



PLANNING THE HUNT

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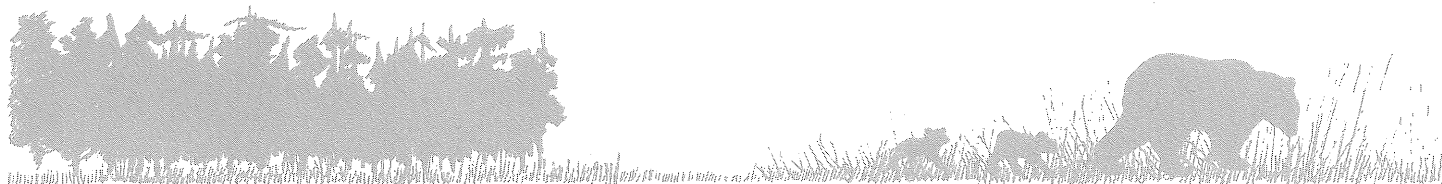
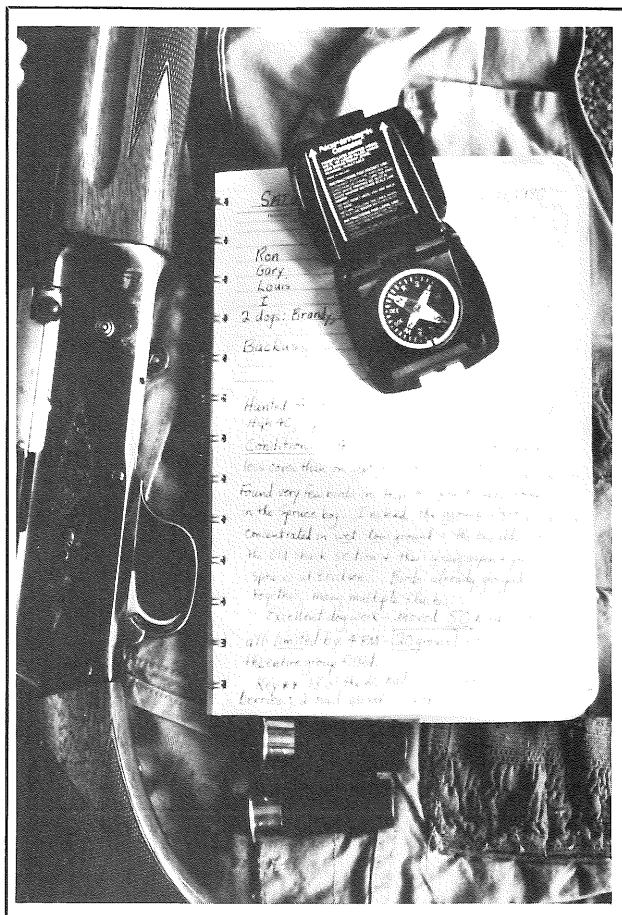
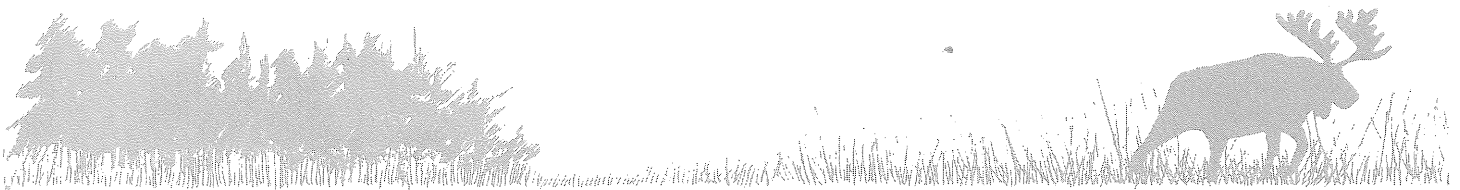


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Factors to Consider in Planning

Some of the factors that you might want to plan in advance include deciding whether to hunt alone or with a party. If it is the latter, who will the members be? Will physical conditioning affect how you plan to hunt? If so, will this cause problems in your party because of widely differing abilities? The time to think of this is long before the hunt! Will the hunt be very strenuous physically? Will you likely encounter difficult walking such as mud, deep snow, or dense weeds? Or steep slopes and high altitudes if you are planning to hunt out-of-state? If so, you will increase your enjoyment if you train in advance. Special health needs such as diabetes, allergies, or heart conditions should be considered well in advance so that they don't catch your party unprepared and spoil the hunt needlessly. Will sunburn or chapped lips, blistered feet or chafed skin be likely? What about minor cuts and burns? Poison ivy? You will want to include a first aid kit that at least has an antiseptic, sterile bandages, aspirin, and adhesive tape. A few band-aids for blisters and small cuts are often helpful too, as is some balm for sore lips.

You may want to plan your schedules and routes in advance. If you are going to travel far and stay overnight or longer, you will be wise to check ahead for lodging or campgrounds, and to make reservations as early as you can if you are going to an area where facilities are limited. If you have your own hunting camp it may need repairs, and the trails almost certainly need brushing and the woodpile replenishing.




I. BASICS OF PLANNING

Why Plan?

Today the man who lives where he can walk out the back door and hunt for an hour or two whenever the urge moves him is lucky indeed! Most of us live in the cities or suburbs and must drive many miles to reach a place to discharge a firearm, even a bow and arrow, much less hunt. Simply driving to the country doesn't solve the problem, either, because most land is privately owned and access is limited. When opportunities are limited, planning can greatly increase the chance that you will enjoy the opportunities that you have.

Planning can make your hunting opportunities more enjoyable in several ways: 1) It can increase your chances of finding and bagging game, 2) It extends the amount of time and thought that you devote to hunting whether alone or with good friends, and 3) It helps you to become much more aware of what and where and why you hunt so that you enjoy each moment more.

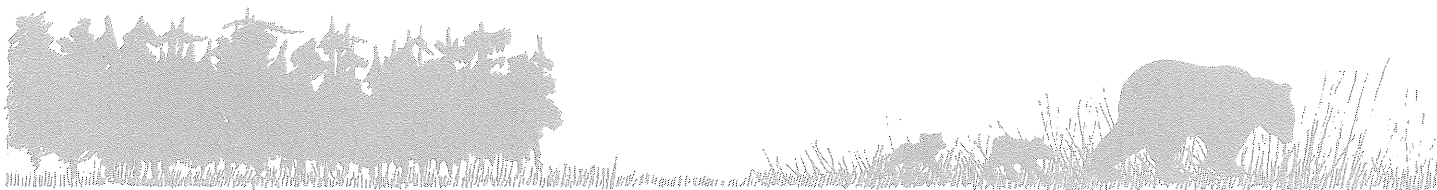
If your party is planning to cook their own meals, advance planning can make life more pleasant. What are some of the favorite dishes? Any foods to be avoided? Who will cook? How will chores be assigned? It is good advice to plan meals when you are hungry—you will be less likely to slight the calories and tasty items at this time then is the tendency just after you've had a hearty meal. Account for the increased activity and need for more calories — approximately 4,000 to 6,000 per day.



1*

 = 3500 CALORIES

1 POUND OF BODY FAT



Whether you plan to travel far or not, checking the condition of your firearms and archery equipment and practicing marksmanship promote both greater safety and more enjoyment when the hunt time arrives. Neither you nor your partners will welcome the discovery during a drive that your sights have been knocked out of alignment, or that a firing pin is broken. Besides, shooting (be it skeet or paper targets) is enjoyable in its own right. Good marksmanship and familiarity with the weapons and ammunition are responsibilities of a good sportsman.

Enjoyment of any hunt depends importantly on being comfortable, and much of comfort will depend on your clothes. Again, advance planning can increase your chances for having a good time. What will the weather be like during your hunt? How active will you be? Will you be apt to encounter rain, wet footing, severe cold, or wind? Outdoors people have never had such a range of good garments at reasonable prices from which to choose, but the basic principle of dressing in layers that can be added or removed is still valid.

A hunter does well to plan in detail. A duckhunter and a bowhunter both want camouflage, but the former may pick waterproofed material while the latter sticks to

woolens to minimize noise. Firearms deer hunters must wear bright red, or preferably, blaze orange instead of camouflage, but they also may prefer fabrics that are quiet.

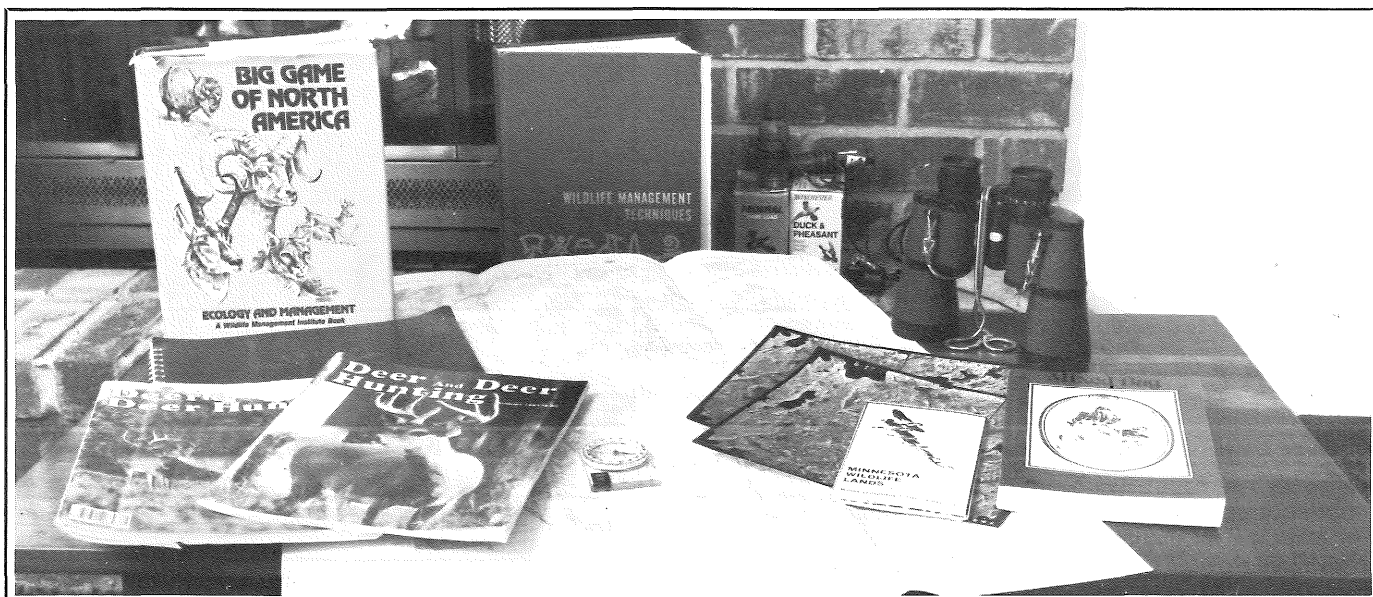
When to Plan

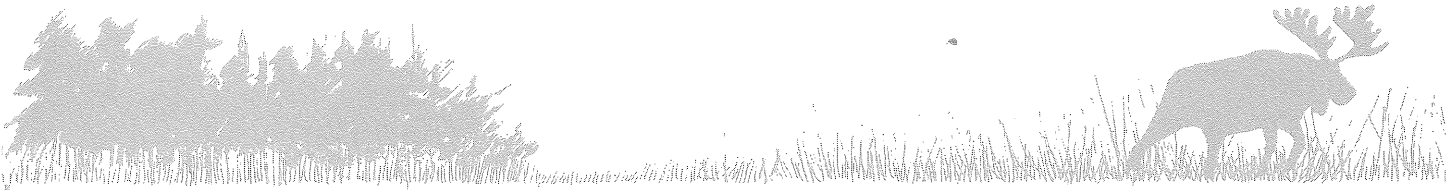
Effective planning starts well before the hunt, often during the preceding season. This is the best time to evaluate hot-spots or poor areas. While you are hunting is not the time for scouting hunting areas, instead you should be concentrating on finding game. And scouting too soon before hunting will only alert the game to your presence.

Formalizing planning will help you pay attention to issues that normally are taken for granted. For instance, what do you want to hunt? Pheasants? Ducks? Divers or dabblers? Deer? Bucks or any deer? It makes a difference!

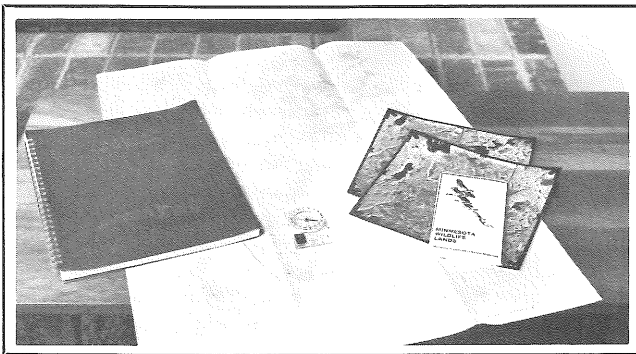
How can you discover where there is good hunting within such regions? No simple answer exists, but several suggestions may be helpful. The first one is to *talk* to other hunters who are interested in the same game species. Few are likely to tell you the exact location of their favorite hotspots, but most won't hesitate to tell you which counties they hunt and even the type of cover where they've had the most success. The local wildlife conservation officer (game warden) can be very helpful. So can landowners, bus drivers, rural mail carriers, and others whose daily work has them driving back roads.

Second, *read*. Your public library has many books and magazines with information about the habits and distribution of game animals. The more you know about the animals that you hunt, about their life styles, food, cover, mating habits and enemies — the more likely you are to recognize good cover when you find it. The more you will enjoy your hunts, too! Several of the national sporting magazines have regional features each month in addition to occasional feature articles that describe hunts in your area. Often these are too general to be very useful,





but they are good suggestions, and some of them give sources for additional information. The Minnesota Department of Natural Resources has a number of publications dealing with game species in the state. Many of the best hunters build personal libraries based on their favorite species and hunting styles. This puts information at their fingertips for planning and dreaming. Accumulating and using such a library can become an enjoyable extension of hunting.



Maps are among the least appreciated resources by most hunters. Enormous amounts of useful information can be gleaned from maps by those who know how to use them, and who will commit the money, time and effort to do so. State highway maps are useful for picking major routes efficiently, but they don't show enough detail for further planning. Most don't even show county roads, much less the old logging trails that get you right into good hunting.

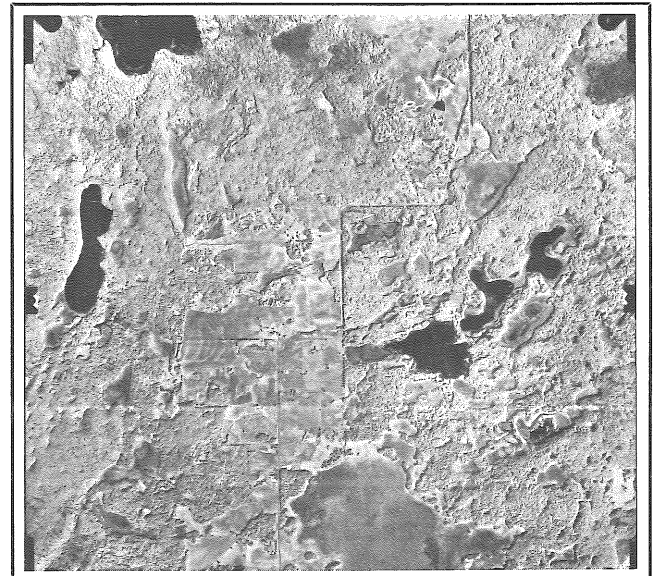
Many other types of maps are available. The Minnesota State Highway Department publishes roadmaps of every county which show buildings, mines, marshes and other features in addition to the roads. They also show section, range, and township lines and numbers that identify a piece of land. You can buy them for a small price, but they are so big that they are most useful when you are doing your planning on the kitchen table at home. Copies of these maps reduced to a smaller scale and with symbols added to indicate public hunting grounds, trout streams, etc., are available in bound atlases at sporting goods stores for \$20 and \$30. These atlases are useful both for planning at home and for carrying in your vehicle to keep track of where you are. You can also use them to record where you have had particularly interesting — or particularly poor — hunts simply by writing on the maps. Few investments in hunting gear will pay bigger dividends than the purchase of one of these map books.

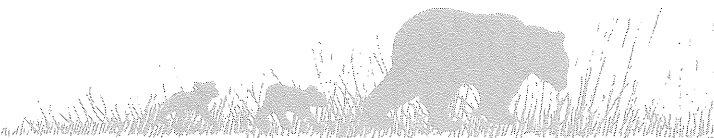
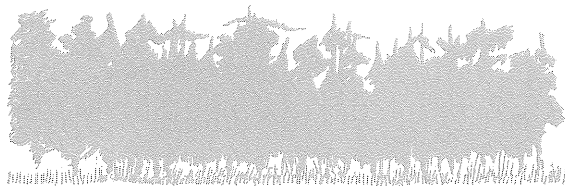
Another type of map collection that is very useful for planning hunts is the county plat book. Most counties publish them, often as Future Farmers of America or 4-H projects, and sell them for a few dollars. The books are collections of maps covering entire counties. The owner of each parcel of land in the county is indicated right on the map. You may still need to go to the county courthouse to look up the address of the owner because many live far from some of their land parcels. They are

listed, however, and can be located this way. Determining who owns the land is especially important to anyone who plans to hunt in agricultural areas because the Minnesota trespass law requires that hunters and other recreational users have permission to enter on any lands that are fenced or are used for agriculture. It takes time to learn who owns the land and still more time to contact the owner to request permission, especially in northern Minnesota where quite a bit of land is owned by absentee owners.

Many hunters use aerial photos that provide a better perspective and more details of the land and vegetation for relatively small blocks that they want to hunt. Best of all is to hire a small plane to fly over the area that you plan to hunt. This may be too expensive for most of us, and careful study of aerial photographs can be almost as good. With practice, many land features including roads, trails, and even crops and forest types, are readily recognized on these pictures. They show relationships between features that are often difficult to appreciate from the ground. The photos themselves may not be for sale, but most places will sell photocopies for less than a dollar. These are less clear than the originals, but they still have far more detail than most maps. They are particularly valuable for organizing several hunters, or for anticipating movements of big game.

Topographic maps are published for all parts of the state. A common scale is 1:24000 (about two inches to the mile). These maps can be bought from the U.S. Geological Survey, Denver 25, Co., or the Minnesota Geological Survey, University Avenue, St. Paul, MN., for approximately \$2.00. A folder describing the maps and map symbols is available on request from the same offices. Some map and sporting goods stores in Minnesota stock the more popular ones. These U.S.G.S. maps not only show topography, they also indicate marshes, streams, forests and fields as well as houses, churches, schools and other man-made features. They are almost as good as aerial photos.





Private Land-History of American Concepts of Ownership of Game

Game animals are much like people: they live in the richest areas whenever they have the choice. Richness for most game is measured in food and cover which depends on fertile soil — as do crops. So the stage is set for potential conflict of interest between hunter and farmer.

It is further complicated by traditions and laws. Much of our tradition in hunting stems from two sources. The first was rebellion against the European situation where the landowner also owned the game, and had exclusive right to it. The “father” of game management in America, Aldo Leopold, traced these practices back to King Canute, the Dane, who signed a formal charter for a hunting “forest,” — a hunting preserve for royalty. According to Leopold, William the Conqueror and his Normans “did daily increase those oppressions by making more new forests in the lands of their subjects, to their great impoverishment (until) the greatest part of the kingdom was then converted into forests.”

Leopold attributes the first hunting-related trespass laws for land held by “commoners” to King James I (of the King James Bible) who forbade taking of pheasants and partridges on other people’s land without their permission. Actually trespass laws date back at least to the Romans, but the English were the first to promote them for the protection of the game rather than only the landowner. For anyone interested in the history of game management the first chapter of Leopold’s classic *Game Management* (1932) is still good reading.

Most of the immigrants who colonized America had been oppressed by the European system, and they made sure that in this new country the game belonged to the people, not to the landowner. As a result, game is legally the property of the state. A landowner must obey the game laws exactly as must the hunter from the city despite the fact that it grows on his land, eats his crops, AND ATTRACTS TRESPASSERS!

Although he does not own the game, the land and its use belongs to the owner. He is the one who pays the taxes, builds the fences, plants the crops—and stands to lose if anything damages his crops. The farmer is close to his land, and depends on it for his livelihood. Most likely he worked long and hard to pay for it, and like everyone else, he feels possessive about what he worked so hard to get.

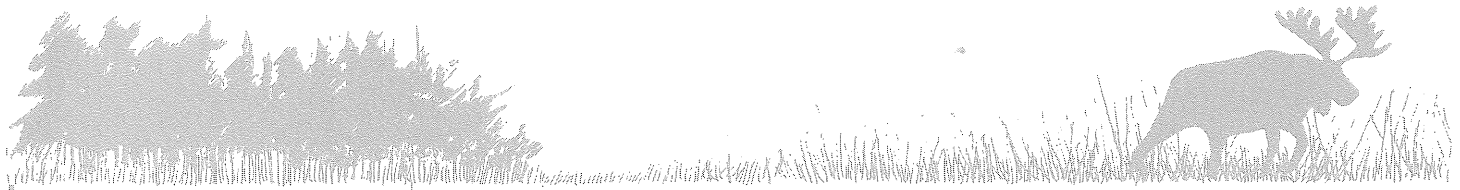


Put yourself in the farmer’s place: Imagine strangers deciding-without your consent — to use your backyard for a football game or your driveway for a beer party and ‘rock’ session. You’d be pretty upset, or even angered. Think about it. Then ask yourself this question, “Why does a landowner-farmer ever let strangers hunt?”

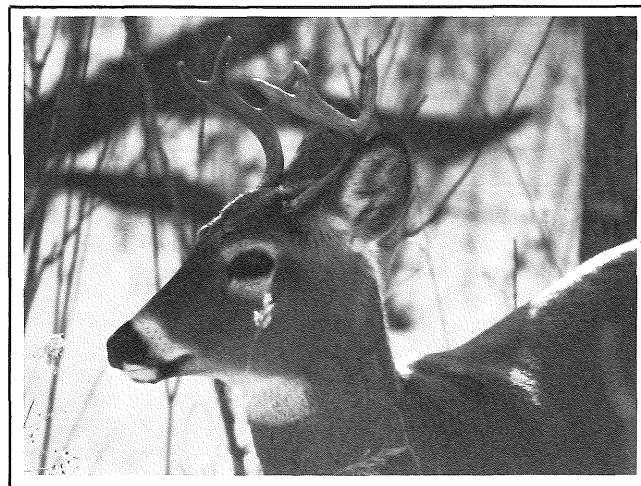
How can this conflict of interest be resolved? The first step is for the hunter to accept the fact that the land is privately owned, and that the owner has every right to control who uses it for hunting or anything else. Once that concept is fully digested, other things fall in place. Obviously you will want to meet the farmer and ask for permission as a starter. This is a very good reason for planning. You are much more likely to get a positive response if you mentally put yourself in the landowner’s place. A stranger is asking you to let him use something that is yours merely out of the goodness of your heart. In fact, he is asking more than that: he is asking you to let him harvest and take away a part of the produce of your land without offering you anything in return. Reflect on that for a moment. Why should you give a stranger permission to use your land—not a waste area but that which produces your income? Why or why not? When you have answered these questions thoughtfully, you will be in a better position to think about asking for permission to hunt a particular piece of land. Your attitude will be better, and attitude is an extremely important prerequisite to good hunter-landowner relations.

Another question to ask yourself is, “Why do I want to hunt this particular farm rather than the one down the road?” The answer to that is most likely to be because it has good cover. Did you ever wonder why one farm has good cover and lots of game while another has little of either? Did it ever occur to you that the farmer may have deliberately left some cover because he likes to have the animals around—even though it costs him in potential crop acres? You can bet he didn’t do it to attract strangers!

If you think about these questions, you’ll see an extra value in planning ahead. During the hunting season you have two strikes against you when you try to get permission. First, it is one of the busiest times of the year for the farmer because he is harvesting his crops. Or he may need to get fall plowing done before freeze-up. So he can’t afford to while away time chatting with carload after carload of hunters eager to get him to share his game with them. You are likely to be only one of many to ask that day or week.



An obvious part of the solution is to ask permission months in advance. Be considerate. Pick a time when the landowner is likely to have some leisure. Stay away from planting and harvesting—and income tax time! Maybe a Sunday afternoon in midwinter or early-summer. Or, perhaps, a rainy day during planting or harvest time. Go alone to introduce yourself or with only one other person. Think how you feel being approached by a carload of strangers compared to meeting a polite, neatly dressed individual.

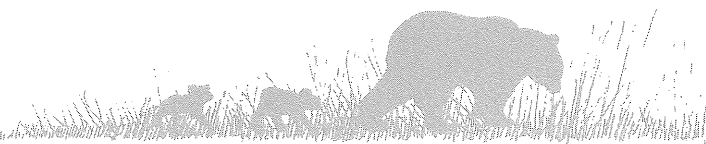
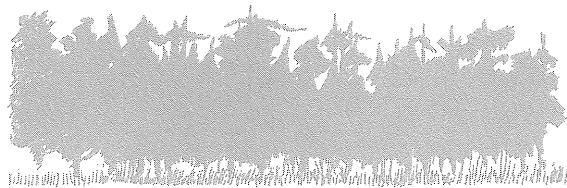


You have something in common for a starting point. You are asking permission to hunt because you think his land is productive. Talk, but listen, too. Learn how he feels about the game and his crops. Comment on the cover that he has left, look and listen to what he has to say about hunters, his farm, his interest in game. The farmer is more likely to give permission (not just this year, but following years, also) to the hunter who shares his concerns and respects any restrictions he places on the hunter. Be happy to get a chance to hunt the land to fit their schedule. Or graciously accept being denied permission, thank the man for considering your request, and depart quietly. The hunter who expresses anger and resentment, whether in words or actions, not only fails to get permission for himself, but he also reinforces the landowner's feeling that he made the right decision. After all, who wants a sorehead roaming around the place with a firearm in hand?

Don't get discouraged easily. Persistence pays, and you have time because you are planning ahead. You can't afford the time? You can always spend your time during the hunting season looking for a place to hunt—while the hunter who did his planning is enjoying his hunt.

When you are fortunate enough to get permission to hunt a piece of property, it is wise to inquire about any special instructions that the owner might give. Things like staying away from the buildings, stock, or standing crops—or the land of a neighbor who doesn't want hunters, and who might resent trespassers coming from his neighbor's place. It is also a very good idea to take the time after your hunt to thank the owner for giving you permission. Drop off part of your game, send a card at Christmas, and/or offer to help with some work during the year. This is simple courtesy, and it helps to make both of you feel a little more satisfied with your relationship.

Building a genuine friendship with the landowner can be rewarding in its own right. Few of us have too many friends, and the more you get to know the owner of the land you hunt, the more likely you are to understand his goals and his problems and he understands yours. This helps to assure you a place to continue to hunt, but more importantly, it enriches both of your lives, and that's a large part of what hunting is about.



Planning the Hunt Checklist

Courtesy of the Osseo Bunch

1. Hunting Party:

- Friends usually; if none available, join a hunting club or take a Hunter Education Class.
- Know the physical limitations of your partners and yourself.
- Trip conditioning — Look at features of area. Does it have — altitudes and steep terrain, mountains, swamps, etc?
- Be aware of personal health problems which might cause problems in the field (allergies, diabetes, heart, asthma, etc.). Bring a first aid kit which will counter possible problems.

2. Picking an Area to Hunt — Guide or Not?

- Purchase license well in advance.
- Obtain season dates. Be sure and check out zones and legal weapons.
- Laws and regulations — game synopsis. Contact Fish & Game agency in the area you will be hunting.
- Topo maps of area. If area is used year after year, check into aerial photos.
- Pre-season scouting or talking with other people who have hunted in the area.
- Identify major features of the area. Where is nearest emergency help?
- Locate campsite or motel and make reservations.
- Plan how to hunt area, where different hunters are going, and if you will be riding horseback.
- Determine rendezvous points.
- County atlas to determine private lands.
- Get advance permission to hunt private land — don't trespass.

3. Shelter:

- Reserve nine to 12 months in advance for cabin, lodge, etc. Check with the local Chamber of Commerce, check travel services, AAA, etc.
- Build or repair hunting shack.
- Cut wood and other maintenance.
- Inspect tents or recreation vehicle.

4. Food:

- Plan group menu together.
- Shop, pack or repack for trip.
- Dividing tasks at camp by interests or rotation basis.
- Try to eat the same at camp as at home including well-balanced meals, but with increased calories.
- Caloric intake increases as weather gets colder. Plan 4,000 to 6,000 calories per day.
- Include trail snacks in addition to meals.
- Important to get enough liquids in winter to avoid dehydration.

5. Other Equipment:

- Group equipment.
- Pre-season maintenance on gun or bow.
- Shoot and sight-in BEFORE first hunting trip and check equipment when you arrive at destination.
- Have extra parts or extra gun.
- Gather cooking utensils.
- Put waterproof matches in several different places.
- Include survival kit, rope, camera, binoculars, and animal calls.
- Don't carry too much, though!

6. Scouting:

- Talk with local farmers or someone else who has hunted the area, sporting goods dealer, etc.
- Check with local Conservation Officer.
- Use maps to locate new areas to hunt.
- Study topo map for habitat. Note importance of edge habitat for sustenance and shelter.
- Watch for animal signs for big game.
- Note locations for deer stands or blinds.
- Do your own grouse census.

7. Concluding the Hunt:

- Make reservations for next year.
- Remember to thank landowner or share game.
- Prepare game for storage.
- Repair and clean equipment before putting away.
- Remember where it is stored.
- Keep written records of where hunting and kills were made.

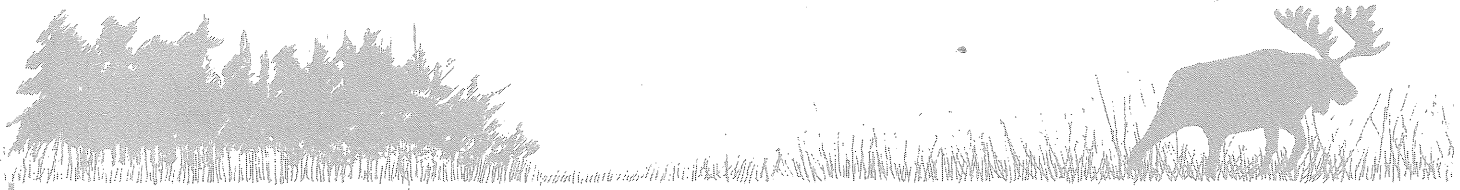
8. Year Round Activities:

- Use non-hunting time to locate new areas.
- Develop relationships with landowners.
- Attend workshops and clinics.
- Repair or purchase equipment.
- Practice shooting and tracking skills, or learn more about your favorite animal.
- Safety bearing.
- Check weather patterns.
- Read up on game species you enjoy hunting.

9. Other:

- Develop a library and put it to use. Books on wildlife, trees, plants, birds, and tracking are a good start.
- Pick up those extra skills — ropework, first aid, sharpening tools, and compass work.
- Develop lists for everything (this is a list of lists).
- Bring home a gift for those who stayed at home.

ALWAYS let someone know where you are, how you can be reached, the time of expected return, and the vehicle you are using in case you need to be reached or you get into problems and need help.



II. NAVIGATION UNIT

Learn the Following Definitions

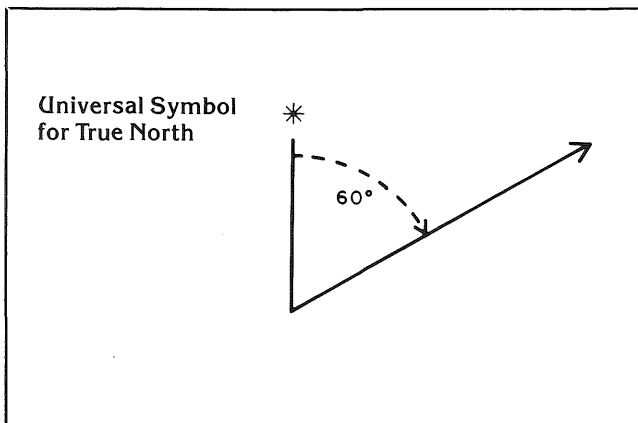
A. **Azimuth** — An azimuth is a direction. It is the direction of a celestial body (the sun, other stars, or the moon) from the observer. It is measured as an angle clockwise from North to the direction of the celestial body on which you are sighting.

B. **Bearing** — A bearing is a horizontal direction (an angle) from the observer to a terrestrial object (rock, tree, ridge, etc.) you are sighting. The angle is always measured clockwise from north to the direction you are sighting.

There are two kinds of bearings:

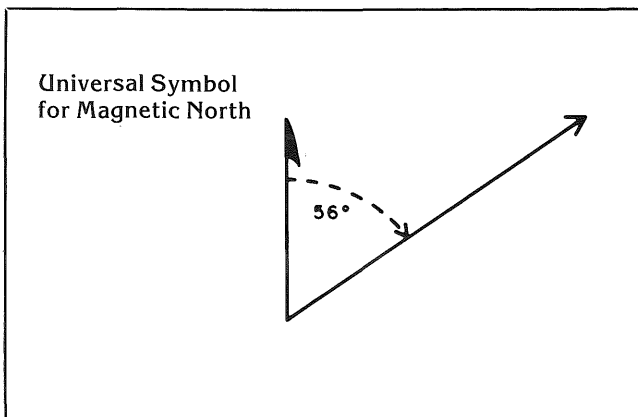
1. **True North** — this is the direction of the true North Pole. Lines of longitude (North-South lines) on a map point true north.

—Notice the true bearing of 60° in the diagram below—



2. **Magnetic North Bearing** — An angle, measured clockwise from magnetic north to the direction you are traveling.

—Notice the diagram below: The magnetic bearing is 56° —

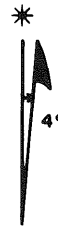


A Compass Doesn't Point True North

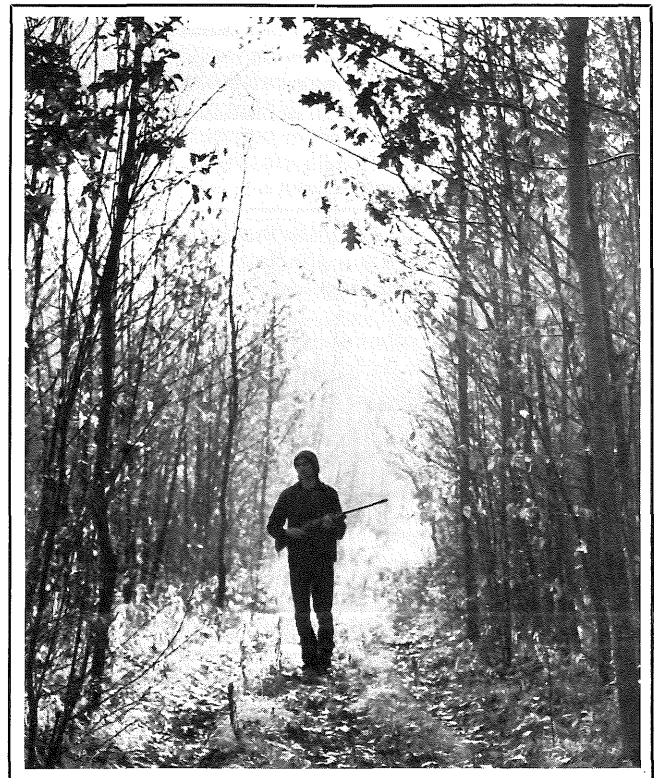
Because of magnetic fields created around the earth, a compass will not point true north. The compass points magnetic north, toward a magnetic north pole. In some areas magnetic north can differ from true north by as much as 20 degrees east or west.

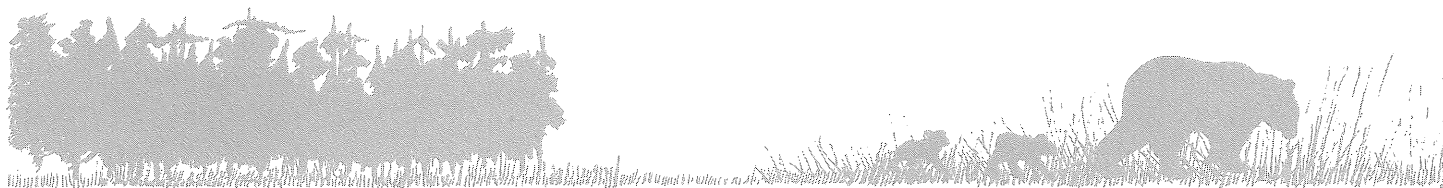
Declination

Declination is the difference between true north and magnetic north. If you want to travel in a true north direction you must consider the declination. This is because a compass points magnetic north, not true north.

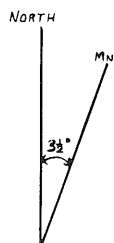


NOTE: Declination can be measured either east or west of true north. In this example the declination is east because the magnetic north "flag" is to the right or east of true north.





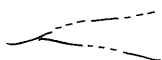
Map Symbols



Declination in Minnesota



Intermittent stream



Contour line



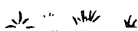
Depression



Trail



Marsh



Lake



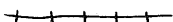
Saddle



Gully



Railroad



Building



Power line



Open pit or mine



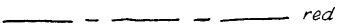
Measured peak, survey point



Spot elevation



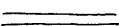
County line



Township or range line

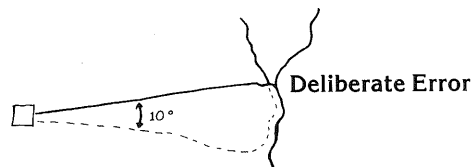
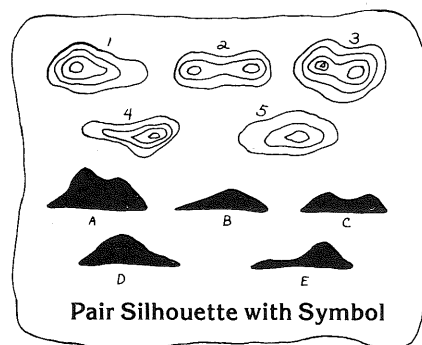


Road

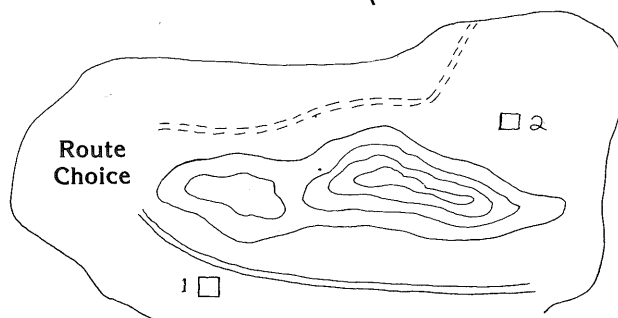
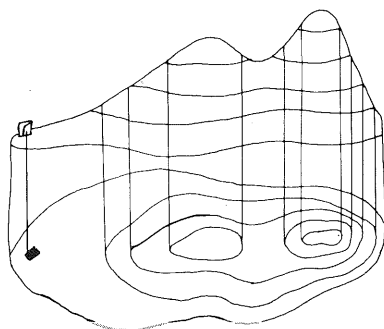


Colors

Green. Wooded
White. Open
Black. Manmade
Blue. Water
Purple. Recent revisions
Brown. Contours
Red. Roads, urban area
land survey lines



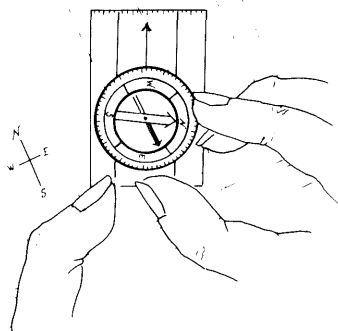
Contour Lines



Using Map with Compass

Simple as ONE. . .

Place one edge of the compass along desired line of travel

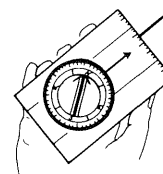
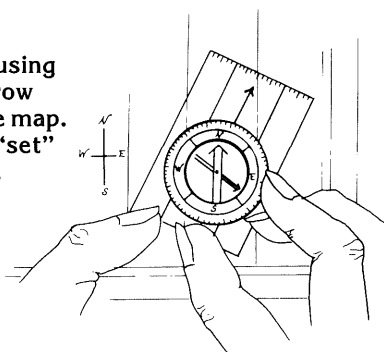


and THREE!



TWO. . .

Turn the compass housing until the orienting arrow points to north on the map. The compass is now "set" for your line of travel.

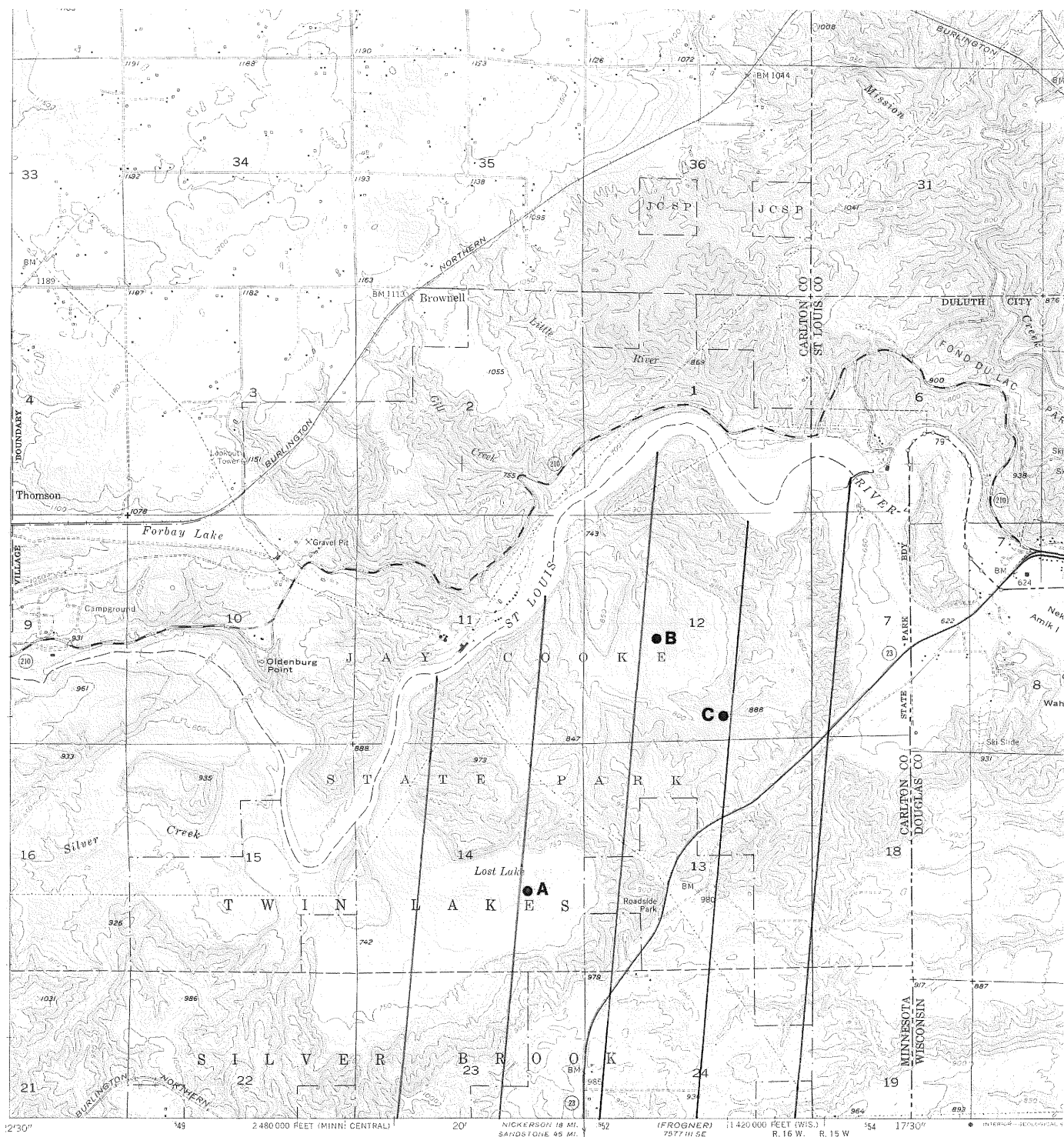


Holding the compass in your hand, turn it horizontally until the magnetic needle is "framed" by the Orienting arrow.

The direction of travel arrow will point to your desired route.

TOPO MAP QUIZ — Esko Quadrangle

- What is the magnetic declination of this map? _____°.
- What is the scale of this map? _____.
- What is the contour interval? _____.
- Find rapids in Carlton County, Sections 9 and 10. What is the drop in elevation from top of rapids to calm water? _____.
- Park your car in Carlton County at the roadside park Section 13.
 - What is the first hazard you must overcome in order to get to Lost Lake? _____.
 - What is the bearing from Parking Lot to Stand A? _____°.
 - What is the bearing from Stand A to Stand B? _____°.
 - What is the bearing from Stand B to Stand C? _____°.
 - What is the route of least resistance from Stand C to the road? _____°.
 - Why shouldn't you hunt in this area? _____.
- While scouting north of your car along the creek that runs through Section 12 into the St. Louis River you find some deer scrapes. In order to pinpoint the location of the scrapes what landmarks would you use? Which ones would you not plan to use and why? _____.
- If the bearing from your position to the B.M. 980 is 173° and the bearing to the 880 summit is 285°, plot the exact location of the scrapes on the map. _____.
- How many quadrangles corner or border this map? _____.
- Name the quadrangle directly north of the Wrenshall quadrangle? _____.



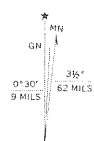
2'36"

2480 000 FEET (MINN. CENTRAL)

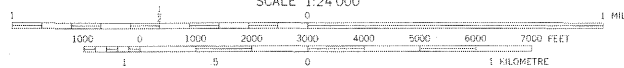
Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by Kelsh plotter
Aerial photographs taken 1952. Field check 1954
Hydrography from U.S. Lake Survey Chart 966 (1:15,000)

Polyconic projection. 1927 North American datum
10,000-foot grids based on Minnesota coordinate system,
central and north zones, and Wisconsin coordinate system,
north zone

1000-metre Universal Transverse Mercator grid ticks,



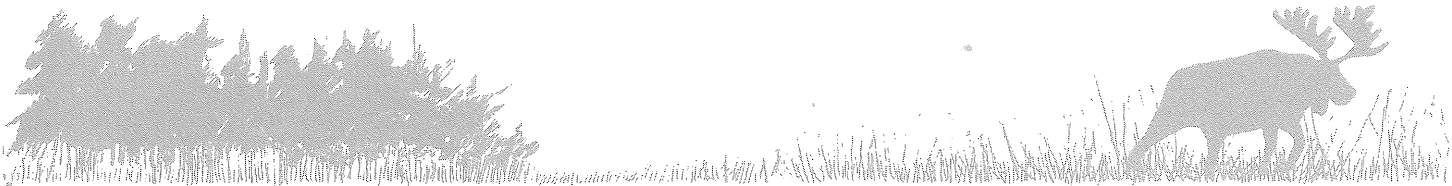
UTM GRID AND 1976 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET



SCALE 1:24 000
(FROGNER) 7577 III SE
NICKERSON 18 MI.
SANDSTONE 45 MI.
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS 601 FEET



QUADRANGLE LOCATION



III. SURVIVAL UNIT

Clothing

Clothing is one of the major keys to being able to maintain your comfort zone while outdoors.

1. The key to proper dress is:
 - Layering
 - Choosing the proper insulation
2. Insulation
 - Down — One of the oldest and lightest weight insulations, also known for its compressability which makes it nice when carrying a lot of gear.
 - Thinsulate — Fairly new on the market, light weight and compact.
 - Other synthetic insulations — Vary in ability to insulate. Some do not compact well, but they do dry much faster and still provide some insulation if wet — down does not.
3. Layers
 - Underwear can be of polypropylene, silk, or fishnet. If you are active, the polypropylene will wick the moisture away from the body and keep you dry.
 - Wool-blend underwear will keep you warm as well as wicking some moisture.
 - Duafold is now making a polypropylene inner, wool-blend outer layer. A better choice if you are doing things which are both active and inactive.
 - Turtleneck. A wool combination is best. The turtleneck will prevent heat escape around the neck. A zip-up neck is the most versatile as it will allow you to vent heat if need be.
 - Overshirt. Wool sweater or shirt for insulation.
 - Jacket. May be insulator, wind breaker or both. A jacket which is waterproof will not allow your body to breathe or body heat to escape so it is not desirable unless absolutely necessary.

- Footwear. Waterproof leather boots early in the season, felt pack boots later. Keep an extra pair of felt liners so you can switch them when they become wet. Boots should accommodate two pair of socks (one inner thin-wicking sock and one heavy outer wool sock for insulation).
- Hands. The extremities are the hardest part of the body to keep warm. Two-layer system is best. Mittens allow fingers to warm each other, although it is more difficult to use your hands.
- Head gear. Fifty percent to 75 percent of the body heat is lost through the head. A warm hat is essential — wool is the best. Should strip-off other layer of clothes before you take your hat off. The old adage of "If you're cold, put on your hat" has a lot of truth to it.

Hypothermia

Cold Kills in Two Distinct Steps

The moment your body begins to lose heat faster than it produces it, you are experiencing exposure. Two things happen:

- You voluntarily exercise to stay warm.
- Your body makes involuntary adjustments to preserve normal temperature in the vital organs.

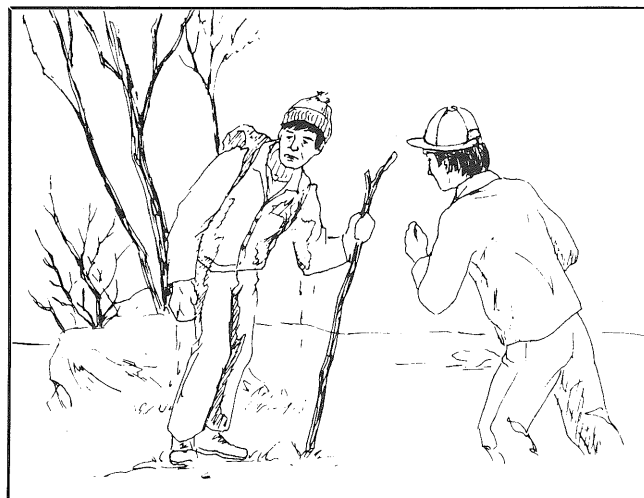
Either response drains your energy reserves. The only way to stop the drain is to reduce the degree of exposure.

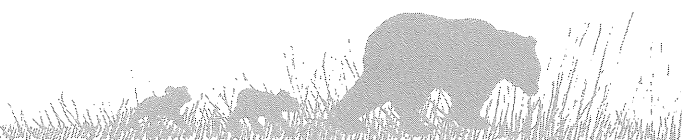
The Time to Prevent Hypothermia Is During the Period of Exposure and Gradual Exhaustion

If exposure continues until your energy reserves are exhausted:

- Cold reaches the brain depriving you of judgment and reasoning power. You will not realize this is happening.
- You will lose control of your hands.

This is hypothermia. Your internal temperature is sliding downward. Without treatment, this slide leads to stupor, collapse and death.





Your First Line of Defense: Avoid Exposure

- **STAY DRY.** When clothes get wet, they lose about 90 percent of their insulating value. Wool loses less; cotton, down and synthetics lose more.
- **BEWARE OF THE WIND.** A slight breeze carries heat away from bare skin much faster than still air — 240 times faster. Wind drives cold air under and through clothing. Wind refrigerates wet clothes by evaporating moisture from the surface. **WIND MULTIPLIES THE PROBLEMS OF STAYING DRY.**
- **UNDERSTAND COLD.** Most hypothermia cases develop in air temperatures between 30 to 50 degrees. Most outdoorsmen simply can't believe such temperatures can be dangerous. They fatally under-estimate the danger of being wet at such temperatures.
- **50 degree water is unbearably cold.** Cold water kills when it is held against the body by clothes, and especially when cold water runs down the neck and legs thus flushing body heat from the surface of the clothes.

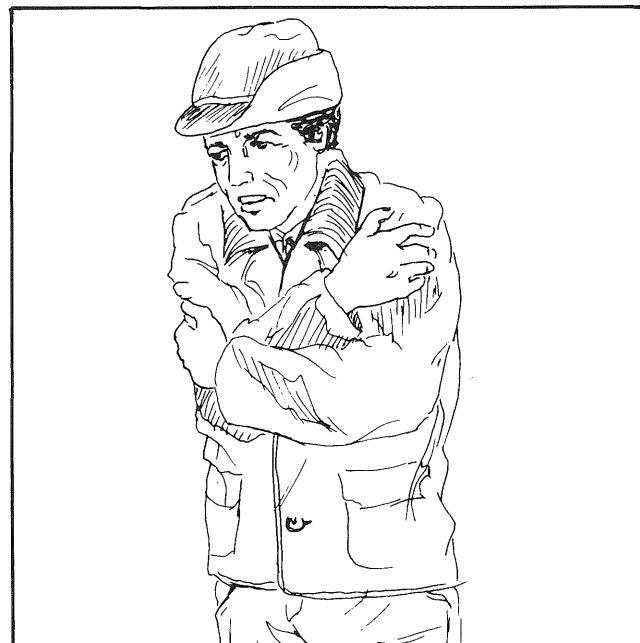
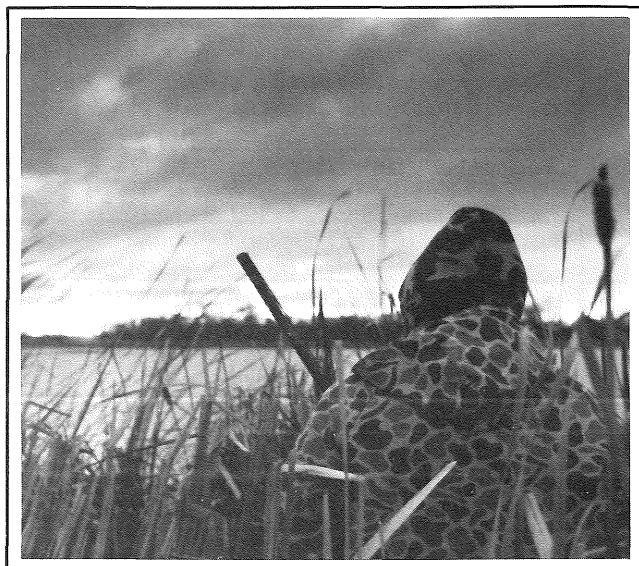
DON'T ASK, "HOW COLD IS THE AIR?" ASK INSTEAD, "HOW COLD IS THE WATER AGAINST MY BODY?"

- **USE YOUR CLOTHES.** Put on rain gear before you get wet. Put on wool clothes before you start shivering.

Your Second Line of Defense: Terminate Exposure

If you cannot stay dry and warm under existing weather conditions, using the clothes you have with you, terminate exposure.

- **BE BRAVE ENOUGH TO GIVE UP REACHING THE PEAK OR GETTING THE FISH OR WHATEVER YOU HAD IN MIND.**
- **Get out of the wind and rain. Build a fire. Concentrate on making your camp or bivouac as secure and comfortable as possible.**



Never Ignore Shivering

Persistent or violent shivering is clear warning that you are on the verge of hypothermia. **MAKE CAMP. FORESTALL EXHAUSTION.**

Make camp while you still have a reserve of energy. Allow for the fact that exposure greatly reduces your normal endurance.

You may think you are doing fine when in fact exercising is the only thing preventing you from going into hypothermia. If exhaustion forces you to stop, however briefly:

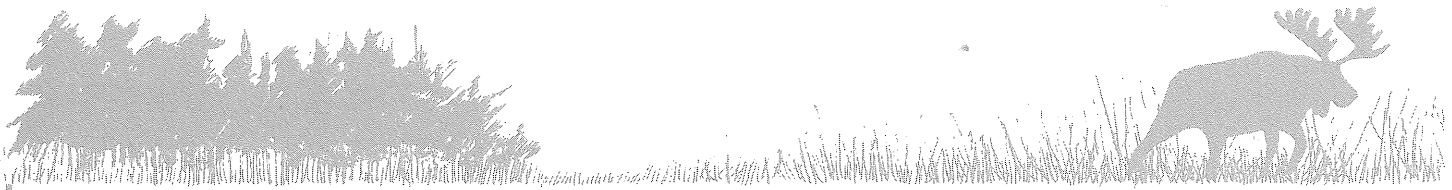
1. Your rate of body heat production instantly drops by 50 percent or more.
2. Violent, incapacitating shivering may begin immediately.
3. You may slip into hypothermia in a matter of minutes. **APPOINT A FOUL-WEATHER LEADER.**

Make the best-protected member of your party responsible for calling a halt before the least-protected member becomes exhausted or goes into violent shivering.

Your Third Line of Defense: Detect Hypothermia

If your party is exposed to wind, cold, and wet, **THINK HYPOTHERMIA.** Watch yourself and others for symptoms.

1. Uncontrollable fits of shivering.
2. Vague, slow, slurred speech.
3. Memory lapses. Incoherence.
4. Immobile, fumbling hands.
5. Frequent stumbling. Lurching gait.
6. Drowsiness (to sleep is to die.)
7. Apparent exhaustion. Inability to get up after a rest.



TREATMENT OF A CONSCIOUS HYPOTHERMIA VICTIM



1. Recognize early signs of hypothermia



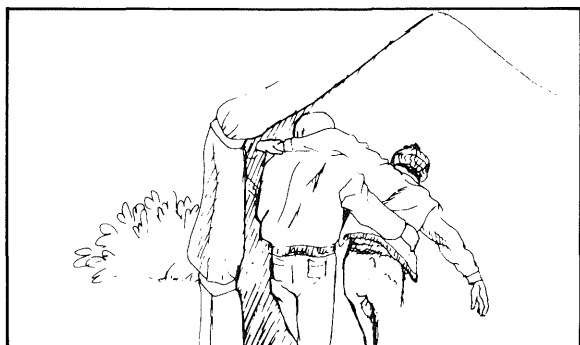
5. Put on dry clothes.



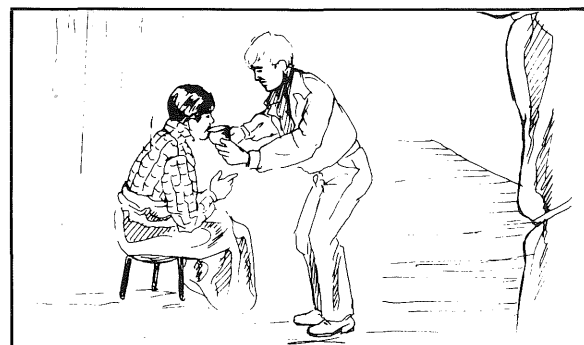
2. Stop — call for help.



6. Give warm drinks.



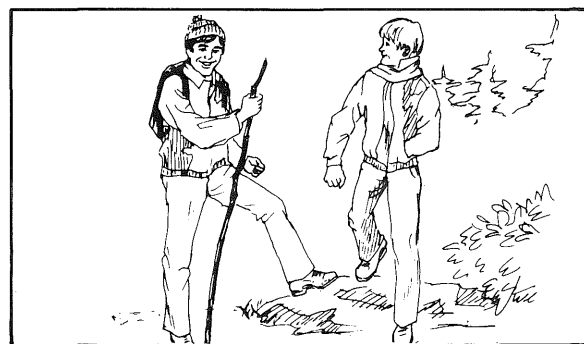
3. Get victim sheltered quickly.



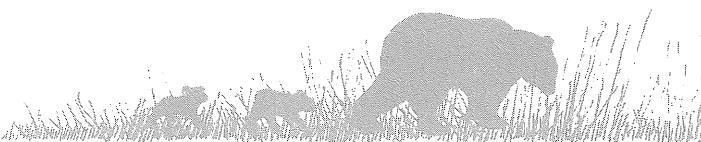
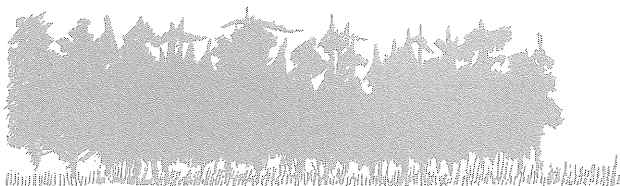
7. Restore body temperature.



4. Remove wet clothing.



8. And then resume travel.



Survival

1. Best Thing To Remember Is Not To Put Yourself In a Survival Situation — many times this can be done by proper preparation. Good preparation should include:
 - Letting someone know where you are going, your itinerary and when you expect to return.
 - Being familiar with your area so you are less apt to be lost — know what direction you should head and what natural boundaries (lakes, ridges, etc.) surround you.
 - Having proper equipment — prepare for the worst and hope for the best.
 - Develop a comfort with nature and the outdoors. Be flexible and ready to adjust to the situation at hand.
2. Things To Remember
 - Most people are rescued within 24 hours
 - Stay put and wait for rescue
 - International sign for distress — three of anything — three fires, three shots, etc.
3. If You are In A Survival Situation:
 - S-stop where you are
 - T-think of the essentials you need
 - O-observe what is available around you
 - P-plan what you will do and in a priority order
 - S-stay put
4. Basic Needs in Order of Priority
 - P.M.A. — Positive Mental Attitude can determine 80-90 percent of your survival chances
 - Air — Three minutes without
 - Shelter — Depends on weather
 - Rest
 - Water — Up to three days without
 - Food — Up to three weeks without
5. Basic fears you should prepare yourself to deal with in a survival situation:

• Death	• Punishment
• Unknown	• Ridicule
• Animals	• Discomfort
• Being alone	• Personal guilt
• Darkness	
• Weakness	

Survival Kits

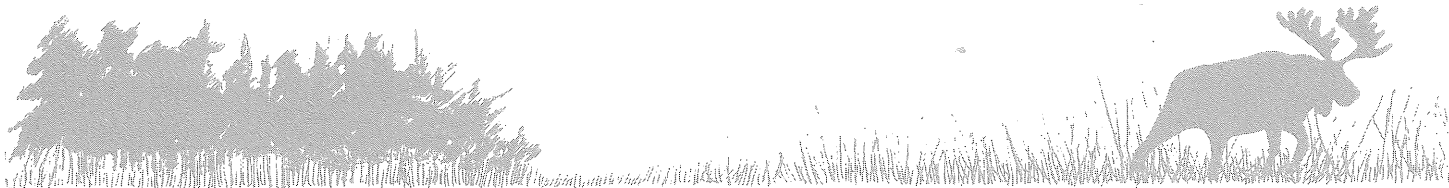
1. Every Kit Should Include —
 - Instant body protection from weather elements
 - Instant energy food
 - A means of signaling distress
 - A means to start a fire
 - A means of cooking or heating water
 - A means of patching bodily injuries
2. Thirteen essentials (put in zip-lock bag or three-pound coffee can)
 - Matches
 - Tinder (cotton balls, 00 steel wool, pine cones)
 - Candle
 - Shelter (two large heavy-duty garbage bags)
 - Rope
 - Whistle
 - Extra food
 - Chapstick with sun block
 - Sunglasses
 - Knife
 - Map
 - Compass
 - First aid supplies (band-aids, gauze pads, tape, ace wrap, safety pins, disinfectant, moleskin)
3. Remember your survival kit will be what keeps you comfortable for 24 hours or longer if needed.

First Aid Notes For The Hunter

This is not meant to be a first aid guide or take the place of a course. It is only tips to aid you in emergencies. Injuries most likely to occur in a hunting situation are wounds, strains and sprains.

1. **Wounds**
 - Cuts — Usually bleed externally, could bleed severely. Apply direct pressure. If bleeding persists, use a pressure point. Use a tourniquet only as last resort and assume the limb will be sacrificed.
 - Abrasions — Commonly caused when a person falls. Most danger is due to infection. Clean and treat with a disinfectant — take care of matter that is imbedded in the skin.
 - Puncture — Example is a bullet wound or stepping on something. External bleeding may be limited, but there could also be internal bleeding. Advise the person of the danger of tetanus.
2. **Strains**
 - Injuries to muscles caused by overexertion. Muscle fiber is stretched and sometimes torn. Rest and application of warmth are the best treatment.
3. **Sprains**
 - An injury to the tissue surrounding the joints usually by forcing the limb beyond the range of the joint. Most commonly occurs to knees, fingers, wrists and elbows. There is usually swelling and discoloration. Keep injured portion raised and apply cool compresses.

When a person is seriously injured treat them for shock, elevate their feet, and keep them warm. Shock can kill!



WIND CHILL CHART

Estimated wind speed (in mph)	Actual Thermometer Reading (°F.)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-36	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-92	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
(wind speeds greater than 40 MPH have little addi- tional effect)	LITTLE DANGER (for properly clothed person)				INCREASING DANGER				GREAT DANGER			

Frostbite

Frostbite is the actual freezing of the tissues of the body, usually extremities and face. The first indication of frostbite is a cold feeling. When the cold feeling is gone you must determine if the tissues have rewarmed or are starting to freeze. When they begin to freeze the skin will take on a whitish-grey look.

The best treatment for frostbite is to immerse the area in warm water (102 — 180°F). If you don't have warm water, place the frostbite area in your arm pit or groin, or against another person's stomach. Never rub the affected part or put it in snow.

If you are likely to refreeze the area, leave it frozen as less damage to the tissue will occur.

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- Kjillstrom, Bjorn, *Be Expert With Map and Compass*. Charles Scribner's Sons, N.Y. 214 pp.
- Olsen, Larry Dean, *Outdoor Survival Skills*. Pocket Books, Division of Simon & Schuster, New York, N.Y. 254 pp. Paperback \$1.95.
- Rutstrum, Calvin, *The Wilderness Route Finder*. Collier Books. 214 pp. Paperback \$1.50
- Rutstrum, *Paradise Below Zero*. Collier Books. 244 pp. Paperback \$2.95.

Topo Quiz Answer Sheet

- 3 1/2°
- 1:24,000
- 10'
- 140' (approximately)
- A. Cliff
B. 272 °
C. 22°
D. 130°
E. 162°
F. You are in Jay Cocks State Park
- Follow the draw up the creek — then follow the creek north or follow the road up to where the logging road goes north, and follow that valley in. The high ridges should not be used because they don't give you a view of your scrape area.
- Scrape just below the Number 12 in Section 12.
- 8
- Cloquet



Minnesota Hunting Organizations

Minnesota Waterfowl Association
5701 Normandale Road
Minneapolis, MN 55424
612-922-2832

Minnesota Wildlife Heritage Foundation
5701 S. Normandale Road, Suite 308
Minneapolis, MN 55424
612-925-1923

North American Hunting Club, Inc.
7901 Flying Cloud Drive
Eden Prairie, MN. 55343
612-941-7654

Minnesota Department of
Natural Resources
Bureau of Information and
and Education
Box 46, Centennial Building
658 Cedar Street
St. Paul, MN 55155
612-296-3336

Raptor Research and Rehabilitation
295 Animal Science/Veterinary
Medicine Building
University of Minnesota
St. Paul, MN. 55108
612-376-5642

Ducks Unlimited — Minnesota Chapter
2230 So. Highway 100
Minneapolis, MN 55416
612-920-2225

Fish & Wildlife Service
Federal Building
Fort Snelling, MN 55111
612-725-3502

Izaak Walton League of America
Minnesota Division
Suite 109, 3255 Hennepin Avenue
Minneapolis, MN. 55408
612-871-8705

Minnesota Association of Farmers,
Landowners and Sportsmen
490 N. Snelling at University
St. Paul, MN 55104
612-323-7733

Minnesota Conservation Federation
1034 So. Cleveland Avenue
St. Paul, MN 55116
612-690-3077

Minnesota Deer Hunters Association
P.O. Box 413
Grand Rapids, MN. 55744
218-326-4017

Wildlife Assistance Office
530 Federal Courts Building
St. Paul, MN 55101
612-725-7830

Credits: Written by Dr. Dick Phillips, University of Minnesota, and Jean Woodman, DNR Advanced Hunter Education Coordinator. Cover photograph by Tim Smalley. Drawings on pages 12, 13 and 14 by Shelley Kranz. Designed and produced by the DNR Bureau of Information and Education.



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