

EASTERN AND WESTERN BRED WATERFOWL  
AT WENHAM, MASSACHUSETTS, IN THE  
PAST THIRTY YEARS.

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MANY loose statements have appeared in recent years on "the scarcity of ducks." The term "duck scarcity" means little in itself and is of slight interest to the ornithologist. We need to know very much more than is implied by so vague a term, for with the press of population, intensive wheat culture and subsidence of water levels many species of ducks are certain to decrease in spite of all that can be done.

What interests us particularly at this time is the question of which species show the greatest relative reduction, which the least, and what, if anything, can be done about it. With things as they are it is inevitable that some kinds of ducks will suffer to a much greater extent than others, some will show little change, and others may actually be on the increase.

It is now rather generally admitted that a few species of diving ducks have greatly declined in numbers. In order to see whether this was borne out by my own figures for northeastern Massachusetts, I subjected the Wenham Lake records to further analysis.

At Wenham Lake we have kept rather careful records since 1900 with the exception of one year, 1911. Reference to these records have been made in several short papers in 'The Auk' and the 'Bulletin' of the Essex County Ornithological Club.

Watch has been kept at the camp at Wenham from late September (sometimes earlier) until mid-November, or later. A note is made of all ducks and geese shot, as well as of all those seen passing; besides various general bird notes and notes on the weather.

We are situated at a point where passing migrant ducks cross Cape Ann, Massachusetts, and stop for a short time only. Very seldom do any ducks become localized in the Lake during the autumn, except Golden-eyes in late November. We are dealing with a continuous stream of scattered migrants, rather than with localized bodies of waterfowl.

It seemed worthwhile to attempt to find by some simple method which species had decreased most during this period, and especially to compare the relative abundance of the eastern with the far western breeding kinds. Actual figures may mean little, since conditions here have changed and are still changing, but if the western bred ducks were compared each year, or in each decade, with the total bag for that year or decade, then it seemed that something of significance might be brought out.

Accordingly I divided all ducks taken during the thirty years into two categories, western-bred and eastern-bred. I next figured the "take" for each year and divided the thirty years into three periods of ten years each. In this way it is possible to compare the proportions of eastern and western ducks at Wenham for the first period 1900-1909, the second period 1910-1920 (1911 omitted), and the last period 1921-1930. The ten year periods were selected because figures for any shorter intervals were certain to be vitiated by the marked annual fluctuations in volume and kind of migration. In all cases only birds actually identified in the hand were considered, and the total number thus accounted for in the thirty years was 4711.

I feel sure that observations on birds seen and not taken would show substantially the same changes in status, but sight records may be open to question, even with the most easily identified of birds, and hence are not here taken into account.

Before considering a summary of the actual figures, it remains to consider the two categories of species—eastern and western breeding. In a few cases the division is somewhat arbitrary but most of the species which are common enough to affect these records are easily classified.

*Western Breeding*

Mallard  
Gadwall  
Baldpate  
Shoveller  
Redhead  
Ring-necked Duck  
Canvasback

*Eastern Breeding*

Black Duck  
European Widgeon  
Pintail  
Green-winged Teal  
Blue-winged Teal  
Wood Duck  
Golden-eye

<i>Western Breeding (cont.)</i>	<i>Eastern Breeding (cont.)</i>
Greater Scaup	Hooded Merganser
Lesser Scaup	American Merganser
Bufflehead	Red-breasted Merganser
Old-squaw	Canada Goose
American Scoter	Eastern Brant
White-winged Scoter	Blue Goose
Surf Scoter	
Ruddy Duck	

In order of abundance for the whole period the different species appear as follows:

Black Duck	Bufflehead
Scaups (mostly Lesser)	Hooded Merganser
Ruddy Duck	Baldpate
Canada Goose	Green-winged Teal
Golden-eye	American Merganser
Scoters (three species)	Pintail
Redhead	Mallard

and the rest in much smaller proportions, until we come to the rarities like the following:

Gadwall (2 only)	Eastern Brant (1 only)
Shoveller (5 only)	Blue Goose (1 only)

Now as to the figures which appear to be significant in calculating the actual, or better, the relative reduction in western-breeding ducks as compared to the total number of birds shot.

*Period 1900 to 1909*

Eastern-bred waterfowl taken = 1051

Western-bred waterfowl taken = 895

The western-bred species here represent 46%, or nearly half of the total bag.

*Period 1910-1920 (1911 has no records)*

Eastern-bred waterfowl taken = 866

Western-bred waterfowl taken = 470

The western-bred species here represent 35.1% of the total bag, or just over one-third.

*Period 1921-1930*

Eastern-bred waterfowl taken = 1094

Western-bred waterfowl taken = 335

The western-bred species here represent only 23.4%, or less than one-fourth of the whole bag.

To sum up, these records show a relative decrease in the western as compared to the eastern-bred waterfowl of at least fifty per cent. The actual decrease is much greater than this and if our figures may be relied upon to give a true picture of actual numerical status, we find a reduction of western-bred waterfowl from 895 for the first decade to only 335 for the last decade.

Further analysis shows that if we consider the following species: Mallards, Scaups, Redheads and Ruddies only, we find a reduction from 689 in the first period to only 243 in the latest period. This would be even more striking a figure if we could eliminate the Greater Scaup, because that species has shown little, if any, decrease in numbers during the whole thirty years. (In some of the earlier years the Greater and Lesser Scaup were lumped into one category.)

At recent hearings in Washington before the special Senate Committee on Wild Life Resources, and in other places, it has been rather generally agreed that Redheads, Lesser Scaup and Ruddy Ducks have shown the greatest decrease, especially in the East. In a general way it may be said that the "game" diving ducks have been affected by present adverse conditions more than the surface-feeding ducks. However, we are glad to note that the Canvasback is relatively far better off than the Redhead. We should also hasten to add that these remarks concerning the Ruddy Duck, Lesser Scaup and Redhead apply to the East only, and are not necessarily true for the Western States.

Thus we see that certain species in certain regions quite obviously require some special protection. This is axiomatic, but the question as to how additional safeguards may be applied in a practical manner is something very different.

The Wood Duck has been greatly benefited in most places by special restrictive legislation. The same method might be applied to the Ruddy Duck, at least in the Atlantic Coast States, because

the Ruddy Duck is easily recognized and does not commonly associate with other species or come to decoys readily.

But the case of other diving ducks like the Redhead, Lesser Scaup and Canvasback is very difficult, because all these are easily confused by the average hunter and associate commonly. A prohibition of "battery" shooting (a destructive method of taking ducks) would be a good conservation measure but would work a great hardship on special localities where this device presents the only opportunity for persons owning no land to get any shooting at all. A total prohibition of the "battery" by federal regulation, although justified perhaps from the biological angle, would be very unpopular, and might in the end do more harm to the cause of federal protection than good. A shorter season for "battery" shooting might be proposed and various other suggestions easily come to mind, none of them thoroughly practical at the moment.

The cases of the Redhead and Ruddy Duck are most interesting. Both species are far too tame to successfully meet modern improvements in arms and equipment; both have a southerly breeding distribution and both have very curious and erratic nesting habits which seem to be associated with a partial loss of maternal instinct. These species and the Lesser Scaup conform more nearly to the colony nesting types than do most species of surface-feeding ducks. They appear to be more or less interdependent.

Possibly the peculiarly slip-shod egg laying habits of these ducks are an actual disadvantage when the species is confronted by important adverse conditions. This is a point which deserves further study.

*Wenham, Mass.*