J. Field Ornithol., 65(3):402–405

# DECOY TRAPPING AND ROCKET-NETTING FOR NORTHERN PINTAILS IN SPRING

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Abstract.—Decoy traps and rocket-nets were compared for capturing Northern Pintails (*Anas acuta*: hereafter pintails) during May 1991 on the Yukon Flats, Alaska. Males were captured at similar rates using both methods (1.38 vs. 1.07 males/trap d, respectively), but baited rocket-nets were more efficient than decoy traps for capturing females (0.52 vs. 0.12 females/trap d). There were no significant differences in masses of pintails captured by each method.

## UTILIZACIÓN DE SEÑUELOS VS. REDES IMPULSADAS POR COHETES PARA ATRAPAR A INDIVIDUOS DE *ANAS ACUTA* DURANTE LA PRIMAVERA

Sinopsis.—Se compararon los métodos de utilización de señuelos y de redes impulsadas por cohetes para atrapar a individuos de *Anas acuta*. El trabajo se llevó a cabo en mayo de 1991 en Yukon Flats, Alaska. Entre los dos métodos, no hubo diferencias en la captura de machos (1.38 vs. 1.07). Sin embargo, el método de redes con cohetes en áreas sebadas, resultó más eficiente para la captura de hembras que el uso de señuelos (0.52 vs. 0.12 hembras/trampa/día). No se encontraron diferencias significativas entre los métodos para la captura de patos en grupos grandes.

Decoy traps, which employ a live, captive female of the targeted species to attract free-ranging birds, are an effective but labor-intensive technique for capturing ducks in spring. Species of ducks that have proven vulnerable to decoy traps include: Lesser Scaup (*A. affinis*; Rogers 1964), Northern Shoveler (*Anas clypeata*; Seymour 1974), Gadwall (*A. strepera*; Blohm and Ward 1979), Canvasback (*Aythya valisinera*) and Redhead (*A. americana*; Anderson et al. 1980), Mallard (*Anas platyrhynchos*; Sharp and Lokemoen 1987), and Black Duck (*A. rubripes*; Dwyer 1992). We used capture rates and mean body masses to compare the effectiveness of decoy traps and rocket-nets in capturing Northern Pintails (*Anas acuta*; hereafter pintails) for a telemetry study of nesting success and movements on the Yukon Flats in interior Alaska.

## METHODS

Trapping took place during the spring of 1991. Decoy traps were constructed from 5 × 10 cm welded-wire mesh, 122 × 122 × 61 cm; and divided into four equal-sized, separate trap compartments (C. Dwyer, pers. comm.). The decoy, a captive-reared female pintail, was housed in a 41 cm diameter × 61 cm high central compartment containing a loafing platform and food dish. Trigger mechanisms were similar to those described by Sharp and Lokemoen (1987), except we eliminated the spring

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adjustment under the trap pan mechanism. We also used surgical rubber tubing instead of coil springs to close the trap doors, reducing the cost and the weight of the trap. The trap weighed approximately 21 kg and could be collapsed and carried by one person.

We used a maximum of 10 decoy traps 1–16 May for a total of 89 trap-days at sites where we observed isolated pairs of pintails. We moved the trap if a female was not captured within 24–48 h. Each trap was checked twice daily, at mid-morning and late evening, and decoy females were exchanged every 24–48 h.

We trapped pintails with rocket-nets for 29 trap-days, 14–24 May. Two sites were selected on shallow sloping shorelines near places where pintails had been observed loafing. We used four-projectile, rocket-propelled nets, 12 × 18 m, constructed of 10-cm mesh with cracked corn for bait. We monitored rocket-net sites continuously in morning and evening, and distributed small amounts (5–15 kg) of fresh bait as needed. All captured pintails were weighed (±10 g) using a spring scale, and aged using the greater and middle secondary wing-covert characteristics as described by Duncan (1985).

## RESULTS

We captured 180 pintails of both sexes. Of 154 males handled, 123 were captured in decoy traps and 31 were captured with rocket-nets. Of 26 females handled, 15 were captured in rocket-nets and 11 were captured in decoy traps. The rate of male capture was similar for both methods, 1.35 and 1.07 birds/trap d for decoy traps and rocket-nets, respectively. We observed a higher capture rate for female pintails with rocket nets than decoy traps (0.52 and 0.12 birds/trap d, respectively), however. Most rocket-netted females (85%) were captured at a single site. We also captured fewer older females (AHY or ASY) in decoy traps. Nearly 11 times as many males as females were captured with decoy traps. Incidental captures of nontargeted species in decoy traps included one Redhead male, two Canvasback males and one Canvasback female.

There was no significant difference in body mass between pintails of either sex captured in rocket-nets and those captured in decoy traps (Table 1, $P = 0.35$). Mass of females averaged 757 g (SE = 14), and mass of males averaged 876 g (SE = 6). Mean body mass of females captured in decoy traps appeared to be higher (35 g) than that of females captured in rocket-nets, but variation in body mass among females was large.

## DISCUSSION

Our observed capture rates for male pintails were three times higher than similarly calculated rates for Mallards in North Dakota (0.41 males/trap d; Sharp and Lokemoen 1987). Pintails are well known for having weak pair bonds, a high degree of extra-pair chase behavior, and extra-pair copulation (Smith 1968). This behavior correlates well with the large number of male captures per female in decoy traps.

We observed capture rates for female pintails similar to those for Mal-

TABLE 1. Mean mass (g) by sex, age (SY—second year, AHY—after hatch year, ASY—after second year), and capture method for Pintails on Yukon Flats, 1991.

| Sex | Method | Age | *n* | Mass | SE |
|---|---|---|---|---|---|
| Female | Decoy trap | SY | 7 | 754 | 25 |
| | | SHY | 1 | 920 | — |
| | | ASY | 3 | 785 | 36 |
| | | ALL | 11 | 777 | 23 |
| | Rocket net | SY | 1 | 790 | — |
| | | AHY | 2 | 713 | 78 |
| | | ASY | 12 | 743 | 17 |
| | | ALL | 15 | 742 | 16 |
| Male | Decoy trap | SY | 11 | 834 | 17 |
| | | ASY | 109 | 882 | 7 |
| | | ALL | 120 | 878 | 7 |
| | Rocket net | SY | 2 | 885 | 15 |
| | | ASY | 28 | 871 | 13 |
| | | ALL | 30 | 872 | 12 |

lards in North Dakota (0.09 females/trap d; Sharp and Lokemoen 1987). This result suggests that even though there is little evidence for territoriality in pintails, and males are highly promiscuous, females display enough aggression toward unfamiliar females to make them susceptible to decoy traps (Smith 1968).

Ages of females captured in decoy traps may indicate that ASY females are less aggressive towards unfamiliar females or more wary of decoy traps. Alternatively, more ASY females were available when rocket-netting took place. Nesting success was very low on our study area (JBG, unpubl. data). If pintails behave like Mallards and Gadwalls (Lokemoen et al. 1990), ASY females are the first to return to nesting areas and initiate nests each spring. Unsuccessful ASY females would have been preparing to renest and SY females would have been incubating their first nesting attempts when rocket-netting took place. We have no independent measure of the population age structure for use in testing these hypotheses, however, and there is considerable misclassification with aging techniques for female pintails in spring (Esler and Grand 1994).

Females captured using baited rocket-nets tended to be lighter than females captured in decoy traps. It is unlikely that females captured in rocket-nets were late-arriving nonbreeders. Few pintails collected on adjacent areas were nonbreeders and trapping took place before the end of nest initiation on the study area (D. Esler and J. B. Grand, unpubl. data). The observed difference in body mass was large (35 g), but not statistically significant. Hens in poor body condition could be more susceptible to baited traps. Reineke and Shaiffer (1988), however, found no differences in body mass between Mallards captured during November and December at baited versus unbaited sites. Female pintails use large amounts of endogenous lipid and some protein during egg formation for the first clutch (Mann and Sedinger 1993, D. Esler and J. B. Grand, unpubl. data), and we believe that females captured using rocket-nets tended to be lighter because they were later in the breeding cycle.


## ACKNOWLEDGMENTS

We thank the staff of Yukon Flats National Wildlife Refuge and R. King for logistical assistance. We thank M. Giger, who assisted with decoy trapping and rocket-netting. We also thank P. G. Dye, who assisted us by locating interested waterfowl breeders, and D. Huebner and G. Konsor for their donation of decoy females to this study. Finally, we thank Chris Dwyer, Mike Losito and Guy Baldassarre for advice on decoy trap design and techniques.


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Received 4 Jun. 1993; accepted 22 Nov. 1993.