

## RENESTING BY A COMMON GOLDENEYE

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**Abstract.**—Although reneesting occurs in most North American waterfowl tribes, reports for the Mergini are mostly speculative and reneesting by Common Goldeneyes (*Bucephala clangula*) has not been confirmed previously. A female goldeneye that abandoned a clutch of seven eggs while laying began laying a second clutch within a maximum of 19 d and successfully hatched it. Reneesting is probably infrequent in Common Goldeneyes. Successful reneesting requires a minimum of 6-7 additional weeks from reneest initiation to hatch, but the nesting season is comparatively short across the breeding range. Lowered survival of late hatched young combined with a relatively low risk of nest predation may offer little advantage to reneesting.

### REANIDAMIENTO POR PARTE DE *BUCEPHALA CLANGULA*

**Sinopsis.**—Aunque el reanidamiento ocurre en la mayoría de las tribus de patos norteamericanos, informes en los Mergini son mayormente especulativos. El reanidamiento en *Bucephala clangula* no ha sido previamente confirmado. Una hembra de esta especie que abandono 7 huevos sin haber terminado la camada, comenzó una nueva 19 días más tarde y la empolló exitosamente. El reanidamiento en *B. clangula* probablemente ocurre con poca frecuencia. Un reanidamiento exitoso requiere un mínimo de 6-7 semanas adicionales desde el comienzo de este hasta el comienzo del eclosionamiento. Pero la época de anidamiento es comparativamente corta a través del área geográfica en donde anida esta especie. La baja supervivencia de las camadas que eclosionan tarde durante la época de reproducción, combinado a un riesgo bajo de depredación podría proveer, si acaso, alguna pequeña ventaja al reanidamiento.

Reneesting has been reported for all North American waterfowl tribes. Most dabbling ducks and diving ducks are persistent reneesters (Alliston 1979, Doty et al. 1984, Sowls 1955, and others). Reneesting is also common in the Wood Duck (*Aix sponsa*) and the whistling ducks (Delnicki and Bolen 1976, Grice and Rogers 1965). In wet years, significant portions of the annual production of young in early-nesting species sometimes are produced through reneesting (Sowls 1955:141). Some geese and the Ruddy Duck (*Oxyura jamaicensis*) also reneest (Atwater 1959, Tome 1987) although perhaps less frequently than members of other tribes. In contrast, except for Common Eiders (*Somateria mollissima*), reports of reneesting in the relatively large Mergini tribe are mostly speculative (Cooch 1965; cf., Palmer 1976; Sarbello 1973). Reneesting by a Common Goldeneye (*Bucephala clangula*) has not been confirmed previously.

This note documents reneesting by a Common Goldeneye female in northcentral Minnesota. I observed the event on a 16 ha pond with a 30 ha adjoining sedge meadow and floating sedge mat. Water depths were less than 1.5 m, and hardstem bulrush (*Scirpus acutus*), waterlily (*Nymphaea tuberosa*), and various pondweeds (*Potamogeton* spp.) occurred throughout. Cattail (*Typha latifolia*) stands were also found along parts of the wetland shoreline. Public use was limited to moderate levels of

bait-leech trapping by 4–6 individuals in April to June. Sixteen waterfowl nest boxes were attached to trees around the wetland.

The female was banded initially with a U.S. Fish and Wildlife Service leg band while laying in a nest box on 4 May 1983. On 11 May, she was fit with a plastic nasal saddle (Doty and Greenwood 1974) as part of a time budget study. She hatched her 11 egg clutch on 3 Jun. The female returned to the same nest box in 1984 and successfully hatched an eight egg clutch on 1 Jun. She returned again in 1985; one egg was found in the same nest box on 4 Apr. The nest contained seven eggs on 17 Apr when the female was captured to replace the nasal saddle that she had lost. Within a few days, it was obvious that the nest had been abandoned. During the next 2 wk, the female accompanied by a drake was seen periodically on the wetland, usually in their previously occupied territory. On 13 May, I observed the female leave a nest box 30 m from the one that she had used in the past. Eggs were first noted in this nest on 9 May when it contained two. Subsequent observations confirmed that the female was nesting in the box, and she hatched a seven-egg clutch on 16 Jun.

The exact length of the relaying interval could not be determined because of egg laying by females from 4–7 other goldeneye pairs using the wetland. Four of these pairs foraged regularly on easily delineated territories that were defended vigorously. Females in three of these resident pairs also were marked with nasal saddles. Occasionally, 2–3 non-resident unmarked pairs used the wetland as well. Common Goldeneye females generally lay an egg every other day and have a typical clutch of 7–9 eggs when intraspecific egg laying is uncommon (Palmer 1976:394, Zicus unpubl. data). In addition to the renesting female's nest, nests incubated by two other nasal-saddled resident females were located in nest boxes. Both of these contained eight eggs. Although none of the active 1985 goldeneye nests had a clutch size that indicated eggs had been laid in it intraspecifically, a total of five additional goldeneye eggs (dump eggs) also was found in four other nest boxes. Infrequent nest inspections resulting in uncertain laying dates indicated any of the females using the wetland could have laid the dump eggs. Considering goldeneye laying rates, the maximum length of time elapsing between abandonment of the first nest and initiation of the renest was 19 d. However, continuation nests have been noted for a number of waterfowl species (Cooper 1978: 77, Palmer 1976:65, SOWLS 1955:136). Selection of nest-box nesting sites in all four known nesting attempts by the renesting female suggested she probably did not lay additional eggs in any nearby natural cavities. If any of the known dump eggs were laid as a result of the renesting female continuing her initial clutch, the renesting interval would have been somewhat less than 19 d. Because the abandoned nest contained seven eggs, it is unlikely that the renesting interval would have been shortened by more than 3–5 d even if continuation laying had occurred.

How common is renesting in goldeneyes? Lack of previous documentation and a number of specific traits suggest renesting is infrequent.

Clutch sizes of 7–9 eggs combined with a low egg laying rate result in laying periods of 2–3 wk. With incubation taking approximately 30 d (Bellrose 1976:435; Zicus, unpubl. data), from 6–7 wk are thus required to lay and hatch a typical clutch. Goldeneyes are also early nesters and may rely on nutrients acquired prior to arrival in nesting areas for clutch production, as do other early nesting waterfowl (Drobney 1980, Korschgen 1977). Nesting seasons are comparatively short across goldeneye's breeding range, and successful fledging of young from a renest might be a problem for all but the earliest nesting females given the time needed to acquire nutrients and to lay and incubate a second clutch. Dow and Fredga (1984) observed a lower survival to three months for young Common Goldeneyes hatched later in the nesting season. Lastly, predation rates on nests in tree cavities are generally believed to be lower than for nests from ground or overwater sites. Natural selection favoring renesting due to predation in nesting habitats occupied by goldeneyes may be quite low.

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