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BREEDING RECORDS OF HOODED MERGANSER IN GEORGIA, 1967-2002.

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Hooded Mergansers (*Lophodytes cucullatus*) naturally nest in tree cavities near freshwater swamps, lakes, and rivers in North America, especially in the northern United States and southern Canada and parts of the Mississippi River Valley (Bellrose 1976). However, resulting from their secretive nesting habits and their generally low breeding densities over most of their range ([Dugger et al. 1994](#)), the breeding status of Hooded Mergansers has not been properly surveyed ([Heusmann et al. 2000](#)). The fact that older snags providing cavities have long been depleted in forested wetlands and bottomlands in most areas of North America makes it difficult to be certain of their historic nesting range or densities ([Dugger et al. 1994](#)).

Recent use by Hooded Mergansers of artificial nest boxes ([Zicus 1990](#)), erected primarily for Wood Ducks (*Aix sponsa*), has possibly allowed the species to start to reclaim some of its former nesting range, or may have allowed the species to expand into new nesting areas ([Heusmann et al. 2000](#)). Alternatively, it may simply have allowed a more accurate assessment of the species' nesting range, which was previously poorly known. Burleigh (1958) reported no breeding records of Hooded Merganser in Georgia, but he did report a few summer sightings of individuals and pairs in the coastal region. Haney et al. (1986) referred to breeding records from four localities in the piedmont and coastal plain of Georgia. In contrast to the few published records from Georgia, Stevenson and Anderson (1994) reported breeding records from 14 counties in the northern half of Florida.

We report a total of 21 instances of breeding by Hooded Mergansers in the piedmont and coastal plain of Georgia over the past four decades, based on breeding-season observations (Table 1). In addition, we report 6 instances of prior duck-box use

by laying Hooded Merganser hens during 2000 and 2001 nesting seasons, based on winter inspections of boxes on state wildlife management areas (WMAs). Seven of the breeding-season records are from the literature (or, in one case, from unpublished refuge records) prior to 1985, and the other 14 are reports of breeding since 1992, most of them previously unpublished. All but one are on or near state or federal refuges with active management programs employing artificial nest cavities for Wood Ducks. About half of these are records of egg clutches found in the nest boxes, as Hooded Merganser eggs can be readily distinguished from Wood Duck eggs by their thicker shells and nearly spherical shape ([Dugger et al. 1994](#)). The remaining records are of broods of pre-fledging ducklings swimming with Hooded Merganser hens (Table 1). The breeding-season records come from 14 counties in the coastal plain and piedmont, but no records were found from the coastal region (i.e. tidewater).

The 1993 and 1999 records from a small private lake in Adel, Cook Co. (Table 1; Nos. 9, 15a, 15b) represent one or more females laying in the same duck box in different years, something rarely recorded on larger management areas ([Zicus 1990](#)). The 1999 record (Table 1; No. 14) suggests the possibility of an intraspecific group nest, as two females were being courted by a male March 14, and two females were in the nest box March 28 (D. Bryan, pers. comm.). Record No. 7 represents the only certain interspecific nest and the smallest merganser clutch; otherwise, the range in egg clutch size is typical for the species (Bellrose 1976; 4-21). Dugger et al. (1994) suggest that the maximum clutch size for a non-dump nest is no more than 13, suggesting that records 5 and 7 could represent cases of egg dumping by more than one female, but this cannot be concluded.

We know of one other potential record lacking sufficient detail to include in Table 1. A hen merganser with 6 chicks was reportedly observed in a small borrow pit on the Oaky Woods Wildlife Management Area in Houston Co. in the late 1970s or early 1980s (L. Ross, pers. comm.). A reference is made in Haney et al. (1986) to a breeding record from Okefenokee National Wildlife Refuge, and it is possible this is the 1967 unpublished refuge record (Table 1; No. 1).

Of 1,156 Wood Duck nest boxes on state WMAs checked after the end of the 2000 nesting season (mostly in December and early January), 2 contained evidence of nesting by Hooded Mergansers; these were both on the Ocmulgee WMA in Bleckley Co. (G. Balkcom, pers. comm.). After the 2001 nesting season, 5 of 1,355 boxes checked contained evidence of nesting Hooded Mergansers; 3 of these were on Ocmulgee WMA and were inspected on 27 Feb 2002, which is into the start of the nesting season, and 2 were on Beaverdam WMA in Laurens Co., checked on 4 Jan 2002 (G. Balkcom, pers. comm.). Four of these 5 boxes contained from 3 to 6 eggshell membranes each, which was evidence of a successful hatch the previous nesting season. In one of these four, there were also 2 unhatched eggs. In the fifth box, there were 11 unhatched eggs, which, given the late date, was assumed to be a newly laid clutch (Table 1; No. 21).

As to the phenology of breeding by Hooded Mergansers in Georgia, given that incubation averages a little over 30 days (Bellrose 1976), these records indicate initiation of nesting from mid-February to early May. From what we can determine, however, juvenile Hooded Mergansers have only been seen in Georgia during the six-week period from very late April to mid-June (Table 1).

The average clutch size for our 10 records is 9.7, which is less than the 10.6 average for 191 nests reviewed by Bellrose (1976). The average clutch for 102 nests in Missouri was 11.0 eggs ([Dugger et al. 1994](#)), and 92 nests in Minnesota averaged 13.0 ([Zicus 1990](#)). In the latter study, half of all boxes contained merganser eggs, but this particularly high clutch size, compared to other studies, was attributed to a lower than average density of nest boxes. It is not possible for us to know the comparative densities of available nest boxes over the wide area and time represented by these 27 records, but, conservatively, hundreds of active Wood Duck boxes in Georgia have been checked for each recorded use by Hooded Mergansers (0.3%, or 1 in 360, were used, based on the sample of wintertime inspections of nest boxes on WMAs from the past 2 years).

Clearly, then, breeding densities in Georgia are a small fraction of those in more northerly parts of the range such as Minnesota and Massachusetts ([Heusmann et al. 2000](#)). Given that 13 of the 21 breeding-season records and 19 of 27 total records occurred within the past 5 years, it could be that the small and scattered breeding population in Georgia is increasing somewhat due to the Wood Duck nest-box program, much as it appears to be doing in some northern states where the species has always been a much more common breeder. As of the 2001 nesting season, there were 2,068 Wood Duck nest boxes on all state WMAs (more than 90% were in the piedmont and coastal plain), 1,400 of which were erected during a partnership program with Ducks Unlimited in 1990-91 (G. Balkcom, pers. comm.). In the past 4 years, 1,200 nest boxes have been erected on private lands in Georgia, and although it is likely that Hooded Mergansers have used and will use some of these boxes for nesting, they are not systematically

checked by state biologists, as are those on WMAs. Consequently, we are unaware of any records from these private boxes (G. Balkcom, pers. comm.).

It is also plausible that this relative concentration of records in recent years reflects increased effort at monitoring boxes, increased skilled-amateur observer effort, overall, and enhanced communication among the community of birders, ornithologists and game biologists. Statewide sharing and compilation of data on duck-box use on WMAs did not begin until after the 2001 season (G. Balkcom, pers. comm.). At any rate, the small and scattered breeding population of Hooded Mergansers in Georgia will likely be preserved if not enhanced by the continued installation and maintenance of artificial nest boxes. Many of the boxes erected for Wood Ducks in Georgia are placed in open marsh and pond habitats, whereas those situated under the tree canopies of riparian and palustrine wetland forests may be more attractive to nesting Hooded Mergansers ([Dugger et al. 1994](#)).

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Table 1. Records of Hooded Merganser breeding in the Piedmont and Coastal Plain of Georgia, 1967-2002. All egg clutches found in Wood Duck nest boxes during active nesting season; other evidence is of pre-fledging ducklings.

Record	Date	County	Water body or Area	#eggs	#ducklings	Hen on Nest?	Notes
1	1-Mar-67	Charlton	N Prong Billy's Lake, Okefenokee NWR	n/a	10	n/a	seen with adult female
2	1-May-67	Jasper	Piedmont NWR	n/a	8	n/a	young estimated to be 4 weeks old
3	3-May-67	Jasper	Piedmont NWR	n/a	3	n/a	
4	?? 1969	Jasper	Piedmont NWR	11	11	Yes	all eggs successfully hatched
5	June 1977	Bleckley	Ocmulgee WMA	11		Yes	
6a	22-Feb-79	Dougherty	Albany Nursery WMA	5		No	hen incubating Apr 3-4; 4 eggs hatch
6b	26-Mar-79	Dougherty	Albany Nursery WMA	14		No	by Apr 16; 2 snakes ate others
7	16-May-84	Bleckley	Ocmulgee WMA	3		Yes	nest shared with Wood Duck, 11 eggs
8	31-Mar-92	Lowndes	Grand Bay	15		Yes	
9	12-Mar-93	Cook	Bear Lake, Adel	?		Yes	nest box blew down in storm after hen incubated ca. 26 days
10	4-Jun-96	Lanier	Grand Bay Ck. impoundment	n/a	4	n/a	seen with adult female
11	4-Mar-97	Stewart	Eufala NWR, Bradley Unit	n/a		Yes	
12	16-Feb-98	Lanier	Rat Bay (Grand Bay WMA)	12		No	
13	16-Feb-98	Lanier	Rat Bay (Grand Bay WMA)	7		No	
14	19-May-98	Ben Hill	Bowen's Mill Hatchery pond 3	n/a	8	n/a	
15a	2-28 Mar-99	Cook	Bear Lake, Adel	8		Yes	male courting 2 females March 14;
15b	7-May-99	Cook	Bear Lake, Adel	n/a	7	n/a	seen with adult pair
16	8-May-99	Laurens	Bracewell's Pond	n/a	5	n/a	seen with adult male
17	30-Apr-00	Jasper	Charlie Elliott Wildl. Ctr. (Muskrat Pond)	n/a	5	n/a	
18	9-May-00	Irwin	Osierfield	n/a	2	n/a	
19	11-Jun-00	Cobb	Chattahoochee River, Johnson's Ferry South	n/a	4	n/a	seen with adult female
20	early Jun-01	Wilcox	Pond near House Creek, Bowen's Mill	n/a	6	n/a	seen with adult pair
21	27-Feb-02	Bleckley	Ocmulgee WMA	11		No	

Observers/reference : 1) J.Hall and W.Cone fide S.Aicher; 2 & 3) Julian (1967); 4) Odom (1970); 5) T.Johnson in LeGrand (1977); 6) Ruckel (1979); 7) Watson (1984); 8) T.Hon (unpubl.); 9) D.Bryan fide T.Hon (unpubl.); 10) B.Bergstrom (unpubl.); 11) C.Manlove fide T.Schneider (unpubl.); 12,13,14) T.Hon (unpubl.); 15) D.Bryan,T.Hon, B.Bergstrom (unpubl.); 16) T.Patterson fide G.Beaton (unpubl.); 17) J.Flynn (unpubl.); 18) M.Hopkins (in Bell 2000); 19) E.Tomer (unpubl.); 20) J.Stokes fide T.Hon (unpubl.); 21) G.Balkcom (unpubl.)