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Notes on Hooded Merganser nests in the coastal plain of South Carolina.—Densities of breeding Hooded Mergansers (*Lophodytes cucullatus*) in the southeastern United States are low (Bellrose 1980), and information on their breeding biology is limited. We document the frequency of nesting at a site located in the coastal plain of South Carolina, examine the relationship between fresh egg mass and duckling mass, and report sex ratios of hatching broods. We also report changes in body mass of two female Hooded Mergansers during incubation.

Study area and methods.—Nest boxes were erected for Wood Ducks (*Aix sponsa*) in the mid-1970s on the Department of Energy's Savannah River Plant (SRP) in west-central South Carolina. Twenty-six nest boxes were placed along a 2.5-km portion of Upper Three Runs Creek, a mixed-hardwood swamp forest typical of the southeastern coastal plain (Sharitz et al. 1974). Nest boxes (N = 41–47) also were available in Steel Creek, a section of the Savannah River swamp recovering after the termination of thermal stress from nuclear reactor effluent (McCort 1987). Additional nest boxes (N = 30–59) were located in Carolina bays (see Richardson et al. 1981). Variation in the number of available boxes was due to additions and removals. From 1982–1988, all nest boxes were checked weekly from late January to early July. Length (mm) and breadth (mm) of Hooded Merganser eggs were noted. Fresh egg mass (nearest 0.1 g) of unincubated eggs was recorded with a digital balance. Nesting females were captured, banded, and body mass was recorded during early incubation. Eggs were candled to determine incubation stage and nest initiation date. Females were recaptured when eggs were pipping to measure body mass. Ducklings were web-tagged in pipping eggs (Alliston 1975) to examine the relationship between egg mass and duckling mass. Duckling mass was recorded before the protective keratin sheath on most feather tracts had been preened off. Ducklings were sexed by cloacal examination.

Linear regression of egg dimensions on fresh egg mass was performed with the Statistical

TABLE 1
CHARACTERISTICS OF HOODED MERGANSER NESTS IN SOUTH CAROLINA

Initiation date	Mean egg mass (g) ^a	Clutch size	Clutch mass (g)	Duckling mass (g) ^{ab}	Female mass (g) ^c
2 Mar 85	60.6 ± 1.1	8	484.8		
24 Feb 87	59.3 ± 0.9	10	593.1	35.7 ± 0.6	565
28 Feb 87	58.6 ± 0.7	11	645.1	35.9 ± 0.5	515
10 Mar 88	59.6 ± 1.1	11	655.6		

^a Values are means ± 1 SE.

^b Mass recorded <12 hours from hatching.

^c Body mass from early incubation (≤ day 9).

Analysis System's general linear models procedure (SAS 1985). Spearman's correlation coefficient was used to describe the relationship of duckling mass and egg mass, and a Wilcoxon Two-sample Test was used to test for differences between sexes in duckling body mass at hatching. Values presented are means ± 1 SE and statistical tests were considered significant at the 0.05 probability level ($P < 0.05$).

Results and discussion.—Hooded Merganser nests were found in 1983 (1), 1985 (1), 1987 (2), and 1988 (1). Nest-box use by Hooded Mergansers averaged $0.6 \pm 0.2\%$ of available boxes. Similar results were reported in central Georgia (Odom 1970), where only one successful Hooded Merganser nest was found among 194 available nest boxes.

On the SRP, one female Hooded Merganser produced clutches in 1985 and 1987 along Upper Three Runs Creek. Three females nested in Steel Creek boxes, and three nests incubated by Wood Ducks contained Hooded Merganser eggs. No Hooded Merganser nests were found in Carolina bays, although these areas were used extensively by nesting Wood Ducks. Hooded Mergansers prefer nesting adjacent to water (Morse et al. 1969). Many Carolina bays dry by mid-to-late summer, and therefore, may not provide suitable habitat near the nest boxes. Clutch size of Hooded Mergansers nesting on the SRP averaged 10.0 for four nests (Table 1). In Maryland, clutch size of four successful nests averaged 10.0 (McGilvrey 1966). Morse et al. (1969) reported clutch size of adults (10.8) and first-year breeders (9.4) in Oregon. Length (L), breadth (B), and fresh mass (M) averaged 53.6 ± 0.3 , 43.7 ± 0.1 , and 59.0 ± 0.6 , respectively, for 26 eggs. The equation: $M = -0.389 + 0.00058(LB^2)$, $R^2 = 0.91$, $P \leq 0.0001$, was used to estimate mass of eggs that were incubated ($N = 16$), and actual fresh mass was unavailable. Clutch mass of four completed clutches averaged 594.7 g (Table 1). The eggs of Wood Ducks are considerably smaller (43.9 g), but because of larger average clutch size in Wood Ducks (Bellrose 1980), clutch masses do not differ greatly (Wood Duck: 610.5 g) (Kenamer and Hepp 1987).

Two of the five nests were successful in producing ducklings, and 95% of the eggs in successful nests hatched. The eggs of one unsuccessful nest were punctured, probably by a Red-headed Woodpecker (*Melanerpes erythrocephalus*) observed leaving the nest box. Eggs of another nest were consumed by a black rat snake (*Elaphe obsoleta*). A third nest was predated by a raccoon (*Procyon lotor*). In two successful nests, 60% of the ducklings were males. Body mass of males ($N = 11$) and females ($N = 7$) did not differ ($P > 0.58$) at hatching. Duckling mass prior to leaving the nest averaged 35.8 g and was correlated positively with egg mass ($r_s = 0.88$, $P < 0.0005$).

One nesting female had a body mass of 565 g when captured on day 9 of incubation. This female incubated for 34 days and by hatching had lost 13.3% of the first recorded mass.

Another female was captured on day 4 of incubation and had a body mass of 515 g. This female lost 8.7% of her initial body mass during a 33-day incubation period. Our data, though limited, indicate that female Hooded Mergansers lose relatively little body mass during incubation compared to other North American anatids (see review, Gatti 1983).

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Nonfish prey of wintering Bald Eagles in Illinois.—Many Bald Eagles (*Haliaeetus leucocephalus*) winter in Illinois (Fawks 1979), where they feed primarily on fish (e.g., Southern 1966, Fischer 1982, Harper 1983). However, few reports have been published documenting their use of mammalian and avian prey in the midwestern United States (Lingle and Krapu 1986, Stalmaster 1987). This paper describes the almost exclusive use of nonfish prey in an upland population of Bald Eagles, and discusses related management implications.