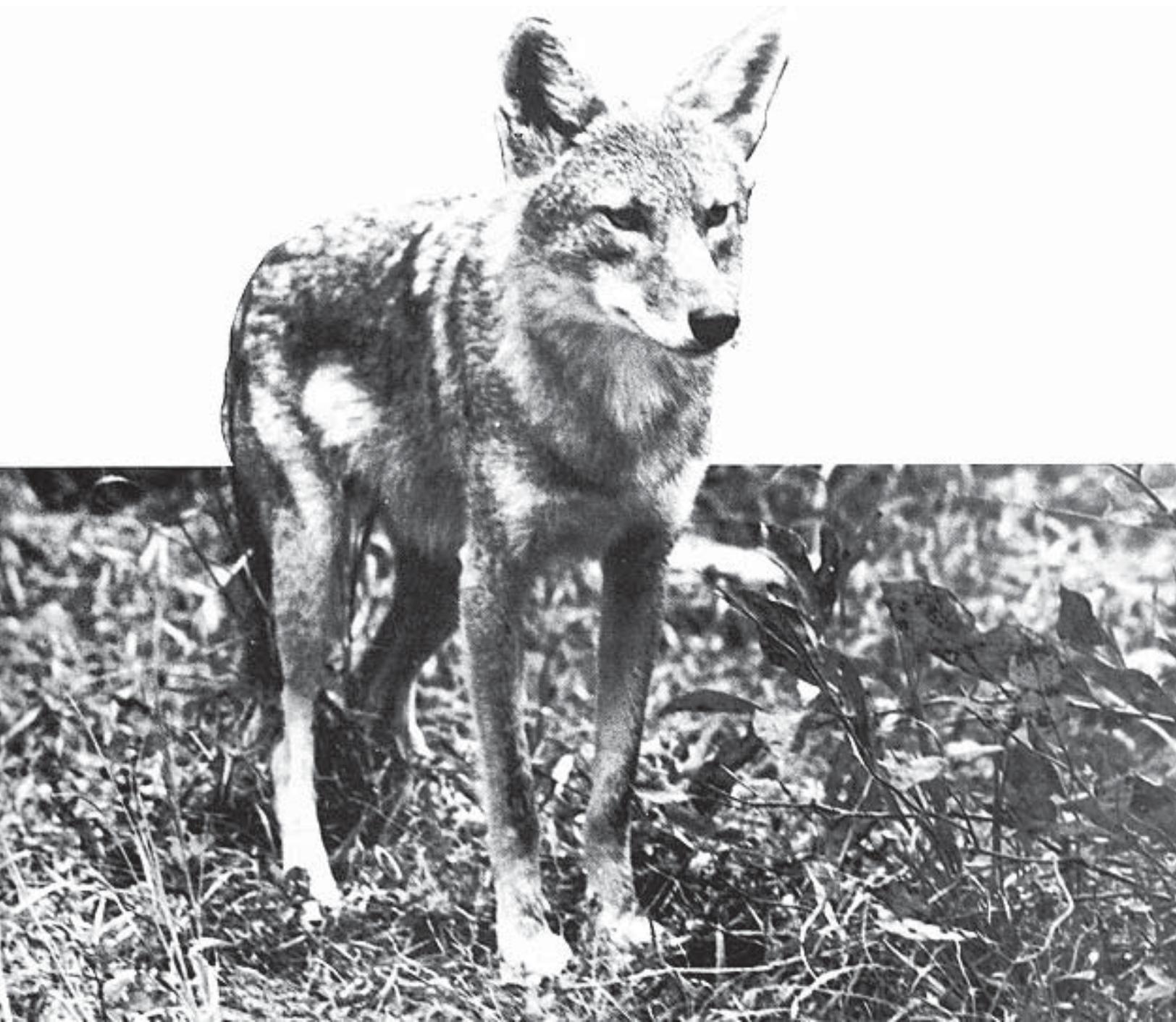


CONTROLLING COYOTES

IN TENNESSEE



The mournful howl of the coyote, long a part of Western lore, can now be heard across the entire State of Tennessee. Because these animals are able to adapt to the habitat so well, their numbers are increasing. Most experts predict that the coyote population will continue to grow. Many suggestions for controlling coyotes are being made.

The coyote, whose name comes from the Aztec word “coyotl,” continues to be the focus of many discussions. Here are some answers to questions frequently asked about controlling coyotes in Tennessee.



What do coyotes look like?

The coyote is a large, dog-like animal with long, slender legs and a bushy tail. It has a narrow muzzle and long, pointed ears. Although the coyote is like a dog in some ways, its wary movements clearly distinguish it from a dog. It slinks as it moves with its tail held low and head erect. People almost always, as if instinctively, recognize the gait of a coyote.

How can coyote tracks be identified?

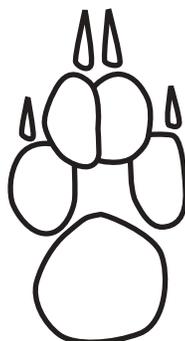
Coyote tracks follow the general pattern of the wolves and dogs. The front foot is larger than the hind foot. Front tracks, in soft mud, are 2-1/4 to 2-3/4 inches long and 1-3/4 to 2-3/8



Dog Track

The color of coyotes varies with extremes from nearly black to nearly white. The sexes are colored alike. Typically, the upper parts of the coyote are brownish-yellow or brownish-red with some gray mixed with broadly tipped black outer hairs. The under parts are light buff and the forelegs are brownish-yellow or brownish-red sprinkled with some white. Forelegs display a streak of black on the front. The throat and belly are white to pale gray.

inches wide. The hind tracks in mud have measured 2 to 2-3/8 inches long and 1-1/2 to 1-7/8 inches wide. These measurements reflect a small foot compared to wolves and many dogs.



Coyote Track

How big are coyotes?

Adult coyotes are generally about as large as a medium-sized dog. In terms of height, the coyote is similar to a pointer, but the coyote's bones are much smaller. Pointers would average about 55 pounds in weight, while male coyotes in Tennessee average about 31 pounds and range from 21 pounds to 41 pounds and females average about 25 pounds and range from 15 pounds to 32 pounds. Males average 47.3 inches in length, females 46 inches. These weights and sizes are comparable to those reported for the species in adjacent states.

How long have coyotes been in Tennessee?

Coyotes were not known in Tennessee prior to the 20th century. No wild (coyote-like) animals, other than occasional feral dogs and extremely isolated pockets of red wolves, occurred in southern states east of the Mississippi River from 1900 until about 1965.

Coyotes moved eastward through Tennessee, Mississippi, and other eastern states during the 1960s and early 1970s. First occurrences in Tennessee were mainly in the western portion of the state. By the mid-1970s, frequent occurrences of this species were reported in counties west of the Tennessee River. Today, coyotes are well established in West Tennessee and populations in Middle and East Tennessee are increasing.

Where do coyotes den?

Dens may occur in a number of places including steep banks, rock ledges, brush covered slopes, thickets, and hollow logs. They will also use dens of other animals.

What do coyotes eat?

The coyote is a predator that eats a wide variety of food. The percentage of food by volume and weight varies with individual animals and also with season and locality.

The food habits of coyotes have been studied by researchers at Memphis State University for a number of years. Here is a synopsis of some of their findings: 42.4 percent of the coyote stomachs contained rodent remains; 27.9 percent, rabbit; 24.3 percent, deer; 20.2 percent, livestock; 13 percent, insects; 11.9 percent, nongame birds; 0 percent, game birds; 2.2 percent, reptiles and amphibians; 1.1 percent, shrews; 0.4 percent, opossum; 31.5 percent, persimmon; 21 percent, other vegetation; 16.7 percent, grass; 8 percent, miscellaneous.

Throughout the range of the coyote, rabbits and rodents appear to be primary food sources. Shifts between eastern and western parts of the range seems to relate mainly to fruits, especially persimmons. White-tailed deer and livestock are among the most economically important food items of the coyote in Tennessee.

Most analyses of coyote predation on large game mammals and domestic livestock indicate that young, old, and sick animals make up the bulk of this portion of the diet. It has been pointed out that results relating to both white-tailed deer and livestock should be interpreted cautiously for they could be misleading. It is difficult to separate carrion from predator-killed animals. Additionally, the level of occurrence of these food items could also be inflated because all seasons are not represented equally in samples. Since most of the coyotes examined from Tennessee have been collected during the autumn and winter (which corresponds to the hunting season), and since several coyote digestive tracts contained remains of internal organs of deer, it is possible that scavenging for wounded deer or the remains of field-dressed deer, which are usually left in the woods by hunters, account for the high percent occurrence of deer in the Tennessee animals examined.

Does a coyote have any value?

The coyote is a valuable member of the wildlife community. It feeds on rodents and thus helps prevent the damage the abundant rodent population might otherwise cause. They eat old, sick, or injured wild animals unable to survive. As a scavenger of dead animals, both wild and domestic, they help clean up the woods and fields.

Coyote fur is durable and attractive. The pelt is economically valuable as a source of fur. Additionally, coyotes can be hunted with dogs or enticed with a call. These activities provide a challenge to hunters.

What is known about coyote mating patterns?

Field information on courtship in coyotes is scanty. However, because of the great interest in coyote control, a good deal is known about the basic reproductive biology of the species. The sex ratio is usually one male to one female. Both males and females show annual cyclic changes in reproductive anatomy and physiology. Females have one period of being "in heat" per year, usually between January and March. The percentage of females that breed and the size of the litters in a given year varies with local conditions. Food supply is usually the prime factor; in good years, more females (especially yearlings) breed, and litter sizes are usually large. The average litter size is about six. The young are born blind and helpless, usually in an excavated den. They are nursed by their mother and are usually weaned between the fifth and seventh week. They begin to eat solid food in the third week. The male apparently plays some role in rearing the young by bringing food to the nursing mother and the pups. Young coyotes emerge from the den in the second week and may disperse in six to nine months. Not all of the young seek new home ranges.

How much do coyotes move from place to place?

Coyotes spend a good deal of time on the move. They are active primarily in early evening, especially in winter. However, they do show sporadic activity in the daylight hours. Pups are more active than adults during the day.

Much information has been collected about coyote movements, especially in established parts of the species' range. For example, an average daily movement of about 2.5 square miles has been reported in northern Michigan. No consistent differences between males and females have been observed. Coyote movements of over 100 miles are not uncommon.

Males tend to have larger home ranges than do females. In Arkansas, studies show home ranges that averaged 12.8 square miles for adult males, 5.1 square miles for adult females, and 4.6 square miles for female pups. Coyotes use some portions of their home range more intensely than others and often mark their range with urine and feces.

In Tennessee, preliminary radio-telemetry information indicates that the home ranges of male and female coyotes may exceed eight square miles during the year. However, as reported in other studies, home range size varies with seasons of the year.

Do coyotes carry parasites?

Just as in dogs, coyotes carry a wide variety of parasites. Fleas are the most common external parasite. Other external parasites usually include various ticks and lice.

How can coyotes be controlled?

Although more is known about the ecology of coyotes than perhaps any other carnivore, many control and management questions remain unanswered. In general, coyote population control (throughout the range of the species) has been ineffective. With few exceptions, lethal coyote control methods have changed very little in the past century. Equipment has been improved somewhat but intimate knowledge of animal behavior, experience in the methods and techniques of control, and intelligent effort are still prerequisites to selective, efficient damage control. Time and cost also affect the choice of control methods.

Arguments for the concept that population reduction lessens depredation on domestic animals are unclear. However, depredations do occur and their importance varies with the personal interests of the individual. Despite disagreement on methods of control and their application, the following statements should be considered in relation to control and management:

1. *Remove carrion.* Coyotes are attracted to animal remains and may then try to kill live animals. This may also reduce disease transmission.
2. *Improve animal husbandry techniques.* Allowing cows, especially heifers, to remain unattended in remote pastures at calving time is poor husbandry. Pigs and young goats on open range are also subject to coyote predation.
3. In general, only limited control of local coyote population is possible with mechanical methods as they are currently used. *Traps are the most useful single method available* for halting depredation, and, with rare exception, leghold traps and snares are the most effective type for capturing coyotes. Most coyotes are far too wary to enter cages, and killer traps present a serious hazard to pets and humans and are not designed for safe release of non-target animals which may be caught.
4. In specific cases, calling (with a predator call), shooting, or the use of



snares (made of flexible wire cable) can be highly successful. Instances where coyotes crawl under or through fences to prey on domestic animals or in their regular movements pass through such openings are very applicable to the use of snares.

5. In the past in certain parts of the United States, coyote populations have been temporarily checked by poisoning campaigns, but this method has its limitations because it destroys other animals such as valuable pets, livestock, and many other non-target species. *Indiscriminate poisoning campaigns are irresponsible acts and, at best, brief in their results.*

6. In an attempt to control coyotes in the past, bounties have been paid for coyote pelts. In general, *bounties have proven to be totally ineffective.*

7. Because certain coyotes develop a habit of damaging livestock and poultry, control, to be effective, should be directed toward these particular troublemakers and not the population as a whole.

8. Damage control is more efficient, selective, and safe under all conditions when carried out by personnel trained in the field. *Farmers, ranchers, and others who suffer livestock losses should take advantage of control information provided by the Tennessee Wildlife Resources Agency.* Although coyotes kill some livestock and

poultry, they are sometimes blamed unjustly for the large amount of damage done to domestic stock by free-running dogs.

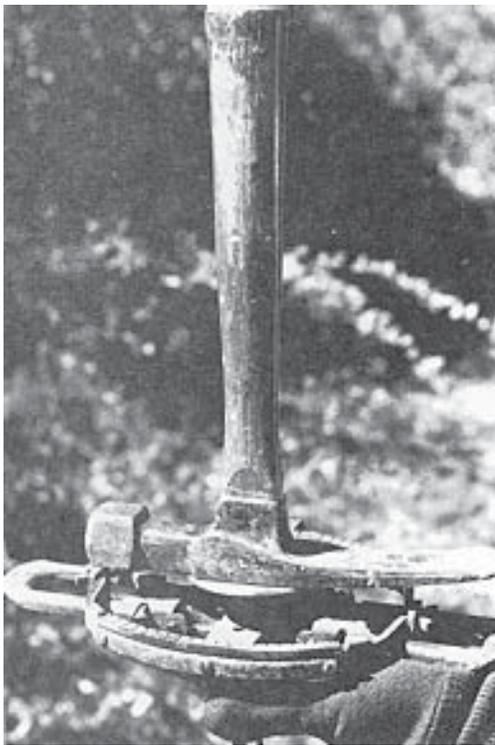
9. Selective control is based on securing as much information as possible for each case of depredation and selecting the control tools which are most suitable for each set of conditions.

10. Controlling coyote damage requires understanding basic coyote biology and behavior. The lack of success of control programs is not difficult to understand. The major problem is that most control programs have not been successful because of the basic failure to gather information on predators under field conditions. Large-scale control programs based on inadequate foundations are doomed to failure. Population dynamics and predatory methods must be studied in Tennessee (as other southeastern states) in order to derive proper control and management procedures. Studies of this type take time. The lack of patience by those persons suffering economic losses is understandable; however, education about the most efficient and scientifically based coyote control programs will prove most beneficial to them.

How can a scent post set for coyotes be prepared?

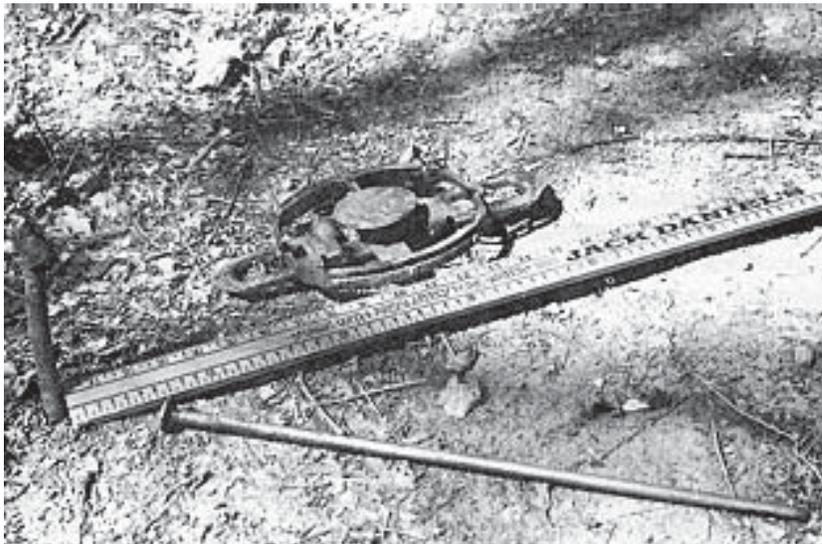
Here are some basic procedures to follow in the preparation of a scent post set:

1. Prepare traps by descending and increasing pan tension (completely tighten pan tension bolt so that the pan will hold a two-pound weight).



2. Locate travel lanes of coyotes on property through track and scat observations. Farm roads are normally used heavily by coyotes. Trap locations are generally productive at bridges, gates, or other natural funneling areas.

3. Determine position of the scent post (cow skull, rock, stick, etc.). It should be placed on the upwind side of the road or trail where the prevailing winds will carry the scent across the road.



4. Based on wind direction, place trap (with dog to outside) at a 45 degree angle, between nine and twelve inches downwind from the scent post.



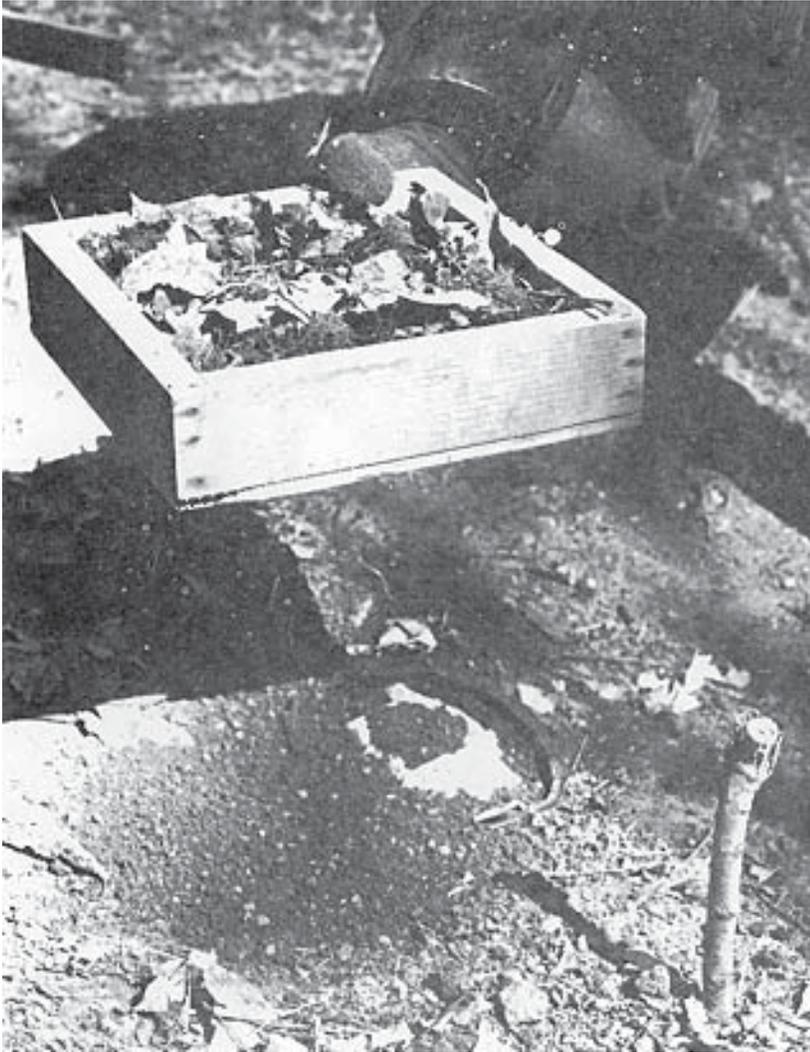
5. With a digging tool, excavate enough dirt that will allow the trap to be firmly bedded in the hole, allowing approximately one-fourth of an inch between trap and ground surface. Note that extra dirt must be removed to accommodate the stake and chain.



6. Bed trap so that no movement is felt when pressure is placed on any portion of trap. Make sure pan is level.



7. Cover pan with pre-cut wax paper. Allow edges to extend under each jaw. Paper may be cut to fit over the trap dog.



8. Sift excavated dirt back over trap to achieve a smooth, natural appearance. Remove excess dirt from trap location.



9. The use of subtle fencing techniques can be very effective for exact foot placement. Keep it small and natural! Pebbles, straw, and small worn sticks work fine.



10. Use coyote scats and urine for confidence.



11. Place scent (rancid fish bait, commercial lures, etc.) on the scent post. Don't overdo it.

12. After a coyote is captured, reset at same location. This location is saturated with coyote smells which prove to be excellent attractors.



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