firearm.
- BUTT:** The rear end of a rifle or shotgun stock, (the portion that rests against the shoulder).
- BUTTPLATE:** A plate which covers the butt, (some steel buttplates have trap doors covering a recess for storage of cleaning equipment).
- CALIBER:** The diameter of the bore of a rifle before the rifling grooves are cut.
- CANNELURE:** A groove around the circumference of a bullet or case. (For example, the lubrication grooves of lead bullets, or the grooves into which the mouth of the cartridge case is crimped, or the extractor grooves of the rimless or belted case.)

CANT: To tilt or lean a gun to one side when aiming.

CAP: See PERCUSSION CAP.

CARBINE: A light short-barreled rifle.

CARTRIDGE: A case, usually made of brass or copper, containing the power charge, the primer and the bullet. (Before development of the metallic cartridge, the term was used to mean a roll or case of paper containing powder and shot. Modern cartridges are generally classified in three categories--"centerfire metallics", "rimfires" and "shot shells". Centerfire metallics include all metal cartridges that have primers in the center of the base. Rimfires include all cartridges in which the priming powder is sealed in the soft rim around the base. Shotshells include all cartridges that contain shot, or small pellets, instead of a single bullet.)

CENTER-FIRE: See CARTRIDGE.

CHAMBER: The enlarged portion of the barrel at the breech in which the cartridge is placed ready for firing.

CHECKERING: A diamond-like pattern on fore-ends and grips of firearms. (The diamonds are made by cutting crossing lines into the material with special tools.)

CHOKE: The constriction at the muzzle of a shotgun barrel by which the spread of the shot pattern is controlled.

CLIP: A detachable metal case designed to hold a number of cartridges for loading into the firearm.

COCK: To set the action into position for firing. (On some firearms the action has an intermediate position called half cock. On early weapons such as the flintlock and percussion cap, the hammer was called a cock.)

COMB: The upper edge of a rifle or shotgun stock where the cheek rests.

CONE: The sloping portion at the front end of a shotgun chamber in which the chamber diameter is decreased to the diameter of the muzzle. Also, the rear portion of the choke at the muzzle of a shotgun.

CONICAL BULLET: A cone-shaped bullet.

CORDITE: A double-base smokeless powder made of nitro glycerin and guncotton which is used in the form of long, stringy cords.

CORE: The part of a bullet that is covered by a jacket.

CORROSION: The gradual eating away of the metal parts of a firearm caused by rust.

CREEP: The movement of the trigger before it releases. (Also called drag or crawl.)

CRIMP: The portion of a cartridge case that is bent inward to hold the bullet in place, or in the case of a shotshell, to hold the shot charge in place.

CROSS HAIRS: The sighting lines in a telescopic sight.

DAMASCUS BARRELS: Barrels made of strips of iron and steel welded together in a spiral fashion. (Modern ammunition should not be used in such firearms.)

DETERRENT: A material added to an explosive to slow its burning rate.

DOUBLE-BASE POWDER: A rapidly burning powder made by absorbing nitroglycerin into nitrocellulose (guncotton). (Cordite is a double-base powder.)

DOUGHNUT PATTERN: A shotgun pattern with a hole in the middle generally caused by the interference of the top wad.

DOWN RANGE: The direction from the shooting position to the target on a range. See RANGE.

DRIFT: The departure of a bullet or shot charge from the normal line of flight. (This can be caused by wind or the unbalanced spinning of the bullet.)

DRILLING: A three-barrel gun with a rifle barrel beneath two shotgun barrels. (Generally of German manufacture.)

EJECTOR: The mechanism which throws the cartridge case free from the gun.

ELEVATION: The degree of adjustment of a rear sight or scope reticule necessary to cause the bullet to strike higher on the target.

ENERGY: The amount of work done by a bullet, expressed in foot pounds.

EROSION: The wearing away of a barrel's metal surface by a bullet or shot charge or by the heat of powder gases.

EXTRACTOR: A hook device which pulls the case out of a chamber as the breech mechanism is opened. (The extractor generally brings the case within reach of the ejector, which then flips it out of the gun.)

FEED: The action of moving live cartridges from the magazine of a firearm into the chamber.

FIRING PIN: The part of the breech mechanism which strikes the primer of the cartridge. (In most firearms, the firing pin is part of the bolt assembly.)

FLINCH: To move or jerk a firearm involuntarily while shooting.

- FLINT:** A piece of stone held in the cock of a firearm. (When it strikes the steel battery, or "frizzen"; this causes a shower of sparks to fall into the flashpan and ignite the powder.)
- FLINTLOCK:** The gunlock of early firearms in which flint is thrown against steel, causing sparks to ignite the powder charge.
- FLOOR PLATE:** The detachable metal plate at the bottom of the cartridge magazine of a bolt action rifle. (The floor plate is usually hinged at the front and held by a release spring located just ahead of the trigger guard.)
- FORE-END:** The forward portion of a shoulder-arm stock. (Located under the barrel, the fore-end serves as a hand-hold.)
- F.P.S.:** Abbreviation for feet per second. A term used in expressing the velocity of a bullet.
- FRIZZEN:** See BATTERY.
- FULMINATE OF MERCURY:** a highly sensitive explosive used as a primer compound.
- GAIN TWIST:** Barrel rifling which increases in pitch from the breech to the muzzle to accelerate the spin of a bullet.
- GAS CHECK:** A metal cup placed on the end of a lead bullet to protect the lead against the hot gases of the burning powder charge.
- GAS PORT:** A small hole in the barrel of a gas-operated firearm through which expanding gases escape to power the autoloading system.
- GAUGE:** Measurement of shotgun bores derived from the number of bore-sized balls of lead to the pound. For example, 12 balls which fit the bore of a 12-gauge shotgun weigh one pound.
- GRIP:** The small portion of the stock gripped by the trigger hand.
- GRIP CAP:** A cap fastened over the end of a pistol grip on a rifle or shotgun stock.
- GROOVES:** See RIFLING.
- GROUP:** A series of shots fired with the same sight setting and the same aim.
- HALF COCK:** See COCK.
- HAMMER:** The part of the action that drives the firing pin forward.
- HAMMERLESS:** Refers to a firearm whose hammer and striker are concealed within the metal frame.
- HAND CANNON:** One of a variety of small, crude cannons used in the early 15th century.
- HANGFIRE:** Delay in firing a cartridge after the firing pin has struck the primer.
- HEADSPACE:** the distance between the base of the cartridge and the face of the bolt or breechlock. (This is determined by the rim of rimmed cartridges, the belt of belted cartridges and the shoulder or rimless cartridges.)
- HEEL:** The rear end of the upper edge of a gunstock. Also the base of a bullet.
- HIGH INTENSITY:** Refers to cartridges having velocities of 2,700 feet per second (822.96 meters per second) or more.
- HIGH POWER:** A term applied to the first smokeless powder cartridges with velocities of approximately 2,000 feet per second (609.6 meters per second).
- HOLDING:** The action of keeping the sights on the target while applying pressure to the trigger.
- HOLLOW POINT:** A bullet with a nose cavity designed to increase its expansion on impact.
- IGNITING CHARGE:** The charge used to ignite the propelling charge. (See PRIMER).
- INERTIA FIRING PIN:** A firing pin which moves freely forward and backward in the breechblock. (The striker impels it forward while the explosion of the primer impels it backward.)
- INTERNAL BALLISTICS:** See BALLISTICS.
- IRON PYRITES:** See PYRITES, FLINT.
- JACKET:** The outer covering over the inner metal core of a bullet.
- JAWS:** The vise-like device on a flintlock hammer used to hold the flint.
- JUMP:** The amount of change in the bore axis, measured both vertically and horizontally, while the projectile moves from the chamber to the muzzle when it is fired.
- KENTUCKY RIFLE:** A flintlock rifle with a long barrel and short, crooked stock.
- KEYHOLING:** The failure of a bullet to remain balanced in flight so that it enters the target sideways, leaving an elongated opening.
- KICK:** The backward movement of a firearm generated by the discharge of the projectile. See RECOIL.

KNURLED SURFACE: A metal surface which contains a pattern of ridges or beads. (This rough surface aids grasping a metal part to move it.)

LANDS: In the rifling of a bore, the uncut portions of the barrel's inner surface left after the rifling grooves have been cut into the metal. See RIFLING.

LEADING: Fouling of a firearm bore by metal particles from bullets adhering to the metal surface caused by heat or friction.

LEDE: The beveled portion of the rifling at the rear end of the barrel (and the forward portion of the chamber) where the bullet first engages the lands.

LENGTH OF PULL: The distance from the front trigger of a shotgun to the center of the butt.

LEVER ACTION: An action operated by a lever located underneath it. (A secondary purpose of the lever is to serve as a trigger guard.)

LINE OF BORE: An imaginary straight line through the center of the bore of a firearm extending to infinity.

LINE OF SIGHT: An imaginary straight line from the eye through the sights of a firearm to the target.

LOAD: A charge of powder, a projectile or a cartridge. Also, to prepare a gun for firing by inserting ammunition into it.

LOADING GATE: The hinged cover over the opening through which cartridges are inserted into the magazine.

LOCK: The firing mechanism of a muzzle-loading weapon. In breech-loading firearms, the lock is the firing mechanism and breech-sealing assembly.

LOCKING LUGS: A series of projections on the bolt of a firearm designed to fit into corresponding slots in the receiver to lock the action in closed position for firing.

LOCKPLATE: A metal plate on which the firing mechanism is mounted on percussion and earlier firearms.

LOCK TIME: The interval of time between trigger release and the detonation of the primer. (Also called lock speed.)

L.R.: Abbreviation for long rifle.

MACHINE GUN: A firearm which continuously fires ammunition at a high rate of fire when the trigger is pulled only once. See AUTOMATIC.

MAGAZINE: The part of a repeating firearm which holds the cartridges or shells in position ready to be loaded one at a time into the chamber. (The magazine may be integral part of a firearm or a separate device attached to the action.)

MAGNUM: A cartridge or shell with greater power than normal, (i.e. .300 magnum rifle, 3 inch magnum shot shell).

MAINSRING: a strong spring which activates the striker or hammer of a firearm.

MATCH: A long cord of hemp, flax or cotton, saturated in saltpeter, which burns slowly without a flame. (It was used to ignite powder in early firearms.)

MATCHLOCK: A firearm action which relies upon a serpentine or S-shaped piece of metal to hold a smoldering match. By pressing the lower end of the serpentine, the upper end holding the burning match contacts the priming powder in the pan.

METAL CASED: A bullet with a lead core and a solid metal jacket.

METALLIC CARTRIDGE: A cartridge with a metallic case. (Early cartridge cases were made of linen, paper, etc.)

METALLIC SIGHT: A non-telescopic firearm sight.

MID-RANGE: The point in the trajectory halfway between the muzzle and the target.

MILLIMETER: a metric measurement equaling .03907 inches. (Its abbreviation is mm.)

MINI-BALL: An elongated lead bullet with a pointed head and a cup-shaped hollow in its base which spreads as it is fired, forcing the metal into the rifle grooves.

MISFIRE: Failure of a cartridge to discharge after the firearm's firing pin has struck the primer. See HANG-FIRE.

MOUTH: The open end of a cartridge case into which the bullet is inserted.

MUSHROOM: The shape many bullets assume when the tip expands upon striking. (Sometimes called mushroom bullets.)

MUSKET: A smoothbore shoulder gun. (Commonly used by military in the 17th, 18th and 19th centuries.)

MUSKETOON: A musket shortened for cavalry use.

MUZZLE: The forward end of a barrel.

MUZZLE BLAST: The violent disturbance in the atmosphere after discharge of a firearm, caused by release of powder gases into the air.

MUZZLE BRAKE: A slotted device attached to the muzzle which softens the kick of the firearm.

MUZZLE ENERGY: The energy of a bullet as it emerges from the muzzle. (Usually expressed in foot pounds.)

- MUZZLE FLASH:** The bright flash at the muzzle of a firearm resulting from burning of gases.
- MUZZLELOADER:** a firearm that is loaded through the muzzle.
- MUZZLE VELOCITY:** See VELOCITY.
- NAKED BULLET:** A bullet not covered by a metal jacket.
- NECK:** The forward portion of a bottlenecked cartridge case. Also the portion of a rifle chamber in which the neck of the cartridge case rests.
- NEEDLE GUN:** The first rifle known to use a bolt action.
- NIPPLE:** A small metal tube extending through the breech of a percussion firearm through which the flame passes from the percussion cap to fire the powder charge.
- NOSE:** The point of a projectile.
- OBTURATION:** The expansion of the cartridge case which seals the chamber preventing gases from escaping.
- OPEN SIGHT:** A non-telescopic firearm sight. See SIGHT.
- OPTICAL SIGHT:** Usually a telescopic firearm sight. See SIGHT.
- OVER-AND-UNDER GUN:** A firearm with two or more barrels placed one over the other.
- PAN:** The small dished container located on the side or top of a matchlock, wheel-lock or flintlock firearm used to hold the priming powder charge.
- PARALLAX:** The displacement of an object viewed from two different positions. (For example, when using a telescopic sight, the apparent movement of the reticule in relation to the target when the eye is shifted to a different position.)
- PARKERIZING:** A non-reflecting rust-preventive finish used on the metal of firearms.
- PATCH:** A piece of leather or cloth. The patch is greased and placed around a bullet before ramming it down the barrel of a muzzleloader.
- PATCH BOX:** Covered compartment in the buttstock of a muzzle-loading rifle used to carry patches or other small items.
- PATTERN:** Distribution of shotgun pellets. This is measured at a standard distance of 40 yards (37 m) using a 30 inch circle (762 mm). (A full choke charge should throw a pattern of at least 70 per cent of the shot into the 30 inch circle at a distance of 40 yards.)
- PENETRATION:** The distance traveled by a projectile from the point where it strikes the target to the point where it stops.
- PENNSYLVANIA RIFLE:** See KENTUCKY RIFLE.
- PERCUSSION CAP:** A small metal explosive-filled cap which is placed over the nipple of a percussion firearm. (As the cap is struck by the hammer, it explodes and sends a flame through the flashhole in the nipple to the main powder charge.)
- PISTOL GRIP:** See GRIP.
- PITCH:** The angle of the barrel of a rifle or shotgun away from the angle of the stock. (It is measured by placing the butt of the stock on the floor and measuring the angle of the muzzle away from a line perpendicular to the floor.)
- POWDER:** The general term for any propellant used in firearms which burns upon ignition. (The two major types are black powder, which is a physical mixture of charcoal, sulfur and saltpeter, and smokeless powder, which is a nitrated chemical compound in granular form.)
- PRESSURE:** The force exerted by burning gases against the cartridge case, base of the bullet, chamber and bolt face of the rifle.
- PRIME:** To prepare or charge a muzzleloader for firing.
- PRIMER:** The collective term for the chemical primer compound, cup and anvil which, when struck, ignites the powder charge.
- PRIMER CUP:** The housing in a shotgun cartridge base which holds a primer.
- PRIMER POCKET:** The depression in the base of a centerfire cartridge which contains the primer.
- PRIMING PAN:** See PAN.
- PROJECTILE:** A bullet or shot in flight after discharge from a firearm.
- PROPELLANT:** The chemical substance which imparts movement to the projectile in a firearm.
- PUMPKIN BALL:** A large round ball of lead used in shotguns. (These projectiles are the same size as the shotgun bore.)
- PYRITES:** A mineral used to produce sparks in primitive firearms. (It was replaced by flint.)
- RAMROD:** A wood or metal rod used to force the wad and bullet down the barrel of a muzzle-loading firearm.

RANGE: The distance traveled by a projectile from the firearm to the target. "Pointblank range" is the distance a projectile will travel before it drops to the extent that sight adjustment is required. "Effective range" is the greatest distance a projectile will travel with accuracy. "Extreme range" is the maximum distance a projectile will travel. Also, a facility designed for the safe shooting of firearms.

RECEIVER: The metal frame of a rifle or shotgun which contains the breech, locking mechanism and reloading mechanism.

RECEIVER RING: The portion of the receiver which is threaded so the barrel can be attached to it.

RECEIVER SIGHT: A sight attached to the receiver.

RECOIL: The backward force of a firearm caused by expansion of powder gases which also impels the bullet out of the barrel. Recoil is measured in foot pounds. See **KICK**.

R.F.: Abbreviation for **RIMFIRE**.

RIFLE: A shoulder firearm with a rifled barrel designed to fire one projectile at a time. See **RIFLING**.

RIFLED SLUG: A large, single projectile used in shotguns.

RIFLING: Spiral grooves cut into the inside barrel surface to cause a bullet to spin, thereby stabilizing it. The cut-away portions of the rifling are called **GROOVES** and the uncut portions are called **LANDS**. See **LANDS** and **GROOVES**.

RIM: The edge on the base of a cartridge case which stops the progress of the case into the chamber. (It's also the part of the case the extractor grips to remove it from the chamber.)

RIMFIRE: A cartridge in which the priming compound is contained in the rim at the base of the cartridge. See **CARTRIDGE**.

SAFETY: A device that blocks the firing mechanism of a firearm.

SEAR: The part of a firearm which links the trigger and the firing pin and releases it when the trigger is pulled.

SECTIONAL DENSITY: The relationship between the weight of the bullet and the cross-sectional area.

SEMI-AUTOMATIC: An action which fires, extracts, ejects, reloads and cocks with each separate pull of the trigger and is powered by the propellant gases. (Also called autoloading.)

SERPENTINE: See **MATCHLOCK**.

SETSCREW: A screw that regulates the amount of pressure needed to release the sear.

SHOTGUN: A firearm with a smoothbore designed to fire small pellets called shot or rifled slugs.

SHOTSHELL: See **CARTRIDGE**.

SHOULDER: The sharply-sloping portion of the cartridge case joining the body and neck. (Found only on the bottleneck shaped cartridge cases.)

SIGHT: The device on a firearm designed to help the shooter aim accurately.

SLACK: The amount of movement in a trigger mechanism before it engages the sear.

SLING: A strap used to carry and aid in shooting a rifle.

SLING SWIVEL: A metal loop, sometimes detachable, by which the sling is attached to the firearm.

SMALL BORE: Generally refers to a .22 caliber firearm.

SMALL-OF-THE-STOCK: The narrow portion of the stock between the comb and the receiver of a shoulder firearm.

SMOKELESS POWDER: See **POWDER**.

SMOOTH BORE: A firearm with a bore that is not rifled.

SNAP SHOT: A quick shot taken without deliberate aim.

SPANNER: A small metal wrench used to wind the mechanism of a wheel-lock.

SPENT BULLET: A projectile which has lost nearly all its energy and lacks the force needed to penetrate the target.

SPITZER: A bullet with a sharp point for better stability during flight.

STOCK: The part of a shoulder firearm by which it is held for firing and into which the metal parts are fitted.

STRAIGHT-PULL ACTION: A bolt action in which the bolt is pulled and pushed straight backward and forward.

STRIKER: The front part of a firing pin which strikes the cartridge.

SWIVEL: See **SLING SWIVEL**.

TANG: A metal strip extending rearward from a rifle or shotgun receiver to attach the action to the stock.

THROAT: The forward portion of the chamber where it is tapered to meet the bore.

TOE: The bottom part of the butt of a rifle or shotgun.

TRAJECTORY: The path a bullet travels from muzzle to impact.

TRIGGER: The part of a firearm mechanism which releases the firing pin.

TRIGGER GUARD: A metal loop around the trigger designed to protect it.

TRIGGER PLATE: The metal part under the receiver of a rifle or shotgun through which the trigger projects.

TROMBONE ACTION: A pump or slide action.

TURN-BOLT ACTION: A bolt action which is locked by pressing the bolt handle in and down, thereby turning its locking lugs into the receiver.

TWIST: The angle of rifling grooves relative to the bore axis. (Expressed as the distance in inches over which a turn or twist is completed i.e. 1-10, 1-22.)

VELOCITY: The speed at which a projectile travels. (Usually measured in feet per second or meters per second.)

WAD: A disc used to separate powder from shot; or to seal propellant gases behind the shot; or to hold shot together in the barrel.

WHEEL-LOCK: An early firearm mechanism in which a wheel with serrated edges is wound against the tension of a strong spring and spins against a piece of iron pyrite, sending a shower of sparks into the pan to ignite the charge.

WILDCAT CARTRIDGE: A non-standard cartridge usually made by modifying the shape of a standard cartridge.

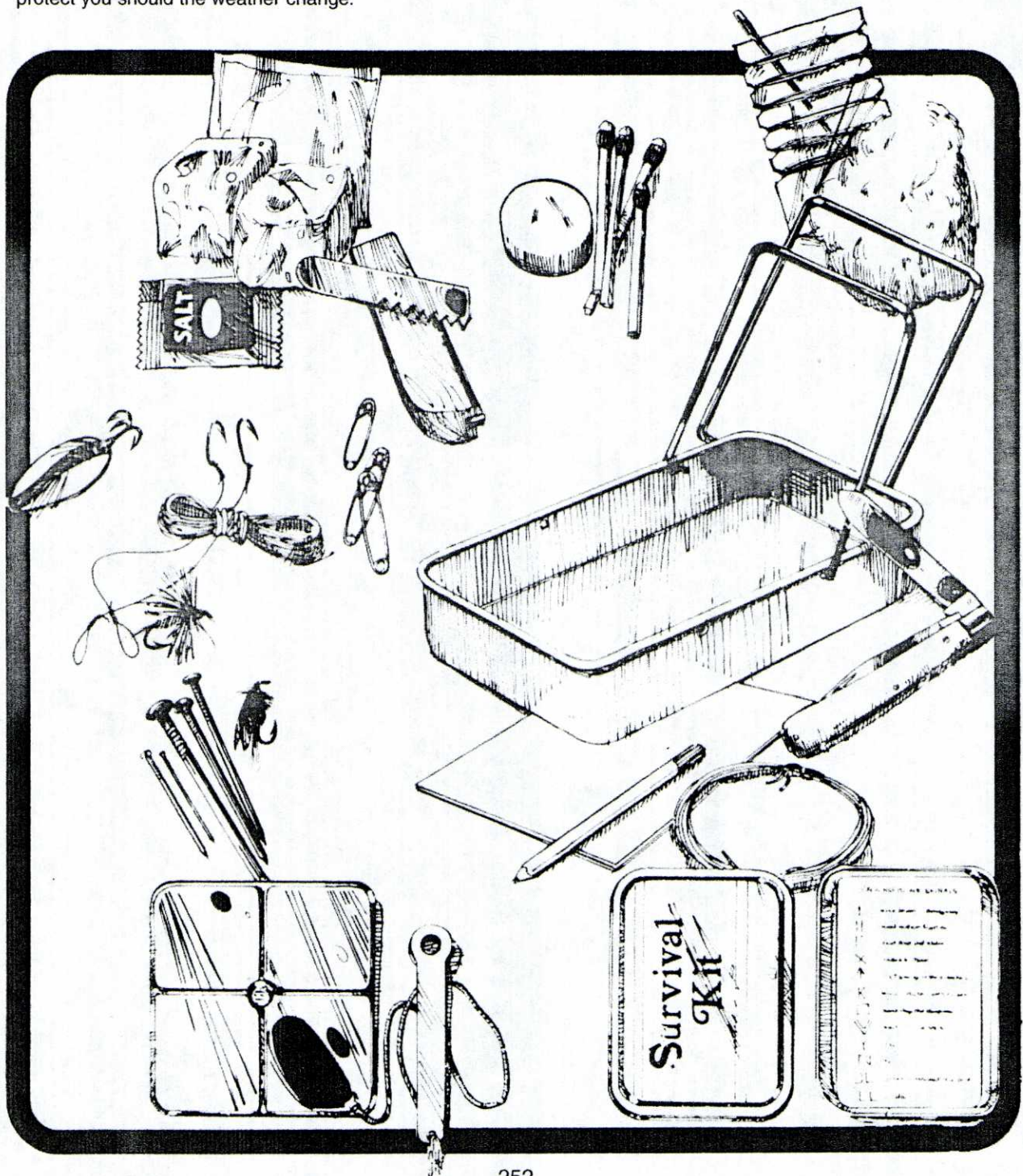
WINDAGE: The lateral drift of a bullet in flight caused by wind.

ZERO: Sight adjustment so the bullet will strike the target at the point of aim.

Survival Procedure Preparation

There are some basic rules to follow before hunting to ensure you're prepared for a survival situation:

- 1) Tell someone where and when you are going, and when you plan to return. If you change your plans, or move from one area to another, let someone know.
- 2) Choose clothing which is suitable for the expected weather conditions but will also be comfortable and protect you should the weather change.
- 3) Take a compass and a detailed map of your hunting area. Know how to use them.
- 4) Carry a personal survival kit and basic first aid kit (see Equipment and First Aid chapters).
- 5) Practice basic survival techniques.



Rescue Signals

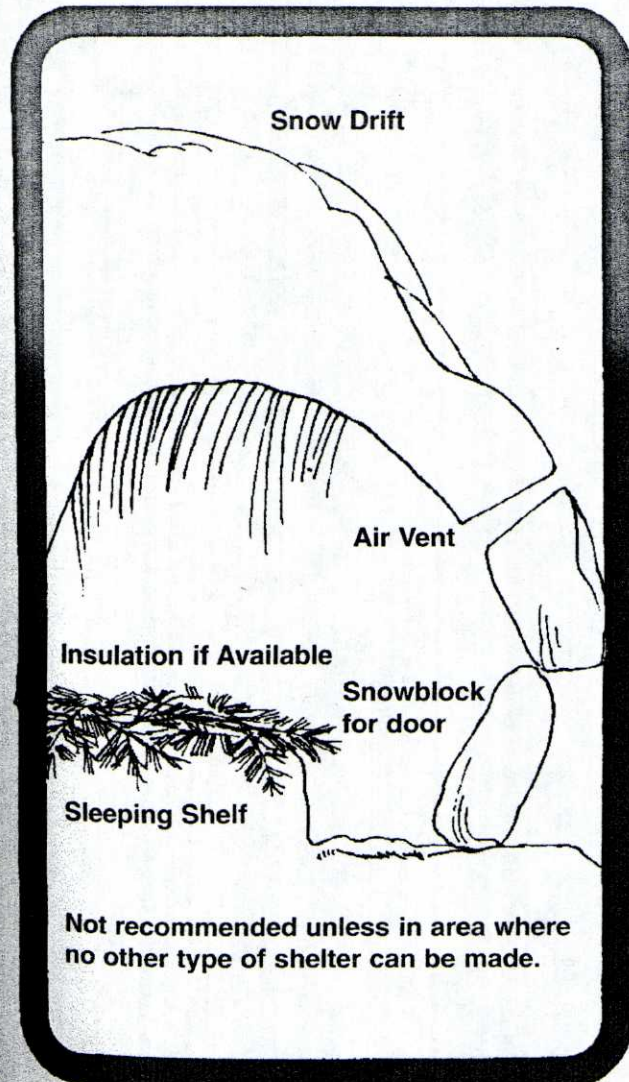
Snow Cave Shelter

Snow caves are difficult to dig without getting wet. For this reason, they are less desirable than other types of shelter. However, snow is a good insulating material that can keep you warm in a survival situation.

A snow cave should be deep enough to sit in. When shaping a snow cave, arch the roof inside so moisture from melting snow will run down the sides of the cave and not drip on you. Do not make the cave's roof exceptionally thick. The cave should be shallow enough and the roof thin enough so you can break through the snow and stand up if a cave-in should occur.

Punch a ventilation hole in the roof. Keep it open by ramming a stick through it occasionally. It is very important to clear drifting or blowing snow from the vent so fresh air keeps circulating within the cave.

Chop a roomy bench or sleeping shelf at least one foot (30 cm) above the cave entrance and cover it with tree branches.



Once your needs for first-aid, fire and shelter have been dealt with, consider how to attract other people's attention to your location. Various types of signals can be used. Although the International Emergency Distress Signal is three signals of any kind (i.e. three shots, three whistle blasts, three fires in a triangle), a single signal is better than none at all.

Flare Signals

To attract searching aircraft, flare signals are best. Flare cartridges are available which can be fired from a rifle or shotgun. Also, small, flare signaling devices may be purchased and included in your survival kit.

