

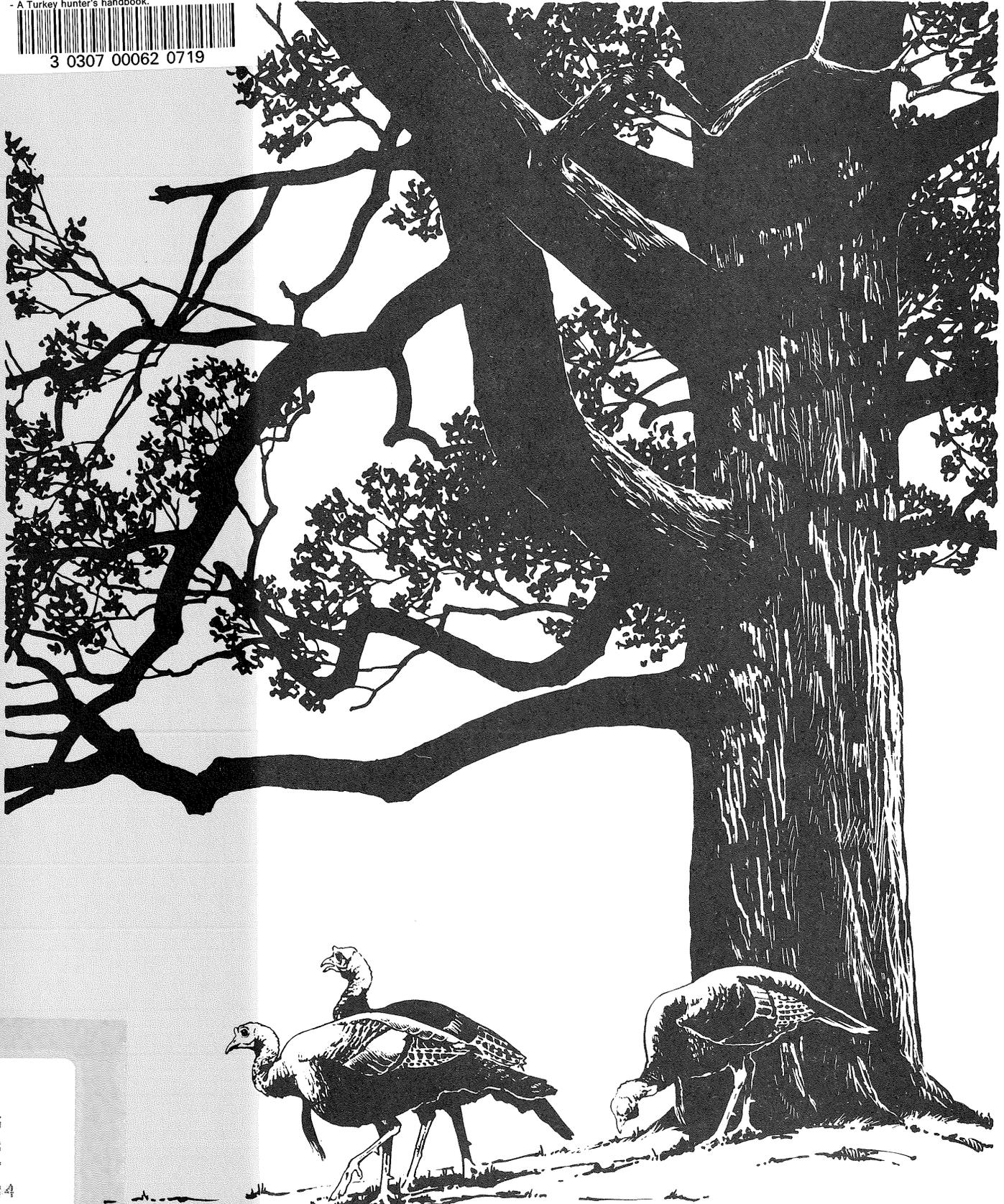
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- A Turkey hunter's handbook.



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A TURKEY HUNTER'S HANDBOOK

Minnesota Department of Natural Resources

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A Big Challenge

The wild turkey's reputation among hunters is legendary. Wily, clever, smart, crafty, shrewd, and discerning are adjectives used to describe this largest of North American game birds. The hunter's challenge is embodied in an old Indian saying: "Any brave can kill a deer; it takes a chief to kill a turkey."

The turkey has the natural "equipment" to outmaneuver the vast majority of hunters. Respected turkey biologist Wayne Bailey claims the wild turkey's sight is 10 times better than humans' and their keen sense of hearing is about eight times better. In addition, these birds have no curiosity. Sudden movement or noise immediately sends them running (up to 30 mph) or flying (up to 55 mph in a glide) to parts unknown. Without question, hopeful turkey hunters have their work cut out for them.

Minnesota's wild turkeys are just as wary as their free-roaming ancestors that were trapped in other states and transplanted to Minnesota's southeast counties. And, they are likely to remain wild as long as there are annual hunting seasons. Although the objective of the turkey season is to provide recreation, hunting also serves to keep the birds wild.

History of Wild Turkeys in Minnesota

Minnesota's first turkey hunt (1978) and those following would not have been possible without modern wildlife management techniques.

Historically, Minnesota was at the northern edge of wild turkey range and it is not known if turkeys were ever native to the state. However, they did occur south of LaCrosse, Wisconsin, and in the timberlands of northern Iowa. This suggests that the birds probably occurred in limited numbers in the extreme southeast corner of Minnesota. In addition, there is a single specimen in the University of Kansas collection marked simply "Minnesota." Turkeys were mentioned in Father Hennepin's 1680 account of exploring the Mississippi. Explorer Peter Pond's 1773 diary about trading on the upper Minnesota River mentioned "Sum Turkeas." References to turkeys have been found in other writings, though the evidence of turkeys originally occurring in Minnesota is not exactly overwhelming.

First attempts to establish (or re-establish) wild turkey populations in Minnesota began in 1926 when 250 game-birds were released in Winona and Houston Counties and, of all places, in the Minneapolis-St. Paul metropolitan area.

Adult tom turkey



These initial releases failed — as did later attempts involving several hundred more pen-raised birds.

From 1964 to 1968, the Conservation Department (as DNR was called then) tried a different approach. A swap of ruffed grouse, bear, and walleyes brought to Minnesota 39 turkeys trapped in Nebraska, Arkansas, and South Dakota. These wild transplants were released in the Whitewater Wildlife Management Area (WMA). Between 1971 and 1973, 30 more wild-trapped birds from Missouri were transplanted to the Crooked Creek area of Houston County.

To date, Minnesota turkeys have demonstrated that the population can maintain itself despite predation, disease, and harsh winters. From the original 69 transplants, the fall turkey population was probably about 4,000 birds by 1977. With continued natural expansion and further trapping and transplanting of wild Minnesota birds, it should be only a few years before all 1,700 square miles of turkey habitat in south-eastern Minnesota will contain wild turkey populations. In addition, there are indications that turkeys may survive elsewhere in Minnesota. Further research will answer this question over the next 10 years.

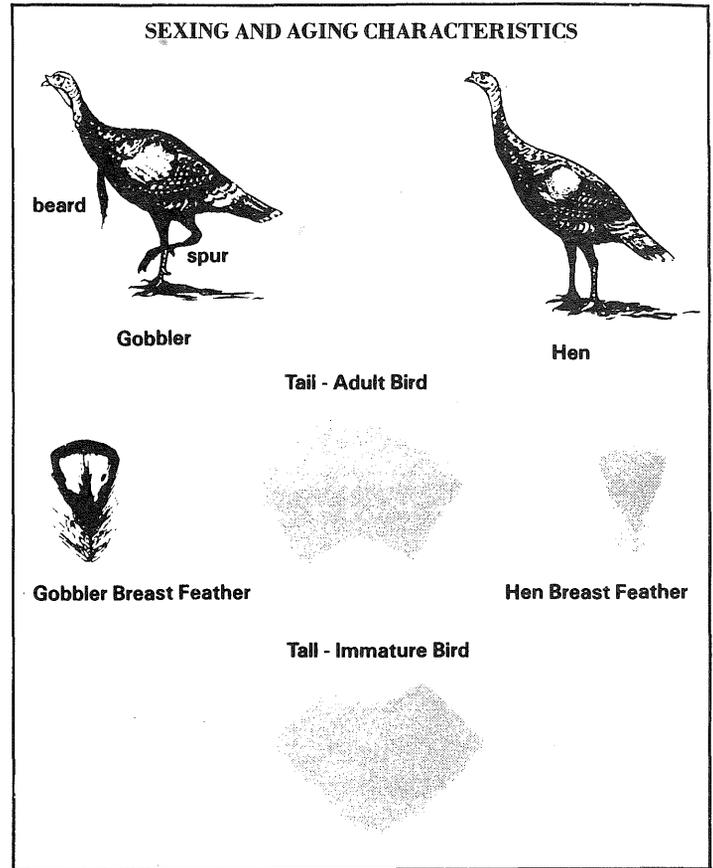
These projections may be temporarily interrupted by severe weather conditions. While annual mortality has been relatively light during most years, starvation killed birds in the winter of 1977-78 and about half of the turkey population died during the following winter. A high reproductive rate, however, insures that the turkey population will rebound quickly under less severe conditions. This factor is indicative of many other game bird populations.

Description

Most people are familiar with the domestic turkey, a breed similar to the wild variety from which it was developed. There are, however, distinct differences between the two. The wild turkey has a more streamlined body, longer legs and neck, and a smaller, flattened head.

A large tom (male) Eastern turkey can weigh more than 27 pounds, stand three feet tall, and have a five-foot wingspan. Eastern birds are found in the southern-most part of Minnesota. The average size for Merriam's turkeys, a variety found in most western states, (originally transplanted to the Whitewater WMA) is about 18-20 pounds for adult toms and 10 pounds for adult hens. Minnesota's turkeys are descendants of Merriam's and the larger Eastern variety.

The tom has an iridescent and metallic plumage ranging in shades from bronze to green. A coarse beard hangs from its breast. The male's breast feathers appear jet black. The female's are white-edged and give the appearance of frosted feathers.



Wing primaries have distinct white bars with a light gray background. Tail coverts or rump feathers are edged in light tan or white. The tail feathers are almost black with rusty markings and buff-colored tips (white tips in Merriam's). The tom's head is bald and greenish-blue — except during courtship. Then the skin becomes engorged with blood and turns red about the neck and reddish blue in the cheeks. The legs are pinkish. A hen's head is covered with short, velvety-black feathers.

The turkey has a range of voices—the whistle of the young bird, the alarm putt, the soft clucks of the hen's tree call, the hen's "Here I am" yelp, the "cackle" or desire-call of the hen, and the mature male's gobble.

In addition, there are several aging characteristics. Immature gobblers (jakes) have beards less than four inches long and spurs less than one inch, their middle tail feathers are longer than the others, and they have sharp, pointed, primary wing feathers with indistinct, alternating, light and dark bars. Mature gobblers may have a beard more than one foot long, spurs between one and two inches, and have tail feathers of equal length. See Turkey sex and age characteristics illustrated on pages 2 and 3.

Characteristic	Hens (females)	Gobblers — Toms
Beards	occasionally (4%)	regularly
Droppings	looped, spiral, bulbous	longer, straighter, knob-like J-shaped
Breast Feathers	buff-colored tips	black tipped
Spurs	none	yes
Track Size	4½" spread or less	often greater than 4½" spread
Gobble	never	frequently, especially in spring
Head Adornments	none	snood, caruncles and wattles
Head Colors	gray to gray-blue	bright turquoise blue to bright red to bright blue

Turkeys do not have three-dimensional vision. To see accurately, they must move their head back and forth. But they can easily detect direction, distance, size, shape, brightness, color, and intensity.

Behavior

Courtship and mating begins early in April and continues until late May; this probably constitutes the most dramatic aspect of turkey behavior.

Toms gobble to attract hens, and engage in "necking" contests—twining their necks together in a show of strength. The winner becomes the flock's dominant male.

Males also develop a "breast sponge" during the breeding season. This is a padding of tissue, filled with oil and fat, which apparently sustains the male during breeding season when he loses interest in eating. The sponge also serves as a display device—a protruding chest to attract hens.

Toms adopt breeding grounds and attempt to attract as many hens as possible. While non-receptive hens avoid these places, receptive hens find the gobbling call of the strutting toms irresistible and seek out the calling male.

During the courtship display, the tom's fleshy, pigmented wattles — loose skin under the chin — change from red to blue and from purple to white. The snood, a fleshy, conical projection located just above the beak, elongates and swells. Head, back, chest feathers puffed out, tail spread fan-like, the tom paces back and forth, sometimes taking several quick steps toward the female with his wings dragging the ground. Hens may leave the tom soon after being bred.

Like pheasants, turkeys are polygamous — each breeding tom services a large number of hens. Because a turkey population consists of nearly equal number of both sexes, toms are definitely in surplus and can provide considerable hunting opportunity. In fact, once a turkey population is established both sexes can be harvested.

Nesting

After a successful mating, the hen becomes secretive, slipping away to find a suitable nesting spot. Most hens engage in nesting by mid- to late-April. It is during this period (when the number of receptive hens decrease) that males become most susceptible to hunters imitating the call of a hen.

The nest is a slight depression scratched in the ground by the hen, usually in an area that is not well concealed. Clutch size averages 10-12, and the egg laying is complete in about 14 days. Hens normally cover the eggs with feathers and leaves when they leave the nest to forage. During the first days, the hen may abandon the nest if disturbed, especially if the intruder is human. Predators also may cause the hen to abandon the nest.

After 28 days of incubation, all of the fertile eggs in the clutch will hatch within a 24-hour period. Shortly after hatching the hen leads her new poults to a nearby field where they feed on insects and other animal matter, a protein-rich source of food. For four weeks, the poults are brooded on the ground until their primary (flight) feathers have developed.

Wild turkeys are voracious feeders. Young birds usually gain 10 to 15 pounds between June and December. Although more than a hundred items make up the wild turkey's diet, acorns and other native mast are preferred for its fall diet. Unfortunately, acorn crops in Minnesota are not dependable. Other staples include corn, grain, and alfalfa.

Turkeys have adapted successfully to southeastern Minnesota's mixture of farmland and hardwood forest. Primary habitat, however, is the hardwood forest. Thus, an important consideration for any turkey management plan is proper management of the forest. Luckily, tree cover on steep slopes is important for erosion control as well as turkeys. In addition, forest land has been purchased for use as state forests, wildlife management areas, and state parks. It is important to remember that big changes in land use will affect the wild turkey population.



Adult tom with hen

Minnesota's biggest challenge to wild turkey survival is severe winter weather. Through starvation and predation related to starvation, more turkeys are lost during a severe winter than any other time with nesting season running second. Another very important consideration is a dependable winter food source. Mast (acorns) crops available during the fall and early winter months may become scarce during late winter or be covered by deep snow. Severe food shortages occur when snow cover exceeds 10 inches for 20 days. In some years with greater than average snow depths, the sun is out enough to burn off the snow on southeast-facing slopes and expose valuable food. During severe winters, standing corn food plots are among the few sources of food not covered by snow. The DNR and the Minnesota Chapter of the Wild Turkey Federation are establishing hundreds of acres of corn food plots in areas of turkey range.

Since 1974, the Minnesota DNR, in cooperation with the University of Minnesota, has been conducting a turkey research program. Radio-marked birds have provided information on behavior, dispersal, nesting, and over-winter survival. This information has enabled wildlife managers to

expand turkey management programs and has been helpful in setting seasons.

Included in the Minnesota Turkey management plan is a defined system for the evaluation of future wild turkey transplant sites. If a potential site appears suitable a transplant schedule is developed. Each winter, wild Minnesota birds are captured with rocket nets and released in areas where turkeys presently do not exist. Care is taken to avoid placing wild transplants in areas where free-roaming, pen-raised turkeys are known to exist. Pen-raised turkeys may physically resemble wild transplants, but there the resemblance ends. They are not nearly as wary, and their habit of frequenting poultry yards and then mingling with truly wild birds increases the possibility for introducing disease (such as black-head) into the wild flock.

While many well-meaning people wish to help spread wild turkeys by stocking, it is illegal to raise and release turkeys by stocking, it is illegal to raise and release turkeys in certain zoned areas of established or potential turkey range. In addition, raising and releasing elsewhere in Minnesota is by permit only.

Turkey Hunting

Since Minnesota's wild turkey program began, the ultimate goal has been to provide sufficient numbers of birds for a hunting season. Since turkey populations have expanded tremendously since the original transplants in 1964, the state legislature granted the DNR authority to establish a turkey season in 1977.

During the spring mating season the toms can be selectively hunted. Using calls that sound like a seductive hen, hunters lure toms within range of a shotgun or a bow and arrow.

In states with large turkey populations, hunting seasons are often held in fall and spring. Fall hunts allow hunters to take birds of either sex and any age, similar to our ruffed grouse season. However, states like Minnesota with limited and/or expanding populations, usually conduct spring gobbler-only hunts to protect hens. This limitation ensures a large breeding nucleus. After Minnesota turkeys have saturated all available range, fall hunts will be considered.

A computer selected 420 Minnesotans for the state's first hunt in 1978, 840 in 1979, 1200 in 1980, and 1500 in 1981. As the turkey population continues its expansion, the number of licenses, and the amount of area open to hunting will be expanded accordingly.

What are your odds for bringing home a gobbler? About the same as bagging buck deer during an antlered-only season. Spring gobbler hunting success in other states varies from 3 to 30 percent. Iowa hunters, in their first season (1974), achieved 28 percent success. Success rate in Minnesota has averaged about 15 percent for the 1978, 1979, and 1980 seasons.

Hunting Regulations

Turkey hunters may wonder about the reasons for some regulations.

The turkey hunting season is set for the period when toms are gobbling. Gobbling normally begins several weeks prior to the first day of hunting and toms have been called in as late as June. Gobbling activity is greatly affected by weather conditions. Heaviest gobbling activity occurs on clear, calm mornings.

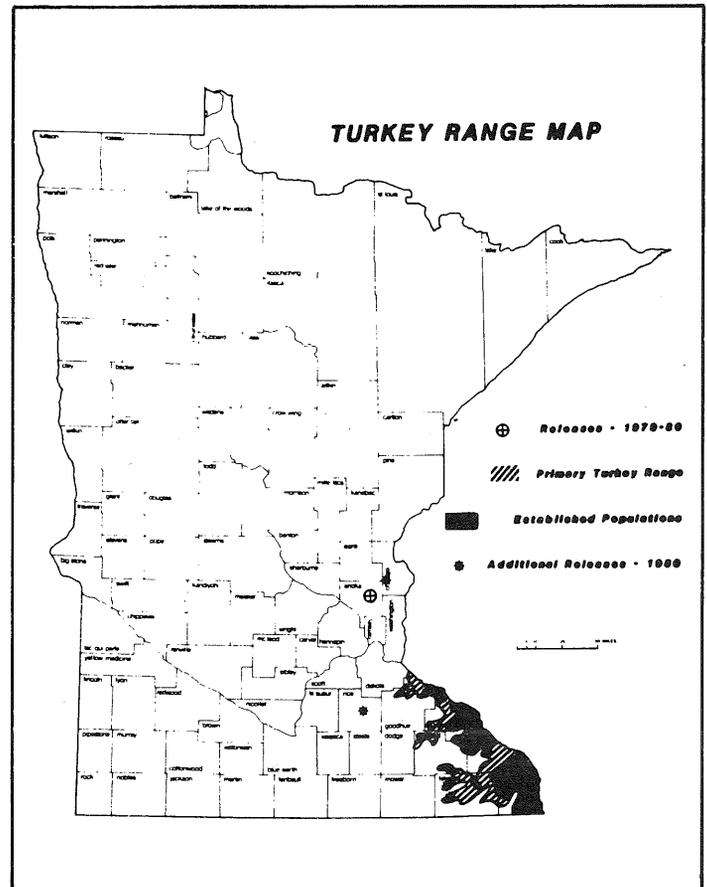
Hunting is allowed only between one-half hour before sunrise and noon to minimize disturbance to nesting hens. Most gobbling occurs early in the day when hunters tend to stay put. As gobbling activity subsides hunters are more likely to move around in search of birds. This increases the chances of disturbing hens, which if pushed from a nest may abandon their eggs.

Minnesota allows shotguns with fine shot and bows and arrows for turkey hunting. The reasons have to do with proper identification of gobbler, reduction in crippling rate and safety. It is relatively easy to identify a gobbler that is in range of fine shot, reducing the chances of shooting a hen by mistake. Also, with every hunter outfitted in camouflage and imitating hen turkeys, close range shooting makes for a safer hunt.

Regulations allow shooting of "bearded turkeys" only instead of "gobblers" because hens sometimes have small beards. Legal or not, shooting a hen eliminates a precious source of more turkeys.

Minnesota's turkey population is still expanding. As long as it continues to grow, each hen has the potential of adding many young turkeys to the population. When the population finally saturates the available habitat, it may be possible to permit a limited any-sex fall hunt. *Until that time comes, hunters should make every possible effort to limit their shooting to gobblers.* Shotguns must be 20 gauge or larger, except muzzleloading shotguns which must be 12 gauge or larger. Bows must be 40-pound pull or greater using arrows with legal broadheads.

Shot size is restricted to number 4, 5 or 6 shot. Most experts recommend a dense pattern of fine shot delivered to the head and neck area. The idea is to drop the gobbler in his tracks. Multiple hits in the breast area with large shot will eventually kill the turkey but may allow it to "disappear."



Turkeys have a very small vital area protected by big breast muscles, heavy folded wing bones and a tough coat of feathers. Attempting to body-shoot a turkey results in many wounded and unretrieved birds. And, shooting at a standing bird less than 40 yards away makes it easier to positively identify it as a gobbler. To see how well your gun patterns, make copies of the life-size turkey head on the back cover of this booklet, place on a board at 40 yards and count the holes in vital areas.

A successful turkey hunter must attach the license tag to the leg of his turkey immediately after it is killed. This identifies the hunter as the valid license holder while transporting the bird. The bird must be taken to the nearest check station and registered. There a biologist carefully records the bird's weight, age, location of the kill, and other information important to future management of wild turkeys in Minnesota.

For more information on hunting regulations review the Commissioner's Order establishing the turkey season.

The name of the game in turkey hunting is preparation. If you are lucky enough to have a friend who is a turkey hunter, engage that person in a thorough discussion of the subject. Read articles, magazines, obtain copies of the "Turkey Call" (magazine produced by the National Turkey Federation), or select one of the many books written by turkey hunting experts.

Now, its time to assemble your equipment. A suggested check-list is provided below:

Full-choked Shotgun	Camera
Tight Patterning Shotshells	Binoculars
Turkey Callers	Knife
Topographical Maps	Compass
Camouflage Hat	Calling Record or Tape
Camouflage Face Mask	Silhouettes for Patterning
Camouflage Coat	Mosquito Lotion (Late season)
Camouflage Pants	Carrying Strap
Camouflage Gloves	Pack Sack
Camouflage or Dark Socks	Matches
Camouflage Tape for Gun	Space Blanket
Cushion for Sitting	Candle
	Plastic bags to keep calls dry

Types of Callers

Perhaps most important in preparing for a turkey hunt is development of calling skills. The best call to use is the one with which a hunter is most proficient. Many types are good. Turkey callers have been made out of every imaginable substance and in a great variety of styles. Each style has its own combination of advantages. In the interests of brevity, we will discuss only the hinged-lid box, friction striker, and diaphragm (mouth) callers.

The hinged box caller is generally considered the easiest to use. It is probably the best choice for most first-time turkey hunters. The sound is produced by merely scraping the hinged lid across the edge of the box. Disadvantages are that it requires the use of both hands and does not work if it gets wet. Placing the box caller in a loose plastic bag allows hunters to keep the caller dry while operating it under wet conditions.

There are many good models on the market.



The friction striker consists of a flat surface over which a striker is pushed or pulled. The flat surface of slate or aluminum is placed over a resonating chamber. Most strikers are wooden dowels with one slightly pointed end. Some newer models with plastic strikers work even when wet. These callers also require the use of both hands.

The diaphragm mouth callers are usually preferred by veteran hunters. They are the most versatile callers, but also the most difficult to master. They are unaffected by wet weather, allow the hunter to have both hands free to handle the gun and can be used without making any discernable movement.

One previously mentioned point should be emphasized. The type of caller used is less important than how well the hunter masters his calling technique. Beginners should obtain a turkey calling tape or record and practice diligently with their caller. Advice from a friend experienced in turkey calling can be invaluable.

Calling Technique

There are several good ways to learn turkey calling, but reading about it is not one of them. Therefore, this discussion will be only a short introduction.

Beginners should keep several points in mind. It is better to call too softly than too loudly, to call too rarely than too frequently, and to perfect one or two calls rather than attempt some sound not yet mastered. Rhythm, or timing, can be more important than the actual quality of sound. Finally, remember that turkeys make all sorts of sounds, many of which don't sound like anything on an instructional recording. Absolute perfection of tone is less important than the skill of reading the gobbler's response and adjusting the calling technique accordingly.

Two calls are of supreme importance. The "cluck" call is a contented, sleepy, early morning sound. This call, which sounds just like it is spelled, is made by the hens at first light, when gobblers are still on the roost. It will also bring some gobblers already on the ground. Be sure to know the difference between the "cluck" and the very similar but shorter "put," which is the alarm call.

The "yelp" is the primary call of the spring turkey hunter. It imitates the "come hither, I'm ready" call, of the hen. It is a simple high and low note slurred together usually emitted in a series of three to five calls. These yelps can be muted or loud, slow and plaintive, or stridently insistent. This call has many variations, including that of the young and mature hen.

These two calls are the most important and produce the best results for spring turkey hunters. Again, rather than attempting a great variety of calls, hunters should concentrate on doing these two well. Above all, calling should be de-

signed to please the particular gobbler being worked. Gobblers, like humans, appear to have definite preferences in girl friends. The call that works on one gobbler might send the next one in another direction.

Scouting

Successful turkey hunting begins with careful scouting. Any hunter going into a turkey hunt "cold" without having spent at least a day or two scouting, has put himself at a great disadvantage.

While scouting, look for signs of turkey activity. Scratching, dusting spots, droppings, and tracks all indicate the presence of turkeys. Gobblers can be located by enticing them to answer a gobble produced on a caller. This technique is most useful after the birds have roosted for the night.

Since not all gobblers respond well to callers and may move around a great deal, and because other hunters will be operating in the same area, a smart turkey hunter locates as many gobblers as possible during prehunt scouting. A little scouting is certainly better than none, but it is a mistake to pinpoint just one bird and expect him to be there when the hunt begins.

The scouting trip is the best time to talk to landowners and obtain permission to hunt on private land. You are more likely to get a warm reception when your request comes well in advance of the season. Also, it is a waste of precious hunting time to be seeking a hunting spot once hunting has started.

Topographic Maps

Topographic maps contain a wealth of information. They show rough terrain, roads, streams, building sites, etc. They are invaluable for finding your way around and for locating land features that are likely hunting spots.

Maps are ordered by quadrangle names. Most of the newer "quads" cover about 50-square miles each. Older maps are smaller scale and include about 200-square miles. If you know exactly where your hunting spot is, look at a key on each Turkey Zone map and buy only the quadrangle that includes your hunting spot.

Quadrangles may be obtained from:

Minnesota Geological Survey
1633 Eustis Street
St. Paul, Minnesota 55108
612-373-0223

U.S. Geological Survey
Distribution Section
1200 South Eads Street
Arlington, Virginia 22202

U.S. Geological Survey Distribution Section
Federal Center
Denver, Colorado 80225

Maps are also available from private map companies.
Additional information on maps and symbols is given
in the appendix.

Camouflage

The best camouflage is both protective and comfortable. Many hunters make the mistake of camouflaging everything except face and hands. Actually, they would be better off if they camouflaged these two areas and wore only regular but subdued clothing. Faces and hands seem to reflect light like a mirror, and they are the parts of the body a hunter is most likely to move. Camouflage jacket and trousers are recommended.

Camouflage also needs to be comfortable. Turkey hunting may involve moving long distances (getting to your spot in the morning, etc.) or sitting in place for long periods. A small pack sack is useful for carrying extra clothing and gear.

Face masks can obscure vision and lead to overheating. Facial greases are more comfortable for many people. Some new models of face masks have provisions for fitting around the frames of glasses, and these are less likely to cause glasses to fog over.

It is usually less important to camouflage the gun, as it is often kept out of sight until the moment of the shot. But it is still part of a smart hunter's preparation to mask at least the gun barrel against reflections that might spook gobblers.

Your Hunt

"Putting a gobbler to bed" is a technique that can greatly increase a turkey hunter's chances. Here's how it is done. During late afternoon or early evening on the day before you are going to hunt, position yourself on a prominent ridge or in the middle of a valley. Gobble on your caller. If a gobbler answers, try to pinpoint his location. Note prominent features where the answering gobble seems to be coming from. Before first light the next morning, sit down within a hundred



Gobbling for hens

yards of the gobbler's roost and wait for the legal shooting hour to begin. Then, call softly like a lovesick hen and get ready for action. "Putting a gobbler to bed" should be repeated each evening during your hunt. The technique doesn't always work, but is well worth the effort when it does.

Turkey hunting in Minnesota is limited to morning, and the best hunting is usually early. Hunters should be in good turkey areas before first light, trying to call a gobbler off his roost (if he was able to put a gobbler to bed) or locate a lonely bird by chance. The best bet for locating a gobbler by chance is to hunt on high points of land where sounds carry farthest. However, windy and/or wet weather may send turkeys to lower ground, and greatly decrease gobbling activity.

On nice days during the mating season, it doesn't take much to make gobblers sound off. Barking dogs, hooting owls, slamming car doors, and other sounds may trigger gobbling activity. If no gobblers sound off on their own, a light yelp on the caller might get them going.



Shooting — Be absolutely sure your target is a tom turkey

Shooting a bird on the ground with a shotgun should not be very tricky, yet this climactic point in the hunt should not be taken for granted.

The only proper place to aim on a bird which is running or relatively stationary on the ground is the head/neck area. A body shot might allow him to run or fly off to die a thousand yards away. It is difficult to overstate how tough turkeys are.

This advice has special application to the range of the shot. The best range is 24 to 40 yards, though a 10 gauge might be safely used out to 50 yards. A 12 gauge should never be fired at a turkey which is more than 40 yards away. The chances of a lost cripple are too great.

Usually the shot is taken by easing the gun into position as the gobbler approaches behind a screen of trees and brush. Otherwise, the hunter may be forced to quickly mount the gun and shoot before the bird flies or runs. Though this sort of shot might seem easy, maybe too easy, the beginning turkey hunter is advised to try a few practice shots. Mounting a shotgun and aiming it like a rifle rather than wing shooting may lead to some surprising misses. When so much depends upon one shot, logic behind a few practice shots is apparent, (again, use copies of turkey head on back cover for practice and patterning).

Experienced hunters caution that turkeys are hard to kill when strutting. Wait to shoot when the gobbler is no longer strutting. Shots on strutting gobblers all too often lead to crippled birds because the head and neck are not extended.

Experienced hunters also recommend getting to the bird immediately after the shot. It may be necessary to stand on a wing to anchor the bird, or even to shoot again.

Next comes the critical step. The hunter needs to listen to a couple of calls in order to locate a bird, then move as quickly and quietly as possible to a place where the bird can be called. The selection of this site can make or break the hunt.

How close can a hunter get? Probably no closer than 100 yards — and 200 yards would be safer. If the bird hears or sees the hunter's approach, it will slip away unseen. It is possible to approach closer in hilly terrain than in flatter areas.

It is best to call a gobbler from as near as possible to his own level. Birds seem reluctant to move up or down, and usually won't cross natural obstructions like streams or ravines. A gobbler might go to great lengths to reach a hen, but good hunters make it as easy for the gobbler as possible.

Turkeys are hard to call across extremely open country, but very heavy cover makes for difficult shooting. Moderately thick cover with little understory, is best.

The preceding is a discussion of how a hunt often works best, but variations are too numerous to write about. If turkeys were predictable, they would be much easier to hunt.

Sportsmanship

Turkey hunting is a new sport in Minnesota, one which has neither good nor bad traditions. The first few years have resulted in almost no complaints from landowners and no arrests.

It is hoped that this good sportsmanship will continue, eventually becoming a Minnesota tradition. The wild turkey is the supreme trophy for Minnesota hunters, a bird canny and elusive enough to challenge the best efforts of any hunter. The spring gobbler is a bird which deserves to be hunted only by those ready to practice the highest standards

of hunting skills and the strictest standards of sportsmanship and ethics.

Turkey hunting is a one-on-one sport, and you should not set up to call a bird if you know another hunter is close by. More than one hunter trying to call a bird may easily result in neither being successful. It is not very ethical to shoot a bird "on the way in" in response to another hunter's calling. If you are moving to a new spot and hear another hunter calling, it is also not a good idea to walk up to him and ask "how he's doing." He may have a bird coming in and you would spoil things.

Turkeys and Trophies

A wild turkey gobbler is a real trophy and many hunters will probably consider having it mounted. The most common mounts are those with the tail, beard and possibly the wings displayed. A full mount requires extra care in the field to achieve the best results. Here is a checklist of things to consider:

1. Call several taxidermists in advance of the hunt to obtain price quotes and special instructions on field care of birds. You should probably expect to spend \$150 or more for a full turkey mount.
2. Visit several taxidermy shops to examine the quality of their bird mounting work. Most taxidermists will be proud to show you examples.
3. Ask the taxidermist you select about field dressing the bird. Most prefer to do their own gutting and skinning, and may charge extra if they are caused work through improper field care.
4. Take a small handful of cotton on your hunt. At the kill site, stuff small wads of cotton into the turkey's mouth, nostrils, and shot holes to keep blood off the feathers.
5. It's best if you can bring the ungutted bird to a taxidermist the same day it is taken. If the weather is quite warm, go to the nearest town and temporarily store your bird in a cooler.
6. If you must field dress the turkey, be very careful not to get blood on the feathers. You will need a knife, box of corn meal, and a small cloth to lay on the underside of the tail.
7. Lay the gobbler on its back and place the cloth over the tail section so it is close to the vent. Also cover the feathers on each side of the cut. Make a cut from the vent to the point of the breastbone. Sprinkle the corn meal liberally on the cut as it is being made to soak up excess blood. Properly done, feathers will stay clean.
8. Next, withdraw the entrails. Keep sprinkling corn meal on the incision whenever blood begins to appear on feathers. Wipe the inside of the body cavity clean with a

rag to prevent blood from draining onto feathers. Do not attempt to remove the crop.

9. After the turkey is gutted, it can be chilled until you reach a taxidermist.
10. To avoid the need to refreeze the bird, see if the taxidermist will skin the bird while you wait, or, on the same day so you can return later to pick up the meat.

Cleaning and Cooking

Turkeys that are not going to be mounted should be field dressed like any other upland bird. The entrails can be removed by the usual cut from the vent to the brisket. The idea is to let the inside of the bird cool as quickly as possible. Later, birds can be either plucked or skinned. Plucking helps keep the bird from drying out while being cooked. Dipping in scalding water greatly helps with feather removal.

Wild turkeys are cooked almost exactly the same as domestic "Thanksgiving" turkeys. The one difference is that the wild bird will not be as fat. Larding the breast of the bird with stripes of bacon will reduce drying during cooking. Otherwise, cooking is similar.

Cooperation with DNR

Important information about the turkey hunt is obtained by DNR in two ways. Biological data (age, weight, condition of bird, etc.) is recorded at the check stations. Each successful turkey hunter is required to bring his/her trophy to a check station on the same day it is killed.

Also, soon after the season is over, each turkey hunter will receive a survey form in the mail. The form takes only a short time to fill out, but provides extremely valuable information. This survey is the only way wildlife managers obtain information from unsuccessful as well as successful hunters.

The information from check stations and the survey forms are very important for setting future seasons and making sound turkey management decisions. It is hoped that the spirit of cooperation that has developed between DNR and turkey hunters will continue.

NOTE:

(1) During the 1981 season, a hunter was mistaken for a turkey and shot in the face from a very short distance. Responsible action by fellow hunters saved this man's life. He was in the hospital several weeks, had about 100 pellets removed and received extensive plastic surgery. This gentleman has since requested the Section of Wildlife to "please stress" safety.

Remember! The combination of camouflage clothing, concealment, and turkey calling requires that hunters be absolutely sure of their target! You and your fellow hunters should not allow this episode to be repeated.

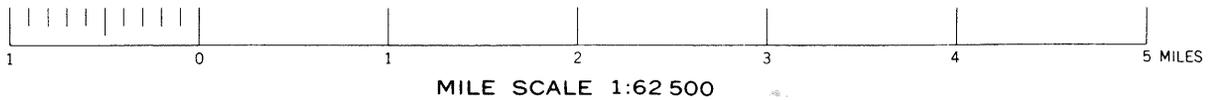
(2) Be sure to purchase a current-valid small game license prior to hunting turkeys in this season.

(3) According to the Minnesota Statutes 100.217 Subdivision 2. "Any landowner or tenant who is successful in the Commissioner's separate selection shall permit turkey hunting on his land during the turkey season."

SUNRISE AND SUNSET SCHEDULE (To be used for turkey hunting purposes in southeastern Minnesota. Shooting hours are one-half hour before sunrise to 12:00 noon daily)

<u>April</u>	<u>Rise</u>	<u>Set</u>	<u>May</u>	<u>Rise</u>	<u>Set</u>
1	5:48	6:32	1	5:58	8:09
2	5:46	6:34	2	5:56	8:10
3	5:44	6:35	3	5:55	8:11
4	5:42	6:36	4	5:54	8:12
5	5:41	6:37	5	5:52	8:13
6	5:39	6:38	6	5:51	8:15
7	5:37	6:40	7	5:50	8:16
8	5:35	6:41	8	5:48	8:17
9	5:34	6:42	9	5:47	8:18
10	5:32	6:43	10	5:46	8:19
11	5:30	6:45	11	5:45	8:20
12	5:28	6:46	12	5:43	8:21
13	5:27	6:47	13	5:42	8:23
14	5:25	6:48	14	5:41	8:24
15	5:23	6:49	15	5:40	8:25
16	5:21	6:51	16	5:39	8:26
17	5:20	6:52	17	5:38	8:27
18	5:18	6:53	18	5:37	8:28
19	5:16	6:54	19	5:36	8:29
20	5:15	6:55	20	5:35	8:30
21	5:13	6:57			
22	5:12	6:58			
23	5:10	6:59			
24	5:08	7:00			
25	5:07	7:01			
26	5:05	7:03			
27	5:04	7:04			
28	5:02	7:05			
29	5:01	7:06			
30	5:59	8:07			

The times shown through April 29 are Central Standard Time. Add one hour when Daylight Savings Time is in effect, which begins on the last Sunday in April. The times shown beginning April 30 are Central Daylight Savings Time.



**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

**TOPOGRAPHIC
MAP INFORMATION AND SYMBOLS
MARCH 1978**

QUADRANGLE MAPS AND SERIES

Quadrangle maps cover four-sided areas bounded by parallels of latitude and meridians of longitude. Quadrangle size is given in minutes or degrees.

Map series are groups of maps that conform to established specifications for size, scale, content, and other elements.

Map scale is the relationship between distance on a map and the corresponding distance on the ground.

Map scale is expressed as a numerical ratio and shown graphically by bar scales marked in feet, miles, and kilometers.

NATIONAL TOPOGRAPHIC MAPS

Series	Scale	1 inch represents	1 centimeter represents	Standard quadrangle size (latitude-longitude)	Quadrangle area (square miles)
7½-minute	1:24,000	2,000 feet	240 meters	7½×7½ min.	49 to 70
7½×15-minute	1:25,000	about 2,083 feet	250 meters	7½×15 min.	98 to 140
Puerto Rico 7½-minute	1:20,000	about 1,667 feet	200 meters	7½×7½ min.	71
15-minute	1:62,500	nearly 1 mile	625 meters	15×15 min.	197 to 282
Alaska 1:63,360	1:63,360	1 mile	nearly 634 meters	15×20 to 36 min.	207 to 281
Intermediate	1:100,000	nearly 1.6 miles	1 kilometer	30×60 min.	1568 to 2240
U. S. 1:250,000	1:250,000	nearly 4 miles	2.5 kilometers	1°×2° or 3°	4,580 to 8,669
U. S. 1:1,000,000	1:1,000,000	nearly 16 miles	10 kilometers	4°×6°	73,734 to 102,759
Antarctica 1:250,000	1:250,000	nearly 4 miles	2.5 kilometers	1°×3° to 15°	4,089 to 8,336
Antarctica 1:500,000	1:500,000	nearly 8 miles	5 kilometers	2°×7½°	28,174 to 30,462

CONTOUR LINES SHOW LAND SHAPES AND ELEVATION

The shape of the land, portrayed by contours, is the distinctive characteristic of topographic maps.

Contours are imaginary lines following the ground surface at a constant elevation above or below sea level.

Contour interval is the elevation difference represented by adjacent contour lines on maps.

Contour intervals depend on ground slope and map scale. Small contour intervals are used for flat areas; larger intervals are used for mountainous terrain.

Supplementary dotted contours, at less than the regular interval, are used in selected flat areas.

Index contours are heavier than others and most have elevation figures.

Relief shading, an overprint giving a three-dimensional impression, is used on selected maps.

Orthophotomaps, which depict terrain and other map features by color-enhanced photographic images, are available for selected areas.

COLORS DISTINGUISH KINDS OF MAP FEATURES

Black is used for manmade or cultural features, such as roads, buildings, names, and boundaries.

Blue is used for water or hydrographic features, such as lakes, rivers, canals, glaciers, and swamps.

Brown is used for relief or hypsographic features—land shapes portrayed by contour lines.

Green is used for woodland cover, with patterns to show scrub, vineyards, or orchards.

Red emphasizes important roads and is used to show public land subdivision lines, land grants, and fence and field lines.

Red tint indicates urban areas, in which only landmark buildings are shown.

Purple is used to show office revision from aerial photographs. The changes are not field checked.

INDEXES SHOW PUBLISHED TOPOGRAPHIC MAPS

Indexes for each State, Puerto Rico and the Virgin Islands of the United States, Guam, American Samoa, and Antarctica show available published maps. Index maps show quadrangle location, name, and survey date. Listed also are special maps and sheets, with prices, map dealers, Federal distribution centers, and map reference libraries, and instructions for ordering maps. Indexes and a booklet describing topographic maps are available free on request.

HOW MAPS CAN BE OBTAINED

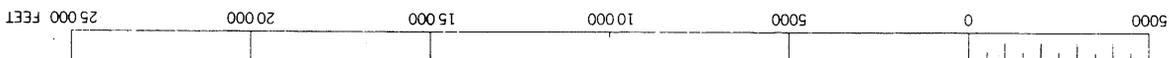
Mail orders for maps of areas east of the Mississippi River, including Minnesota, Puerto Rico, the Virgin Islands of the United States, and Antarctica should be addressed to the Branch of Distribution, U. S. Geological Survey, 1200 South Eads Street, Arlington, Virginia 22202. Maps of areas west of the Mississippi River, including Alaska, Hawaii, Louisiana, American Samoa, and Guam should be ordered from the Branch of Distribution, U. S. Geological Survey, Box 25286, Federal Center, Denver, Colorado 80225. A single order combining both eastern and western maps may be placed with either office. Residents of Alaska may order Alaska maps or an index for Alaska from the Distribution Section, U. S. Geological Survey, Federal Building-Box 12, 101 Twelfth Avenue, Fairbanks, Alaska 99701. Order by map name, State, and series. On an order amounting to \$300 or more at the list price, a 30-percent discount is allowed. No other discount is applicable. Prepayment is required and must accompany each order. Payment may be made by money order or check payable to the U. S. Geological Survey. Your ZIP code is required.

Sales counters are maintained in the following U. S. Geological Survey offices, where maps of the area may be purchased in person: 1200 South Eads Street, Arlington, Va.; Room 1028, General Services Administration Building, 19th & F Streets NW, Washington, D. C.; 1400 Independence Road, Rolla, Mo.; 345 Middlefield Road, Menlo Park, Calif.; Room 7638, Federal Building, 300 North Los Angeles Street, Los Angeles, Calif.; Room 504, Custom House, 555 Battery Street, San Francisco, Calif.; Building 41, Federal Center, Denver, Colo.; Room 1012, Federal Building, 1961 Stout Street, Denver, Colo.; Room 1C45, Federal Building, 1100 Commerce Street, Dallas, Texas; Room 8105, Federal Building, 125 South State Street, Salt Lake City, Utah; Room 1C402, National Center, 12201 Sunrise Valley Drive, Reston, Va.; Room 678, U. S. Court House, West 920 Riverside Avenue, Spokane, Wash.; Room 108, Skyline Building, 508 Second Avenue, Anchorage, Alaska; and Federal Building, 101 Twelfth Avenue, Fairbanks, Alaska.

Commercial dealers sell U. S. Geological Survey maps at their own prices. Names and addresses of dealers are listed in each State index.

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1978

FOOT SCALE 1:62 500



2 MILES

MILE SCALE 1:24 000

1000

0

5000

FOOT SCALE 1:24 000

10 000

15 000 FEET

TOPOGRAPHIC MAP SYMBOLS

VARIATIONS WILL BE FOUND ON OLDER MAPS

Primary highway, hard surface	
Secondary highway, hard surface	
Light-duty road, hard or improved surface	
Unimproved road	
Road under construction, alinement known	
Proposed road	
Dual highway, dividing strip 25 feet or less	
Dual highway, dividing strip exceeding 25 feet	
Trail	

Railroad: single track and multiple track	
Railroads in juxtaposition	
Narrow gage: single track and multiple track	
Railroad in street and carline	
Bridge: road and railroad	
Drawbridge: road and railroad	
Footbridge	
Tunnel: road and railroad	
Overpass and underpass	
Small masonry or concrete dam	
Dam with lock	
Dam with road	
Canal with lock	

Buildings (dwelling, place of employment, etc.)	
School, church, and cemetery	
Buildings (barn, warehouse, etc.)	
Power transmission line with located metal tower	
Telephone line, pipeline, etc. (labeled as to type)	
Wells other than water (labeled as to type)	
Tanks: oil, water, etc. (labeled only if water)	
Located or landmark object; windmill	
Open pit, mine, or quarry; prospect	
Shaft and tunnel entrance	

Horizontal and vertical control station:	
Tablet, spirit level elevation	BM Δ 5653
Other recoverable mark, spirit level elevation	Δ 5455
Horizontal control station: tablet, vertical angle elevation	
Any recoverable mark, vertical angle or checked elevation	VABM Δ 95/9
Vertical control station: tablet, spirit level elevation	BM X 957
Other recoverable mark, spirit level elevation	X 954
Spot elevation	x 7369 x 7369
Water elevation	670 670

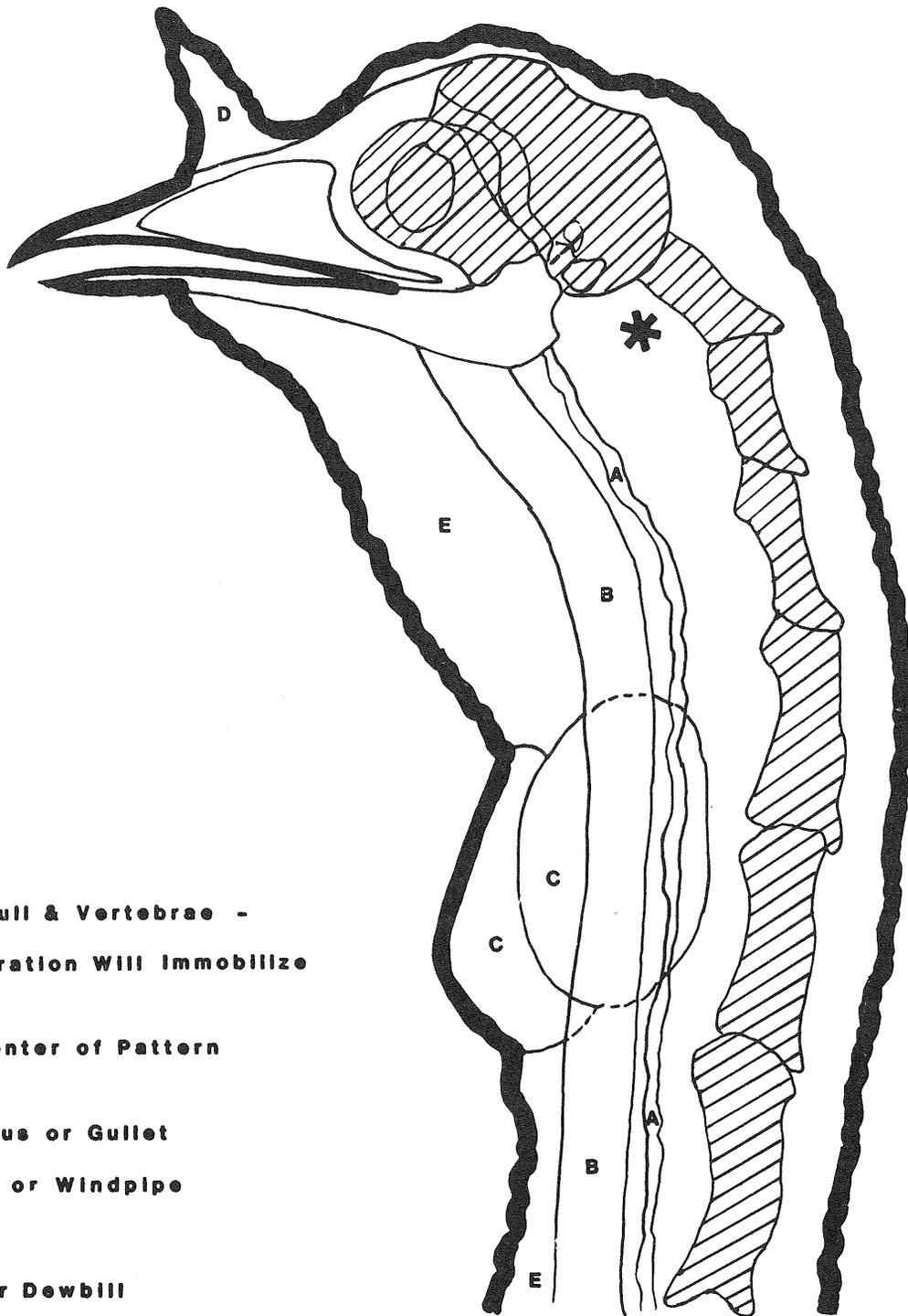
Boundaries: National	
State	
County, parish, municipio	
Civil township, precinct, town, barrio	
Incorporated city, village, town, hamlet	
Reservation, National or State	
Small park, cemetery, airport, etc.	
Land grant	
Township or range line, United States land survey	
Township or range line, approximate location	
Section line, United States land survey	
Section line, approximate location	
Township line, not United States land survey	
Section line, not United States land survey	
Found corner: section and closing	
Boundary monument: land grant and other	
Fence or field line	

Index contour		Intermediate contour	
Supplementary contour		Depression contours	
Fill		Cut	
Levee		Levee with road	
Mine dump		Wash	
Tailings		Tailings pond	
Shifting sand or dunes		Intricate surface	
Sand area		Gravel beach	

Perennial streams		Intermittent streams	
Elevated aqueduct		Aqueduct tunnel	
Water well and spring		Glacier	
Small rapids		Small falls	
Large rapids		Large falls	
Intermittent lake		Dry lake bed	
Foreshore flat		Rock or coral reef	
Sounding, depth curve		Piling or dolphin	
Exposed wreck		Sunken wreck	
Rock, bare or awash; dangerous to navigation			

Marsh (swamp)		Submerged marsh	
Wooded marsh		Mangrove	
Woods or brushwood		Orchard	
Vineyard		Scrub	
Land subject to controlled inundation		Urban area	

GOBBLER PROFILE



 **Bony Skull & Vertebrae -
Penetration Will Immobilize**

 **Ideal Center of Pattern**

- A. Esophagus or Gullet**
- B. Trachea or Windpipe**
- C. Wattles**
- D. Snood or Dewbill**
- E. Loose Neck Skin**

**Make Copies of Drawing
for Patterning Shotgun**

**Drawing by John M. Idstrom
from X-ray of Adult Spring Gobbler
by Paul H. Pelham, D.V.M.**