An automatic nest trap for Pied-billed Grebes

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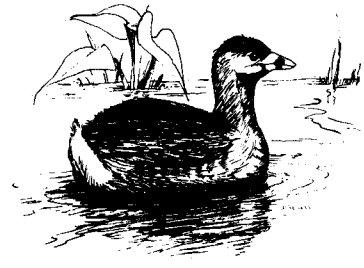
The banding of nesting birds is an invaluable tool for the study of migration, homing and renesting. Although the need for a means of capturing Pied-billed Grebes *(Podilymbus podiceps)* at their nests was recognized by Miller (*Cassinia* 32:23-24, 1943) nearly 40 years ago, a recent literature review located no capture method suitable for this species. Ferguson (*J. Field Ornithol.* 51:179-180, 1980) captured Horned Grebes *(Podiceps auritus)* in gill nets placed underwater next to their nests; however, because the gill nets must be constantly watched, this method cannot be used for capturing Pied-billed Grebes, whose nests are typically hidden in emergent vegetation. Weller (*J. Wildl. Manage.* 21:456-458, 1957) developed an automatic nest trap for marsh-nesting waterfowl; however, the unstable floating nature of Pied-billed Grebe nests precludes the use of this trap for capturing these birds. While studying Pied-billed Grebes on Rush Lake, Winnebago County, Wisconsin during 1979 and 1980, I developed and tested an automatic nest trap for capturing the birds. The trap is a modification of Weller's automatic nest trap for waterfowl.

The trap (Fig. 1) consists of a tube of 2.5 by 5.0 cm mesh, 14-gauge welded wire fence material. The tube has a diameter of 37 cm and a height of 76 cm. A 33 cm wide by 41 cm high entrance is located next to the base of the tube. A sliding door made of the same material as the tube is attached to two 12-gauge vertical steel rods located on the inside of the tube, one on each side of the entrance. Placement of the door on the inside of the trap minimizes the possibility of emergent vegetation interfering with the operation of the door. The door catch is formed by clipping a horizontal wire segment at the center of the door, and then bending the wire segment into a U-shape on the inner side of the door. When the trap is set, the door is held open by a 10 cm long metal pin to which a trip line of 3 kg test nylon monofilament line is tied. The trip line passes outward through the side of the trap, then downward to within 10 cm of the base of the tube, and finally passes back through the tube, over the center of the nest to the opposite side of the trap where it is secured with masking tape. The trap is attached by two adjustable pipe clamps to a 2 m long, 5 by 5 cm wooden post which is pushed into the marsh substratum next to the nest. All metal parts of the trap are painted a flat-finish green similar to the color of marsh vegetation.



Some Pied-billed Grebe nests, particularly those built of hardstem bulrush *(Scirpus acutus)* culms, are so unstable that they might shift after a grebe is captured, producing an opening between the nest and the base of the trap through which the bird might escape. To prevent this from happening, a 30 by 30 cm, 1 cm thick wooden undernest support (Fig. 1) with a 3.5 cm metal flange at the middle of one edge is placed beneath such nests. The undernest support is held in place by a C-clamp which pins the flange to the wooden post supporting the trap.

As soon as the trap was in place and set, I left the vicinity of the nest for 1-2 h. The grebe, upon returning to its nest, contacted the trip line, dislodging the metal pin that held the door open; the door closed, entrapping the grebe.

Trapping attempts were confined to the days after the completion of the clutch but prior to the start of hatching. Twenty-eight (64%) of 44 trapping attempts were successful. Four attempts probably failed because the entrance to the trap was not facing the direction from which the grebes preferred to approach their nests. At each of these nests, subsequent trapping attempts with the trap entrance facing the opposite directions were successful. Apparently, Pied-billed Grebes prefer to approach their nests through emergent vegetation. At nests located at the edges of vegetation beds, trapping attempts invariably failed if the trap entrance faced the open water. Two other trapping attempts probably failed because the trap was removed from the nests after less than 45 min. There were no desertions of nests on which trapping was attempted.

One minor drawback to this capture method is that eggs are occasionally broken by the entrapped grebes. Seven (3.8%) of the 185 eggs present in the nests where trapping attempts succeeded were broken in this manner.

Single eggs were broken at 5 nests, and 2 eggs were broken at another nest.

I believe that this capture method is a potentially valuable tool for the study of Pied-billed Grebes, and with modification of the size of the trap, other species of grebes which nest also in emergent vegetation.

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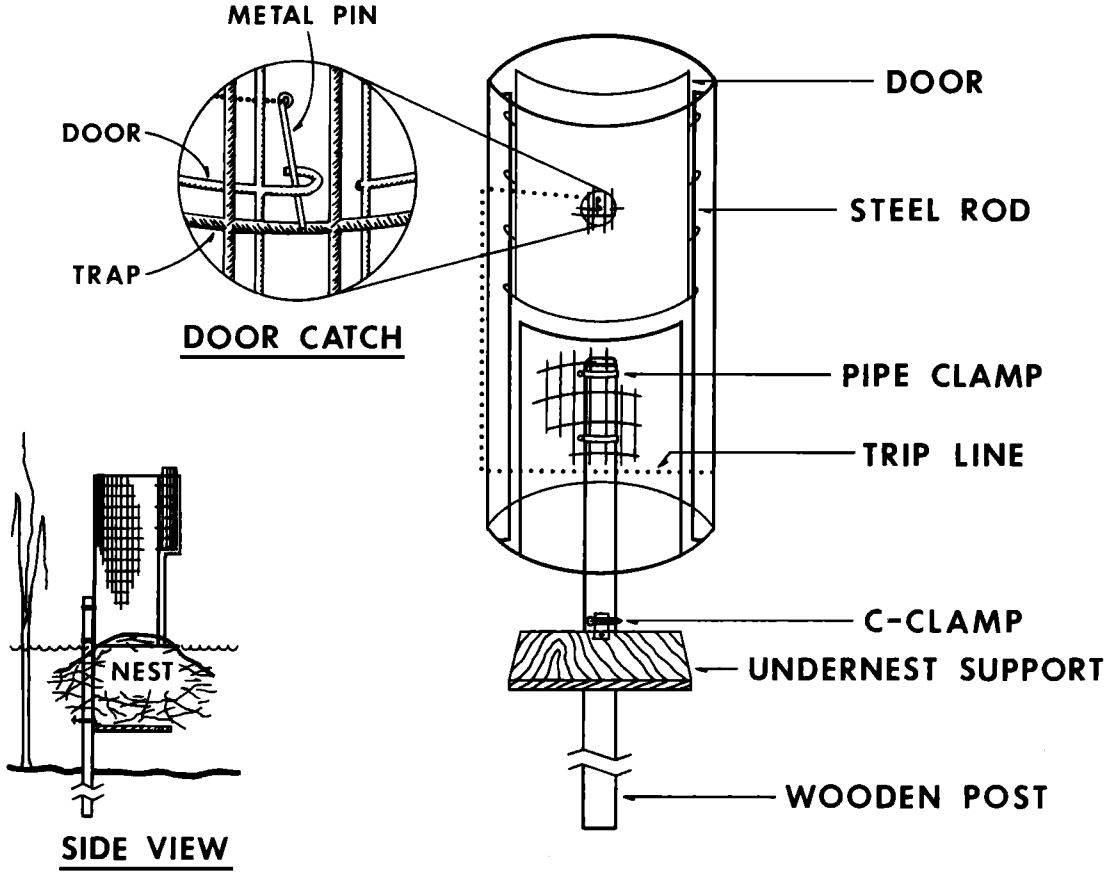

Figure 1. Automatic nest trap for Pied-billed Grebes.