

LESSER SCAUP MORTALITY IN TAMPA BAY, FLORIDA, 1974

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During February and March 1974 large numbers of Lesser Scaup (*Aythya affinis*) were found dead or in a weakened condition on the beaches of Hillsborough and Pinellas Counties. Mortality appeared greatest in Hillsborough Bay but dead and dying ducks were reported throughout the Tampa Bay region.

Following the first reports of dying ducks, we made counts of the scaup along the east and west shores of Hillsborough Bay and on McKay Bay. Using plumage characteristics (Bellrose *et al.*, 1961: 402), we counted and sexed the ducks swimming within about 400 yards of the beach and those sick or freshly dead on the beach (Table 1).

The proportion of males and females found dead compared to those swimming offshore is significantly different ($P < 0.01$). Clearly mortality was much higher in males than in females.

Table 1. Counts of Lesser Scaup made along the east and west shores of Hillsborough Bay and along McKay Bay, Tampa Bay, Hillsborough County, Florida, 1974.

	<u>ALIVE</u>				<u>DEAD</u>			
	Males		Females		Males		Females	
	#	%	#	%	#	%	#	%
12 February	110	33	219	67	88	83	18	17
14 February	55	30	125	70	3	100	0	-
17 February	103	45	126	55	7	58	5	42
17 March	131	48	143	52	4	44	5	56
20 March	770	37	1291	63	77	71	31	29
20 March	NC ¹	-	NC	-	357	66	180	34
26 March	36	32	78	68	2	100	0	-
27 March	589	29	1399	70	40	66	20	33
28 March	126	50	127	50	NC	-	NC	-
29 March	123	28	323	72	NC	-	NC	-
5 April	69	19	294	81	NC	-	NC	-
10 April	90	37	151	63	0	-	0	-
3 May	38	39	60	61	NC	-	NC	-
Total	2240	34	4366	66	578	69	259	31

¹ No Count.

Sanitation workers disposed of dead ducks daily during this period, and we were unable to count the total number of scaup that died during the period. However, we conservatively estimate that several thousand scaup died during February and March in Tampa Bay. We roughly estimated 30,000 to 50,000 scaup present on the bay on several days during this period. On 13 February, Fickett (in litt.) flew a waterfowl inventory survey and estimated 68,000 scaup on Tampa Bay, concentrated on Hillsborough Bay. No data exist to document winter movements of scaup within Florida and thus we are unable to comment on the importance of this die-off to the entire winter population.

Published records on sex ratios of Lesser Scaup in winter and spring all suggest that males predominate in wild populations. McIlhenny (1940) found 69% males and 31% females in 8,356 Lesser Scaup captured for banding on Avery Island, Louisiana, in January and February 1934-1938. Bellrose *et al.* (1961) summarized a number of spring counts from Midwest and Pacific Coast States and reported that males made up 69.5% of 82,564 scaup. Anderson, Ketola, and Warner (1969) reported 78% males and 22% females among 1437 Lesser Scaup killed in an oil spill in Minnesota in March 1963. All three of these reports gave a sex composition similar to what we found among dead scaup in Florida. Their counts presumably give accurate estimates of the sex composition of Lesser Scaup in those areas for those years. We suggest two explanations of why their counts are the reverse of our live-bird sex composition and similar to our dead bird counts. Possibly females winter further south than males and thus make up a larger proportion of the wintering population of scaup in Florida than in more northern states. Another possibility is that the males migrate north earlier than do females and thus our high proportion of females is an artifact of this differential migration.

Although it is possible, we believe it is unlikely that the preponderance of females in the population was brought about by excessive mortality of the males. Females predominated even early in the die-off and this percentage did not change markedly throughout the die-off. Rather, we believe that males simply were more susceptible to whatever was causing the mortality in a population with an unbalanced sex ratio.

These data indicate the need for much additional information on the sex ratios of wild populations of birds. Amateur ornithologists could easily provide useful information by determining sex ratios, where possible, of the birds they observe while "birding."

The die-off of Lesser Scaup reported here coincided in time and location with a red tide (*Gymnodinium breve*) bloom and severe fish kill in Tampa Bay. However, to date, pathological studies by the Florida Department of Natural Resources and the Veterinary Science Laboratory of the University of Florida have been negative in relating the duck die-off to the red tide (Quick and Henderson, 1974; Forrester, pers. comm.). Thus, the cause of the Lesser Scaup mortality remains unexplained. The differential mortality of sexes is certainly intriguing and warrants further study.

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