METHODS AND TRAP DESIGN FOR LESSER SCAUP TRAPPING IN LOUISIANA

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Annually large flocks of lesser scaup (*Aythya affinis*) wintering off the Louisiana coast would, at times, move inland into small ponds and lakes throughout the southern portion of the state. In order to obtain information on this wintering species, a bait banding program was begun on Rockefeller Wildlife Refuge in Grand Chenier, Louisiana, in 1960. Since that time 4,970 lesser scaup were captured and banded. The scaup have increased in recent years and wintering populations in Louisiana now number about 1.5 million. They arrive in October, depart in May and are distributed in all parts of the state but largest concentrations are found along the coast. Large flocks have been seen in the Gulf of Mexico as far as 25 miles offshore, apparently unaffected by heavy seas.

Rockefeller Refuge is owned and operated by the Louisiana Wild Life and Fisheries Commission and is located in the prairie marshes of Cameron and Vermilion Parishes in Southwestern Louisiana.

A banding program was begun on Rockefeller Refuge in January, 1960. The first part of this program was instituted as a pilot study, set up to develop ways and means of live-trapping large numbers of birds under the conditions as found on the refuge. The 1960 banding program was terminated with the beginning of the northward migration. A total of 588 scaup were banded during that spring.

An expanded banded program was planned for 1961. Large concentrations of scaup were located in the Gulf off Rockefeller Refuge during early winter. Normally scaup moved inland in January and February, but for some unknown reason the birds remained offshore until the time for migration. As a result, no scaup were banded that spring.

The banding program was again planned for 1962, but again the scaup remained in the Gulf, coming inshore only when enroute northward. Conditions changed in 1963 and the scaup moved inland on schedule. By mid-April 1,270 scaup were captured and banded. In 1964 an expanded banding program was planned and again the scaup moved inland in large numbers. Trapping began in mid-January and by mid-April 3,111 scaup were banded (Chabreck, 1964).

The reason for the scaup remaining offshore in 1961 and 1962 could have resulted from an abundance of surf clams (*Mulinia lateralis*) present in the Gulf. Several trips were made into the Gulf and a number of scaup collected. The birds were in excellent condition with weights averaging about 20 per cent over those found inland and having gullets filled with these surf clams. Bottom samples were taken in the area and revealed an abundance of surf clams present in amounts often exceeding 200 pounds per acre (Harmon, 1961). The movement of scaup inland

during January and February of 1963 and 1964 could have been a result of an almost complete absence of the surf clams as shown from the bottom samples taken during the spring of 1964.

The purpose of this paper is to present the various methods and trap designs found most effective as a result of the 3 year banding program conducted on Rockefeller Refuge.

TRAP CONSTRUCTION

Two types of traps were used: the box trap and the corral box type. The box trap measuring 5 feet by 6 feet and 5 feet high was constructed of 1 by 2 inch or 1 by 1 inch welded wire of No. 14 gauge. A step by step description of the box trap construction follows. A piece of 1 by 2 inch or 1 by 1 inch welded wire 5 feet wide and 23 feet long, allowing for the taper of the funnel, was cut and laid on a flat surface. Next the four sides of the box were shaped from this wire simply by bending the wire over a 2 x 4 or 2 x 6 held firmly in place. The ends were then hog-ringed together. The bottom and top both measuring 5 feet by 6 feet were cut from welded wire and secured to all sides except the front.

The funnel, probably the most important feature in the trapping operation was then constructed. The front end of the trap was cut vertically, leaving one wire at the bottom and two at the top. This opening formed the entrance to the trap. When pushed inward and attached to the top and bottom, this formed a funnel entrance. The vertical opening of the funnel extended the entire height of the trap. One inch poultry netting was cut 1 foot in width and the entire height of the funnel. The ends of the poultry netting when attached to the funnel protruded about 3 to 4 inches passed each end of the welded wire at the entrance. The throat was set so that the birds would have to push slightly to enter the trap with the poultry netting then springing back to the original set position, thus minimizing escape. The opening of the funnel was set just below the surface of the water. With the poultry netting attached to the funnel, the throat of the trap could then be easily closed off to accommodate the depth of the water, although all trapping sites were relatively free from water fluctuation throughout the entire banding program. The width of the openings on all traps were about 4 to 4½ inches. Although this is considerably smaller than other diving duck traps with below surface funnels the scaup seemed to find easy entrance to these openings (Hunt and Dahlka, 1953). A door 2 feet by 2 feet was cut in the top of the trap in order that the birds could be removed with a long handle net.

The second trap used was the corral box type. The corral attachment was a circular fence, 12 feet diameter, of 1 inch poultry netting. It was attached to the front corners and circled the front of the regular box-type trap (McCartney, 1964). This corral was suspended approximately 10-12 inches from the bottom of the pond and extending upwards to the top of the regular box-type trap. With the corral trap, the opening of the funnel extended 4 to 5 inches above the water level. This allowed ducks to enter on the surface as well as below the water.

The use of a bottom in the scaup trap proved to be an essential part of the trap. We found that ducks while feeding in and around the trap dug large holes which permitted birds inside a bottomless trap to escape. Also, while moving the traps, which must be done quite often, the bottom added to the strength of the trap thus requiring less maintenance to the funnel.

TRAPPING SITES

Certain conditions should be noted in selecting a trapping site: first, suitable number of birds using the area; second, readily accessible in all kinds of weather; third, the ponds should possess a firm bottom and stable water level. If any of these conditions are lacking it could

mean the difference between success and failure of the entire operation.

Traps were placed in several shallow marsh ponds and also in two impounded areas. The water depth in the marsh ponds ranged from 2 to 12 inches and the impounded areas ranged in water depth from 1 to 3 feet. I noted that the corral trap performed best in deep water whereas the box traps had good trapping success in shallow water.

The impounded areas selected for trapping were as large as 480 acres in size as compared to the marsh ponds of less than one acre.

Traps were run daily, usually in the morning. Access to all traps were by small aluminum hull. When the water depth permitted, the boat was carefully maneuvered to the trap and the birds were then removed by a large dip net and placed in a holding cage and held for banding. In the shallow areas the boat was taken as far as possible then all the necessary equipment was removed from the boat and the trappers proceeded on foot. The trapped birds were placed in burlap sacks and returned to the boat, banded and released.

PRE-BAITING AND BAITING

Several different types of bait were tried, including cracked corn, whole corn and hen scratch. This writer found cracked corn to be very desirable as a bait and was readily visible to the birds.

Pre-baiting was found to be an essential part of this bait banding program and used with very good success. It served as a means of congregating the birds on specific areas; also, it served as a means of attracting birds from a site which was undesirable for trapping to a more convenient location.

Approximately 12 to 15 pounds of cracked corn were placed on the sites daily. The amount, of course, would vary with the number of birds located in that specific area. At the beginning of the pre-baiting period only a small amount of bait was used, increasing this amount in proportion to the increase in the numbers of birds feeding in that area. We tried to place only enough bait so that a small amount remained by the following day. During this period the bait was scattered in a large area over the site. When the number of ducks taking bait reached 50 or 60, traps were moved on the area. The entrances to the traps were closed until the birds began feeding freely up to the traps, then the traps were opened. Baiting at this time was gradually reduced until the major portion of the bait was placed inside the traps and the remainder scattered outside and leading into the funnels.

Hankla and Smith (1963) found it beneficial to open the traps to allow escape and rebait the general area rather heavily for a couple of days when trapping success begins to taper off. This appears to quill the fears of the birds which might have been trap shy and serves to attract a number of new birds to the area. Due to the moveability of the box-type trap, rather than open the traps, they were simply moved into a new area which already had been pre-baited. Removal of a trap was done when the retraps built up to a point of exceeding 60 to 65 per cent of the daily catch. It was desirable to always have an area pre-baited in order that a trap or traps could be moved at any time during the banding operation. The moving of additional traps into an already baited area, or placing it very close to an operating trap seemed to have little effect on the birds in that area.

PREDATION

Predation by otter (*Lutra canadensis*), raccoons (*Procyon lotor*) and, when the weather began to warm, alligators (*Alligator mississipiensis*) were experienced during the trapping operation. Although raccoons are numerous in the coastal marshes, predation from this species was insignificant. Otters, alligators and raccoons in that order caused loss of birds and even damage to the traps. Otters and alligators

followed much the same pattern. This was a random killing of the majority of the birds in the trap. Steel traps were set for raccoons, but with little success. I found if the duck traps were run in the afternoon and all the birds removed from the trap at dark no losses were received from raccoons. Also, having the funnel of the traps below the water level reduced mortality, but in some shallow marsh ponds this was not possible.

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