A Nest Trap for Snowy Plovers

Warren C. Conway and Loren M. Smith
Department of Range, Wildlife, and Fisheries Management
Texas Tech University
Lubbock, TX 79409-2125
Email: WCONWAY@TTACS.TTU.EDU

ABSTRACT

A nest trap designed for ground nesting birds, specifically Snowy Plovers *(Charadrius alexandrinus),* is described. The trap is inexpensive to construct, easy to operate, and lightweight for ease of use under field conditions. The trap is designed to operate most efficiently under lightly or non-vegetated habitats, typical of Snowy Plover nesting sites.

INTRODUCTION

Various nest trap designs have been developed for ground-nesting birds, including shorebirds (Dorio et al. 1978, Gartshore 1978, Graul 1979, Mills and Ryder 1979, Sordahl 1980). Because of the relatively open habitats in which Snowy Plovers are found nesting (Page et al. 1995), nest trap concealment is difficult. Other drop-door box nest traps have been used to capture this species (Paton and Edwards 1996). However, in this paper, we describe a different nest trap that was effective in capturing 70 female and seven male Snowy Plovers nesting in saline lake wetlands in Lynn, Terry, and Bailey counties, Texas, during 1999.

METHODS

Trap Design and Placement - The trap consists of two 1.83 m lengths of 1.25 cm electrical conduit, four 16 cm pieces of 1 cm wooden dowels, and two medium-weight strap hinges. A 1.83 m x 1.83 m section of 2.54 cm mesh netting (such as retired mist nets or rocket netting) is also needed to construct this trap. Dowels are secured into each end of conduit lengths. Dowels should be somewhat difficult to place in the conduit, but this insertion can be accomplished effectively using a hammer to pound dowels into conduit ends. The two pieces of conduit are bent physically, either by hand or by using a pipe tool, into equal "U" shapes (Figures 1a and 1b). Hinges are attached to the dowels at the ends of the conduit, such that when the trap is closed, the two "U" shaped conduit lengths lay flat on the ground (Figure 1a). When the trap is open, the two "U" shaped conduit lengths should lay on top of one another (Figure 1b). Hinges are secured effectively by drilling holes through the conduit, but only barely drilling into the dowel.

Once holes are drilled, the hinges can be secured by screwing hinge screws through the conduit into the dowels. The dowel serves to secure the hinges, a requirement to ensure that the trap functions. Once the trap frame is finished, netting is secured to the perimeter of the trap while in the closed (i.e., flat) position. This will ensure that when the trap is deployed there is enough slack in the netting to allow the trap to lay flat on the ground. The netting can be secured to the trap frame using heavy twine. The amount or length of twine needed to properly secure netting to the trap frame will vary. After netting is attached, black spray paint can be used to reduce glare from the aluminum conduit. It is more effective to paint the conduit after netting has been attached. Two lengths of twine (about 1.5 m) are secured at 10 and 2 o'clock positions on the top piece of conduit. These lengths are secured together and then tied to at least 50 m of twine which serves as the pull cord to operate the trap (Figures 1a and 1b).

The trap is set in the open position (i.e., the two "U" conduit pieces laying on top of one another) around a Snowy Plover nest (Figure 1b). The bottom piece of conduit should be secured to the ground using stakes (e.g.,re-bar stakes work well).

Once secured, the operator should walk at least 50 m away from the nest unraveling the pull cord, keeping the line taught. During the nesting season, especially in hot weather, Snowy Plovers will approach the nest usually within 15 min. Depending on stage of incubation and temperature, some birds will approach as the operator backs away from the nest. Consequently, it is important to know incubation stage, and focus trapping efforts during the second week of incubation. Eggs can be left in the nest. No artificial eggs are necessary.

Operating the Trap - The operator should be far enough away from the nest such that the bird returns to the nest in a relatively short period of time. This distance varies with stage of incubation and weather conditions. In some instance, binoculars will be needed to see the bird approaching and entering the nest area. Once the bird enters the trap area, it will generally take a few minutes to become settled on eggs. It is important not to become impatient. If the bird is not completely settled when the trap is deployed, the bird may fly vertically (rather than sit tight) and could be caught in netting as the trap is moving into the flat position, and be thrown to the ground, potentially causing injury, death, or nest abandonment. Generally, wait 1 to 2 min after the bird settles on the eggs before pulling the cord.

Once the bird is settled, the operator must pull the pull cord to close the trap. The pull cord is attached to the top piece of conduit which, when triggered, carries the netting over the top of the bird and lands flat on the ground (Figure 1a). At this point, the bird will become moderately tangled if using larger heavier-mesh rocket netting, more so if using lighter-weight mist netting. The operator should practice triggering the trap to determine how much effort and torque is needed to close the trap satisfactorily. Each trap will be different, so practice is important for rapid and successful capture events. Once the trap is deployed, immediately retrieve the bird and remove the trap from the nest area. This allows for rapid return of the bird after processing (i.e., banding, measuring, etc.) and minimizes the number of times the nest is approached and potentially disturbed. No birds were injured during 77 successful capture events during this study.

The main advantages of this trap are that it (1) is inexpensive and easy to assemble, (2) takes minimal tools to construct, (3) is lightweight and three or four traps may be carried by one person easily, and (4) can be operated by a single person. The main disadvantages are that it (1) requires manual triggering and (2) always needs to be monitored.

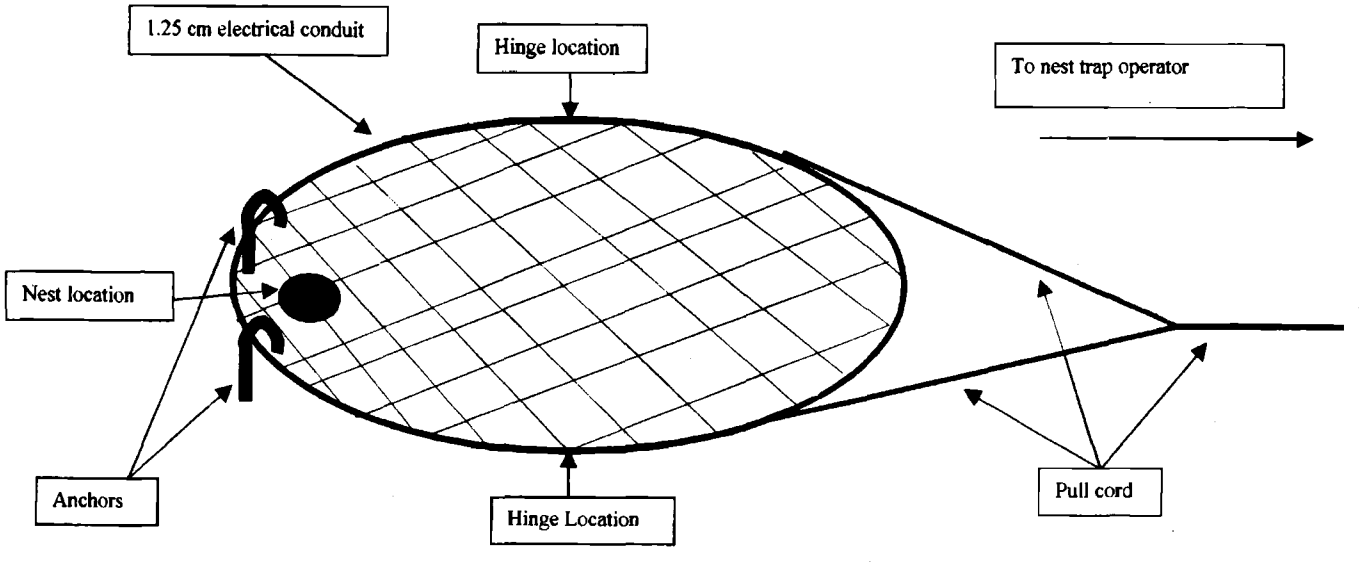

Fig. 1a. Snowy Plover nest trap in closed/deployed position. Note location of actual nest at opposite end of nest trap from where the nest trap operator is located.

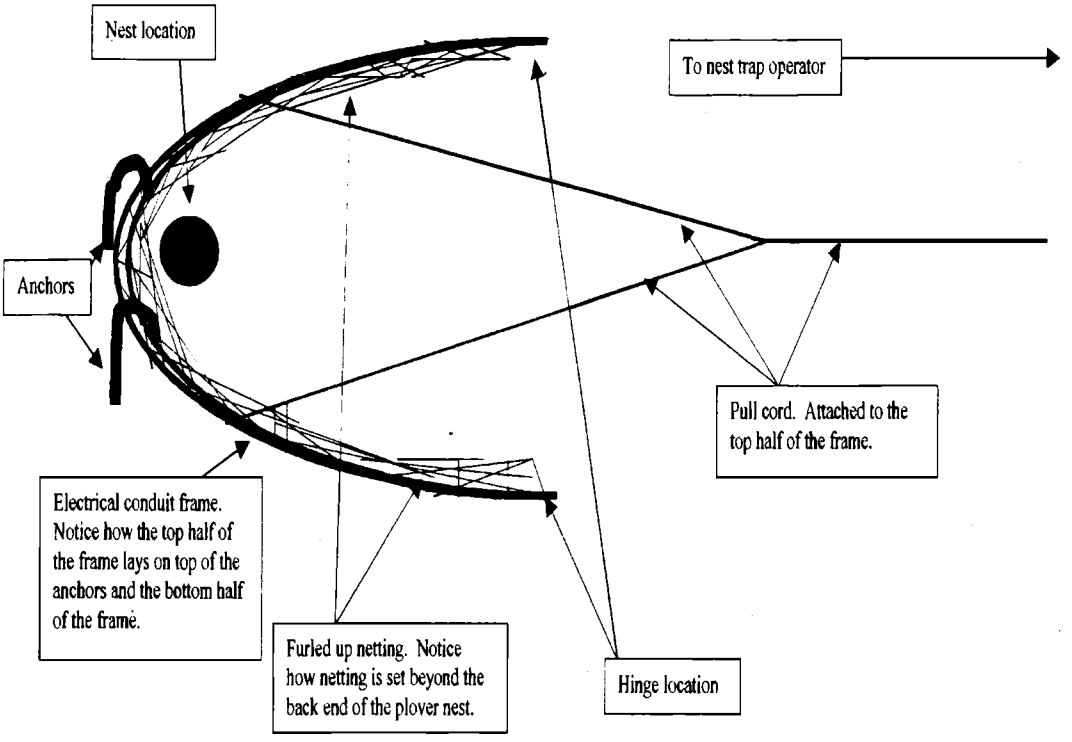

Fig. 1b. Snowy Plover nest trap in open/set position. Note how the netting is furled behind the nest to allow the bird to sit back down on nest without interference.

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