

## THE SEX RATIO IN DUCKS

BY O. C. FURNISS

There seems to be quite a diversity of opinion regarding the sex ratio in waterfowl. Mr. E. A. McIlhenny in the *Auk* for July, 1934, gives ratios that he found among winter birds on the Gulf Coast. He based his conclusions on large numbers of banded birds. Other correspondents have also pointed out that an excess of males over females exists. Never having read of any survey being made on the actual breeding waterfowl, it was thought that some information might be gained by a survey in this district. The area chosen consisted of twenty quarter-sections containing eighty-three sloughs and pot-holes from one-quarter to twelve acres in size. All the bodies of water were small enough to enable an observer to count the actual number of ducks on each, thus making conditions much more accurate and also easier.

Nineteen species of waterfowl were noted this spring (1935) of which fourteen remained to breed, either the nests being found or the broods seen later in the summer. The other five species were transients or too rare to be included.

Observations were carried on daily from April 29 until May 18. The hours spent in the field were from 4:30 A. M. until 7:00 A. M. and from 5:30 P. M. until dark; also most of the hours of daylight on Saturdays and Sundays. Ducks were not noted as going north in numbers; the so-called northern flight, at this point, seems to be largely a myth. The work was discontinued after May 18, as Mallards, Pintails, and Canvas-backs were definitely nesting in numbers, and the report would have shown an overwhelming excess of males over females.

The area was divided into twenty divisions each consisting of one-quarter section. A map of each was drawn and the sloughs numbered and listed. A time-table was followed so that each was visited once a week in turn. The ducks on every slough were listed specifically, sexually, and according to numbers. Some of the surface feeders flew up and there was the possibility that they settled in the slough next to be visited. When in the opinion of the observer such was the case, due allowance was made. However, this did not happen often as they usually flew to another area; also, out of a total of eighty-three sloughs it was very unlikely that they would fly to the next particular slough to be visited. Ducks on adjacent areas were not counted until the time came to study that area. The following information was derived in this manner from April 29 until May 18.

Species	Total in Three Counts	Males	Females	Ratio Males to Females
Mallard .....	137	86	51	1.7—1
Gadwall .....	5	3	2	1.5—1
Widgeon .....	36	21	15	1.4—1
Green-winged Teal .....	29	16	13	1.2—1
Blue-winged Teal* .....	64	38	26	1.5—1
Shoveller* .....	10	5	5	1.0—1
Pintail .....	35	26	9	2.9—1
Redhead .....	20	11	9	1.2—1
Canvasback .....	91	55	36	1.5—1
Lesser Scaup .....	424	259	165	1.6—1
Ring-necked Duck .....	24	12	12	1.0—1
American Golden-eye .....	21	11	10	1.1—1
Bufflehead .....	15	10	5	2.0—1
Ruddy Duck* .....	31	24	7	3.4—1
Totals .....	952	577	365	
Average totals .....	317.33	192.33	121.66	1.6—1

The ratios were derived from lesser numbers of birds than those used by other observers but they were taken from the actual breeding birds in their breeding territories.

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## A STUDY OF THE WINTER BIRD LIFE IN BEAR LAKE AND UTAH LAKE VALLEYS†

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### INTRODUCTION

During a number of years past I have had the privilege of making collections and observations of the bird life in certain parts of Utah and Idaho. These studies have been carried on in Bear Lake Valley which lies partly in the extreme southeastern corner of Idaho and partly in Utah, and in Utah Valley in central Utah. It is a striking coincident that these two valleys lying some 200 miles apart contain within their borders two of the largest and most interesting fresh water lakes in the Intermountain West, and possess many general topographical features in common; yet a difference in elevation of about 1,500 feet with its accompanying climatic variations has a significant effect upon the winter bird population in the two areas.

While no attempt is to be made in this paper to present a complete list of the winter birds of these two valleys, an effort will be

\*Blue-winged Teals, Shovellers, and Ruddy Ducks increased towards the end of the survey so that there were actually more present in the district than the above table shows. However, in the case of the Shovellers by far the larger numbers were always in pairs so that the one-one relation is fairly close.

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