April 1995

LETHAL OPTIONS FOR CONTROLLING COYOTES

John W. Dorsett
Texas Animal Damage Control Service, San Angelo, TX

LETHAL OPTIONS FOR CONTROLLING COYOTES

JOHN W. DORSETT, District Supervisor, Texas Animal Damage Control Service, 33 East Twohig, Room 313, San Angelo, TX 76904

Abstract: Lethal control methods are required to stop coyote depredation or to reduce the coyote population in an area. Various lethal control options are available, including traps, snares, shooting, denning and toxicants. The effectiveness, selectivity, and specificity of each method should be considered before being utilized. Each method requires varying degrees of skill and experience to be made effective. Usually a combination of control methods is most effective in coyote control situations.

When coyotes are causing damage to crops or livestock, or when there is a desire to reduce the coyote population, lethal control methods are required To stop coyote predation it is usually necessary to remove the offending coyote(s) There are various lethal methods available for coyote control No single control method is best, but depending on the circumstances, several methods should be used simultaneously to solve a predation problem. A lethal control method's effectiveness for the situation, selectivity for coyotes, and specificity for taking a particular coyote should be considered when deciding on which method(s) to use. When possible, control efforts should be directed toward coyotes in particular (i e , selective), and towards the offending individual coyote that is causing damage (i.e., specific).

All lethal control methods require a degree of user knowledge, skill and experience to be used effectively Lethal methods that involve the use of restricted use toxicants also require special training and licensing for the user In Texas, the Texas Department of Agriculture has regulatory authority over the use of predacides

Leghold traps

The steel leghold trap is a mechanical capture device that is a versatile tool for coyote control Traps can be set to work in various situations. They can be used as blind sets on trails or at fence crossings, or they can be set using different baits or passion lures depending on the time of year and circumstances

The selectivity of traps to catch the target animal can be increased by use of under-pan-tension devices that minimize the capture of small nontarget wildlife species (e g., rabbits, opossums). Careful selection of trapping sites and appropriate attractants also increase the selectivity of traps. However, in sheep and goat pastures, traps regularly catch livestock.

The successful use of traps for coyote control requires skill and experience in setting traps, appropriate use of attractants, and knowledge of coyote behavior. Traps must be kept clean and in good working condition to be effective for coyote control A No. 3 or No. 4 trap size is recommended for coyotes. Trap effectiveness and selectivity is dependent on the skill and experience of the trapper. Unskilled trappers are likely to catch more nontarget animals

Snares

The neck snare is the most common tool used for coyote control in sheep and goat areas where pastures are fenced with net-wire. Snares are relatively economical and do not require as much skill or training as traps do to be used effectively. The snare is a mechanical device consisting of a flexible wire cable loop and locking device that tightens around the coyote's body as it passes through the loop Snares are effective where coyotes are crawling under a net wire fence, or passing through holes in the fence. Trail sets can be used in some situations

Snares used for coyote control are made of flexible cable, usually 1/16 inch, 5/64 inch, or 3/32 inch in diameter. The length of snares varies, but

they are usually between 32 and 48 inches long. The snare should be long enough to attach the end with a swivel to a firm object or drag, with enough of the cable left to make a loop from 8 to 10 inches in diameter.

Snares are not a vary selective tool and will catch nontarget wildlife. Nontarget catches can be minimized somewhat by adjusting loop size and height of loop placement. Livestock are sometimes caught in snares, but snares are less likely to be interfered with by livestock than are steel traps.

M-44 device

The M-44 is a spring-operated device used to deliver a toxicant (sodium cyanide) to control coyotes. A fetid bait is used to attract coyotes to pull the device. When the coyote pulls the baited cyanide capsule holder with its teeth, the spring ejector releases, propelling powdered sodium cyanide into the animal's mouth. The animal becomes unconscious within a few seconds and dies within a short time (Wade 1982)

The M-44 is relatively selective for canids, and selectivity for coyotes can by enhanced by using baits attractive to coyotes However, other species such as foxes, dogs, raccoons and skunks will also pull M-44s Livestock occasionally pull M-44s M-44's are most effective during the cool months of fall and winter and least effective during hot summer months.

Sodium cyanide is a restricted use pesticide. M-44 applicators must be trained and licensed by the Texas Department of Agriculture. Use of the M-44 is limited by 26 use restrictions set by the Environmental Protection Agency. The M-44 is relatively selective, easy to set, environmentally safe, of little risk to humans, and effective for coyote control if properly used and maintained.

Calling and shooting

Hunting coyotes by attracting them within shooting range with predator calls can be effective in some cases. Calling coyotes during daylight, especially in the early morning hours, is best Calling and shooting is a selective tool, but requires some skill. Successful coyote calling cannot be approached in a haphazard way In sheep and goat areas where coyote populations are usually relatively low, considerable effort must be made to locate the area where the coyote is living before a call is attempted. The caller should make a careful entry into the area to be called, wear camouflage, consider wind direction, and be skilled at calling and shooting. Coyotes that have been called in and missed won't normally fall for the ruse a second time.

Various calls are available from open reed mouth calls to electronic calls. Calling sounds may imitate injured prey, howling coyotes or injured pup squeals to call in coyotes. Injured pup squeals or coyote howls used in conjunction with "decoy dogs" are effective techniques to take coyotes during the spring and summer when coyotes are highly territorial and aggressively protect their young and den areas (Rowley 1987)

Calling success improves in areas of high coyote populations. To be successful in areas of low coyote density, it is critical to be in the right place at the right time when you call. In the right situations calling is a good tool to try for taking coyotes.

Denning

Denning is the practice of removing coyote pups and/or the parent coyote from the den during whelping season, from April through June. The primary purpose of denning is to reduce or stop predation by adult coyotes that are killing livestock to feed their pups. Normally if the pups are removed, the predation by the parent coyote will stop (Crosby and Wade1978). Denning is a highly selective technique, however, tracking skills and a knowledge of coyote behavior is required for the den hunter to be consistently successful.

Aerial hunting is also a good method for locating coyote dens. A ground crew with radio contact with the aircraft should be used in conjunction with the aerial den hunting. The ground crew can check out possible den sites located by the aircraft. Aircraft are especially useful for den hunting in areas where tracking is difficult such as in rocky terrain. Areas where dens have been found previously should be checked out each season, as often coyotes may den in the same area if not in the same den site.

Hunting with dogs

Sight-hunting dogs such as greyhounds can be used to hunt coyotes in open, flat country with good visibility and limited fencing. Trail hounds can also be used for coyote hunting, and are especially effective if used in conjunction with aerial hunting. The trail hounds can be used to move coyotes out of rough or heavily-vegetated terrain for aerial hunters. Some dogs are also useful in locating coyote dens or as decoy dogs to lure coyotes within shooting range. The selectivity of taking coyotes with hunting dogs depends on how well the dogs are trained.

Aerial hunting

Aircraft, either fixed-wing or helicopter, are often the tool of choice to try to get immediate relief from coyote predation, or to quickly reduce a high coyote population Aerial hunting is highly selective for coyotes, and can be used to take specific depredating coyotes In a study conducted on a western Montana sheep ranch where coyote predation was occurring, 6 of 11 coyotes taken by aerial hunting were confirmed as having attacked or fed upon sheep (Connolly and O'Gara 1976).

In areas where coyote populations are low, the success of aerial hunting greatly depends on the ground work that is done before aerial hunting is attempted The specific area(s) where the coyotes are active should be located before any flying is done. A ground crew with radio communications with the aircraft also enhances the success of aerial hunting operations The ground crew often elicits vocal responses from coyotes to pinpoint their location for the aircraft The ground crew can also assist by driving coyotes out of dense cover for the aircraft. Coyotes can become aircraft shy just as they do with other control tools, and the use of a ground crew and the use of an additional aircraft to fly cover for observation enhances success for taking these coyotes

Fixed-wing aircraft are most useful over flat or gently rolling terrain that is not too brushy. Helicopters, with their ability to maneuver quickly and fly slow, are preferred in areas with more dense vegetation and rough terrain In either situation, a 12-gauge semi-automatic shotgun loaded with No. 1 to No. 4 buckshot is recommended

Aerial hunting is regulated by state and federal authorities, and a permit must be obtained from the Texas Parks and Wildlife Department. Aerial hunting, although an effective method of coyote control, is expensive and can be hazardous because of the low altitudes involved.

Livestock Protection Collar

The Livestock Protection Collar (LPC) is a coyote control tool that is applied directly to the target animals, i.e., sheep or goats. The LPC consists of two rubber bladders containing compound 1080 (sodium fluoracetate) solution attached with Velcro straps to the throat of a sheep or goat A coyote attacking the throat of a collared animal receives a lethal dose of 1080 when it punctures one or both of the collar pouches. The LPC is highly selective for coyotes and is an extremely specific method of removing coyotes that are preying on livestock, especially those that evade other control tools.

The effective use of the LPC does not require extensive experience or skills. However, because compound 1080 is a highly toxic, restricted use pesticide, LPC applicators must be trained, certified, and licensed by TDA Use of the LPC is limited by 21 use restrictions set by EPA. LPCs are environmentally safe, and pose minimal risk to non-target animals, livestock, and people when used properly. The LPC is registered for use only on sheep and goats for coyote control

Several factors should be considered before using LPCs. These include availability and effectiveness of other control tools, cost of collars, labor requirements to apply collars and monitor collared livestock, suitable habitat for LPC use, regularity of predation, ability to target livestock, and ability to abide by LPC use restrictions. Targeting of livestock, the process of directing coyote predation to collared livestock, is one of the most important considerations when using the LPC and may require intensive management of livestock. Without proper targeting, optimum results cannot be expected. LPC use restrictions, which limit the number of collars used depending on pasture size, may affect targeting of livestock. Targeting may be difficult or impossible under some conditions LPCs are usually recommended on ranches with high rates of coyote preda-

tion and management conditions that permit effective targeting of coyotes to collared livestock.

Conclusion

When attempting to control coyotes, no one single control method should be relied on for all coyote control situations. Several different control methods should be used simultaneously to solve a predation problem. Each method's effectiveness, selectivity, and specificity for coyote control should be considered before being utilized. Different situations for coyote control may require different combinations of lethal control options.

Literature Cited

Connolly, G. and O'Gara, B W. 1987. Aerial hunting takes sheep-killing coyotes in western Montana Pages 184-188 *in* Proc. 8th Great Plains Wildlife Damage Control Workshop. U.S D.A. Forest Service Gen. Tech. Rept., RM-154.

Crosby, L. and Wade, D. 1978. The coyote den. Wyoming Department of Agriculture Bulletin. 25pp.

Rowley, G.J., and Rowley, D. 1987. Decoying coyotes with dogs. Pages 179-181 *in* Proc. 8th Great Plains Wildlife Damage Control Workshop U.S.D.A. Forest Service Gen Tech. Rept., RM-154

Wade, D. 1982. Impact, incidence and control of predation on livestock in the United States, with particular reference to predation by coyotes Council for Agric. Sci. and Tech Special Pub No. 10: 20pp.