

A NEW TRAPPING TECHNIQUE FOR BURROWING OWLS: THE NOOSE ROD

CLARK S. WINCHELL

*Natural Resources Office
Staff Civil Engineering
Naval Air Station North Island—Bldg 3
San Diego, California 92135 USA*

JOHN W. TURMAN

*Animal Damage Control
U.S. Department of Agriculture
El Cajon, California 92021 USA*

Abstract.—A technique to trap ground dwelling owls, using monofilament nooses and wood-en dowel rods, was developed. Setting noose rods does not require modification or disturbance to the burrow and the trap can easily be customized to fit different physical configurations of a burrow or mound. Using this technique permitted capture of 100% of Burrowing Owls (*Athene cunicularia*) during the fledgling season, a time when owls were extremely wary of any change near their burrows or roosts. Other capture techniques either required modification to the burrow entrance, had a lower capture rate, or caused adults to abandon the burrow temporarily.

UNA NUEVA TÉCNICA PARA ATRAPAR A INDIVIDUOS DE *ATHENE CUNICULARIA*

Sinopsis.—Se desarrolló una nueva técnica para atrapar buhos que viven en los suelos, utilizando un madero con trampas de monofilamentos con lazos corredizos. El colocar esta trampa no requiere de modificaciones especiales o disturbios a la madriguera, ya que la misma puede adaptarse a las diferentes configuraciones que pueda tener una madriguera o montículo. El uso de esta técnica permitió capturar a todos los buhos (100%) que intentaron salir del nido durante la época en que estos dejan sus madrigueras. Esta época coincide con el período en que estas aves están más pendientes a cambios en sus madrigueras. Otras técnicas utilizadas, necesitaron de modificaciones a la entrada de la madriguera, tuvieron una tasa menor de captura, o causaron que los adultos dejaran el escondijo temporalmente.

Snare-type traps have a variety of applications in field ornithology. Noose carpets (Collister 1967) and Bal-Chatrri traps (Bloom 1987, McClure 1988) are widely used as techniques to capture hawks and owls. We present a refinement of the snare specifically developed for capturing Burrowing Owls (*Athene cunicularia*).

Martin (1971), and Ferguson and Jorgensen (1981) recommended using box traps as an efficient technique to capture Burrowing Owls. In our experience, double-door box traps worked quite well until fledglings emerged from the burrow entrance, at which time trap success was reduced. Both fledglings and adults often avoided the burrow entrance for long periods when a trap was present, in some cases up to 5 h. This type of avoidance could be detrimental, because as a burrow was approached by the trapper, the fledglings and adults often separated. The fledglings retreated into the burrow, while the adults flew to an observation perch.

The owl's behavior, coupled with low trap success, made us explore the use of snares.

Simple noose carpets (Collister 1967) and various modifications (Garthshorne 1978) were met with equally poor trap success. This was primarily a result of the rigid structure of these traps and the visual disturbance each trap presented. It is apparent that in order to be more effective, a trap has to satisfy three criteria. First, it has to be completely camouflaged once set. Even slight changes in the soil texture appeared to influence capture success. Second, setting the trap can not require modification of the burrow. Third, the trap has to be flexible enough to be adapted to different contours and soil types. The noose rod satisfies these criteria and its use raised our trapping success to nearly 100%.

All materials required are common items obtained at hardware and fishing supply stores. To construct a noose rod, cut a wooden dowel (10 mm diameter) to any length. Drill holes (2 mm diameter) completely through the dowel. The holes are drilled at 3-cm intervals, along a straight line. Do not drill holes closer than 2 cm from the end of the dowel. Through each hole thread the free end of a noose (5.5 kg monofilament fishing line) several times, tying a clove hitch. To affix the noose permanently, inject "hot" glue into both ends of the hole. "Hot" glue, also, maintains a noose in an open and upright position. Into each end of the dowel fasten a small eyebolt (size 10). Figure 1 illustrates how to construct a noose rod.

Lead weights, attached to the eyebolts, keep a captured owl from flying away with the noose rod. Fishing sinkers (1 kg) are attached using snap swivels (size 3) and nylon covered stainless steel fishing leader (27 kg). These leaders should be cut to various lengths. A weight can be attached to each end, rendering the rod stationary, or only one eyebolt is affixed with a weight, permitting the owl to move about with the noose rod. The second arrangement is used when placing rods in a burrow entrance.

Entanglement of nooses is a common frustration. Noose rods can be carried afield using two simple methods. First, each rod can be transported separately in a piece of tubing. Rods should not be stored for long periods in tubing as the nooses will develop a permanent kink and not stand erect. Second, a carrying box can be constructed of plywood, finishing nails and grip clips (15 mm width). Two offset, parallel rows of nails are hammered along the top of a board. One row is for the rods, the other for the leaders. Snaps are secured 20 cm below each set of nails to keep materials from shifting. A small box at the bottom holds fishing sinkers. Hinged to the back is a piece of lath to set the holder upright. A cabinet handle attached to the back, above the hinge, permits easy carrying afield. Figure 2 illustrates the finished noose rod and carrying box.

Noose rods and snap swivel leaders can be cut to any length. The combinations are numerous and one can customize any snare set to any burrow shape. For example, a short rod inside a narrow burrow can be snapped to a long leader holding a weight across the mound. This permits easy retrieval of the bird, without cluttering the burrow entrance or

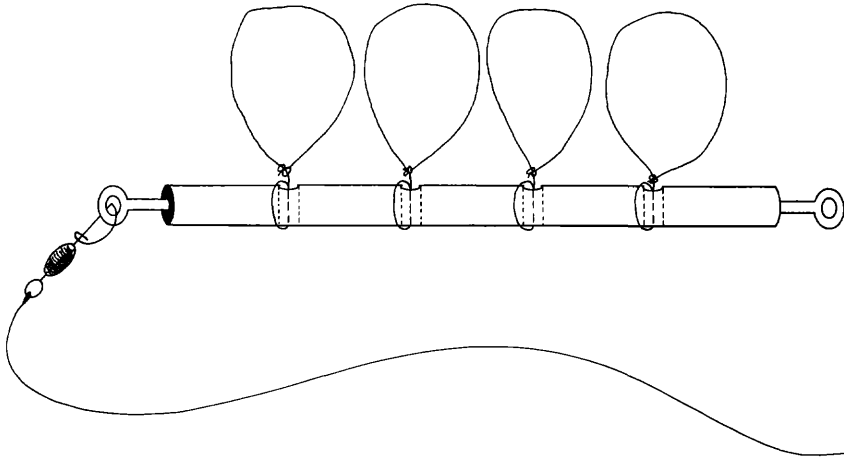


FIGURE 1. Construction of a noose rod. Glue has not been applied to the rod diagrammed.

mound. Or several noose rods can be placed, with different orientations, around the outside of a burrow where the owl tends to stand. Sets with multiple rods can be secured to one weight, or when several individuals are in a burrow, rods can be secured to weights separately, removing each rod/weight as an owl is captured. This is an extremely quick and efficient procedure to trap a group of owls from a single burrow.

Trap sets with noose rods are simple to make and set. One only needs to gently slide the finished rod beneath the soil surface and cover the weight. Noose rods permit a trapper to adapt sets according to owl behavior and burrow size (Zarn 1974). In addition, noose rods can be set without any permanent disturbance to the burrow. This is an important factor influencing trap success and maintaining the integrity of the burrow. As with any trapping technique, conservation of the resource and its habitat should remain paramount.

ACKNOWLEDGMENTS

I thank Peter Bloom for sharing stories and information from his trapping experiences with burrowing owls. Jan Larson is gratefully acknowledged for his critical reviews of this manuscript. In addition, I thank Commanders N. W. Clements and J. B. Duke, and the U.S. Navy for supporting natural resources programs at Naval Air Station, North Island.

LITERATURE CITED

- BLOOM, P. H. 1987. Capturing and handling raptors. Pp. 99-123, in B. A. Millsap, K. W. Cling, B. Giron Pendleton, and D. A. Bird, eds. Raptor management techniques manual. National Wildlife Federation Science Technical Series #10. National Wildlife Federation, Washington, D.C.



FIGURE 2. Noose rods, leaders with snap swivels, and lead weights stored in the carrying box. Note the different lengths of rods and leaders.

- COLLISTER, A. 1967. Simple noose trap. *W. Bird Bander* 42:4.
- FERGUSON, H. L., AND P. D. JORGENSEN. 1981. An efficient trapping technique for Burrowing Owls. *N. Amer. Bird. Bander* 6:149-150.
- GARTSHORE, M. E. 1978. A noose trap for catching nesting birds. *N. Amer. Bird Bander* 3:1-2.
- MARTIN, D. J. 1971. A trapping technique for Burrowing Owls. *Bird-Banding* 42:46.
- MCCLURE, H. E. 1988. Snares. Pp. 164-169, *in* Bird banding. The Boxwood Press, Pacific Grove, California. 341 pp.
- ZARN, M. 1974. Burrowing Owl, *Speotyto cunicularia hypugaea*. Report 11. Habitat Management Series for unique or endangered species. Bureau of Land Management, Denver, Colorado. 25 pp.

Received 4 Dec. 1990; accepted 30 Jun. 1991.