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A DROP-NET DEER TRAP¹

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Abstract: A drop-net, 70 × 70 ft, made of No. 60 nylon with 3½-inch mesh, was developed to capture deer in areas of high deer density. An explosive trigger device was employed, fired by pushbutton or by radio control. In a 9-month period, about 340 animals were captured, mostly white-tailed deer (*Odocoileus virginianus*) and axis deer (*Axis axis*). The average catch was 10 and the maximum was 23. The drop-net trap is highly portable, can be erected quickly, and permits individual animals to be selected for capture.

In trapping white-tailed deer and axis deer in central Texas in box traps, several problems were presented. Traps were bulky to move about and were readily sprung by other animals. Because of buck dominance at a bait station, a preponderance of bucks was often captured, resulting in the capture of too few does during the limited trapping period. The box traps were not big enough to accommodate axis deer which normally feed in a group. If several deer entered at one time the door would not close properly. Axis deer also were subject to excessive injury in a box trap.

As a method to overcome some of these problems, the drop-net deer trap was developed as a means of mass capture in areas of high deer density.² The drop-net is a modification of one developed by Glazener et al. (1964) for use on turkeys.

Acknowledgment is due M. J. Anderegg for assistance in testing the net and developing deer-handling procedures.

CONSTRUCTION OF THE TRAP

Preliminary trials were made with a net of No. 60 spun polypropylene with 4-inch

square mesh, but this net proved too light and was replaced with one made of No. 60 nylon, rated at 550 pounds breaking strength, with 3½-inch mesh. The net is 70 ft square

The net was treated with Netset (Adams Net and Twine, East St. Louis, Illinois) to retard knot slippage and abrasion, and to give a dull finish. A 4-inch steel ring was tied at the center.

Four lengths of pipe, 2 inches × 10 ft, were used as corner posts. All posts were equipped with a boat winch bolted in the center of the pipe and a 4-inch pulley bolted to the top as described by Glazener et al. (1964). A 12-ft length of 1¼-inch lightweight steel tubing supported the center of the net.

Two ¾-inch chains, 16 ft long and fitted with hooks, were used at each corner as anchors. Stakes made from ¾-inch reinforcing steel, 2½ ft long, were driven to sufficient depth for deadmen.

Corner triggers and center trigger, similar to the one described by Sugden (1956), are shown in Fig. 1. A 16-inch length of ¼-inch braided polyethylene (commonly used as tow rope for water skiing) was used as a trigger. With a special splicing fid, loops were spliced in each end of the trigger rope and a blasting cap inserted.

The firing device contained a sensitive (Sigma 4 F; 10,000 ohms) relay to close the blasting-caps circuit. The wiring diagram is shown in Fig. 2. A simple push-

¹ Contribution from the Pittman-Robertson Federal Aid in Wildlife Restoration Program, Project W-76-R, U. S. Bureau of Sport Fisheries and Wildlife and the Texas Parks and Wildlife Department cooperating.

² Hawkins et al. (1968) have recently employed the cannon net for trapping deer, to avoid difficulties associated with box traps.

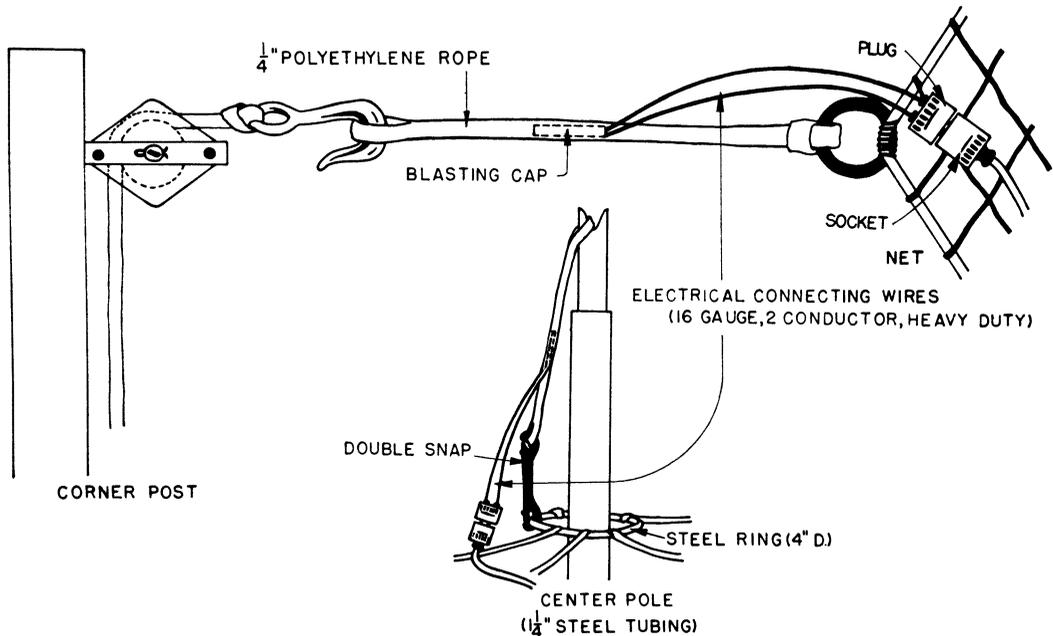


Fig. 1. Corner trigger and center trigger used with drop-net deer trap.

button switch was used at relatively close distances where some type of blind was available. The relay could be activated with up to 500 ft of 18-gauge copper wire in the switch circuit.

A radio-controlled unit adapted from the one reported by Grieb and Sheldon (1956) was used in place of the pushbutton switch when it was not feasible to construct a blind near the net. The net could then be tripped at distances up to $\frac{1}{2}$ mile.

OPERATION OF THE TRAP

Several sites where deer naturally congregated were chosen for baiting. Openings 85×85 ft were cleared of all debris for erection of the net.

If deer were not conditioned to supplemental feeding, a shortage of natural forage encouraged the animals to take the bait. In central Texas these periods are usually from mid-November until mid-

February and during August. Yearly variations in plant growth affecting the food supply can extend or shorten the trapping period.

Shelled corn and cottonseed cubes were the bait used.

The net was unrolled in the cleared area and stretched out square. The corner post positions were located in line with the diagonals of the net approximately 10 to 12 ft from the corners.

Corner posts were set and deadmen spaced approximately 10 ft from the posts. Posts need to be set in the ground only deep enough to permit them to stand without support, or placed over steel stakes driven in the ground. The winch at each corner gave sufficient adjustment to permit the post to be placed where the hole could be dug easily.

With the corner posts in place, the corner trigger devices were connected to the

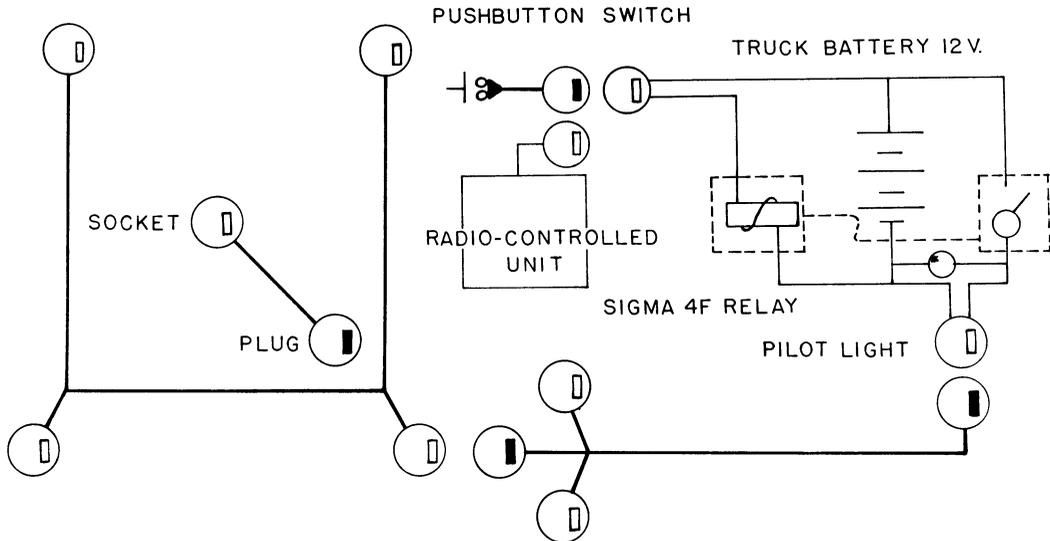


Fig. 2. Wiring diagram of firing device and blasting-caps circuit.

rings in the corners of the net, and to the hooks in the ropes from the corner poles. Peripheral electrical connecting lines were laid on top of the net adjacent to the border, and the center connecting line laid diagonally from the corner nearest the blind to the center of the net. Winches were cranked to take up the slack until the net was stretched and clear of the ground. The center trigger device was snapped into place and the center pole lifted into place. The shorting-clips on the dynamite caps were removed and the leads plugged into the connecting lines. The firing device was placed near a corner post and camouflaged. The trigger wire was strung to the blind, and the relay tested before the blasting caps were connected.

Bait was scattered evenly under the net, but no closer than 10 ft from the edge. This promoted a uniform distribution of deer under the net, and aided the trapper in determining which animals were in position to be captured.

At least three men were required to handle the deer once they were ensnared:

two restrained each deer while the third man freed the deer from the net. A three-man crew should not attempt to capture more than six deer at one time until they have gained experience from several "drops" of the net.

RESULTS

During the period August, 1966, to April, 1967, approximately 340 animals were captured. In 14 drops, 136 animals were captured; the largest number at one time was 23. Of the 340 animals captured, 8 were blackbuck antelope (*Antelope cervicapra*), 40 were axis deer, and the remainder were white-tailed deer.

Some injuries occurred during capture. The mesh chafed and cut the skin of the animals that struggled violently. Antlers of bucks in the velvet were especially subject to this type of injury, but in most cases injuries were minor. Three of 136 animals were known to have broken bones in being captured; a blackbuck broke a leg, an axis deer dislocated a foot joint, and a white-

tailed deer broke its skull at the base of the antler.

DISCUSSION

Advantages

This trap is highly portable. After a trap site is cleared of twigs and sticks, two men can erect or dismantle the net within 30–45 minutes. Under favorable conditions the net can be dropped two or three times a day.

Selection of animals to be captured is possible since the trap is triggered by an observer. The net is not tripped by unwanted animals and the animals can leave the trapsite undisturbed if the operator decides not to make a catch.

Injuries were minimal because the animals were immobilized as they became entangled.

Animals that had become trap-shy of box traps and corral traps were captured with the drop-net.

Disadvantages

The net is vulnerable to icing. However, humidity has little effect and the trigger cannot be tripped by net shrinkage.

The animals must be numerous at the trap site.

There must be a means of concentrating animals under the net. This is best done with some type of bait.

Darkness limits the period of trapping because the operator must have a clear view of the net.

Blasting caps are potentially dangerous and must be handled with caution. The leads should be shorted at all times other than when being observed by an operator.

The electrical circuit can be shorted by excessive moisture. Water proofing of connections with tape is a simple solution.

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