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Occurrence of Ross Geese (*Chen rossii*) Detected from Avian Cholera Losses

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OCCURRENCE OF ROSS' GEESE *(CHEN ROSSII)* DETECTED FROM AVIAN CHOLERA LOSSES

During the annual spring waterfowl migration, an estimated 5-7 million ducks and geese pass through the Nebraska Rainwater Basins area. The Rainwater Basins area covers all or parts of 17 counties in south-central Nebraska, encompassing some 4,200 square miles (see Figure 1). Wetlands of various size, depth, and water permanency are scattered throughout this area. These wetlands are important resting and feeding areas for ducks and geese on their migration north to the breeding grounds. Avian cholera, a highly infectious bacterial disease of waterfowl, has also been an annual visitor to the Rainwater Basins since 1975, killing from as many as an estimated 80,000 birds in 1980 to as few as 300 in 1978 (Nebraska Game and Parks Commission, 1985). The die-off that occurred in the spring of 1975 was the first documentation of avian cholera in Nebraska. Wetlands are monitored by personnel of the U.S. Fish and Wildlife Service and the Nebraska Game and Parks Commission during spring migration in an effort to detect disease outbreaks. Waterfowl carcasses found are collected and incinerated to prevent spread of the disease

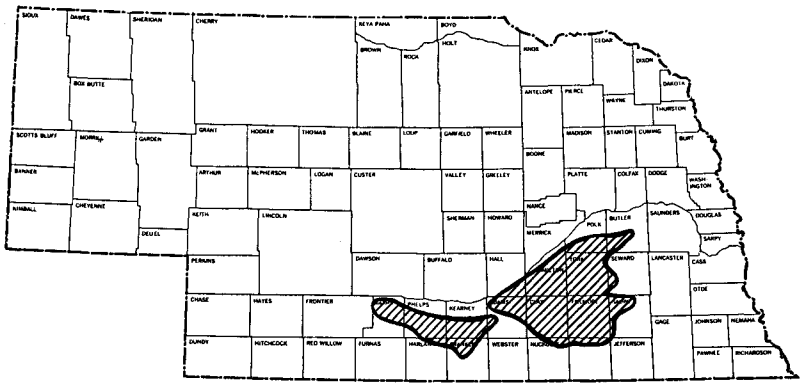

Figure 1. The Nebraska Rainwater Basins Area

Table 1 Species Composition of 1988 Avian Cholera Losses

Species	Number	Percent of Total
White-fronted Goose	714	29.9
Canada Goose	617	25.8
Snow Goose	491	20.6
Ross' Goose	15	.7
Pintail	254	10.6
Mallard	107	4.4
American Wigeon	73	3.0
Ring-necked Duck	32	1.3
Redhead	17	.8
Green-winged Teal	17	.8
Gadwall	15	.7
Other	35	1.4
Total	2,387	100.0

to healthy birds. A numerical count and determination of species composition of birds picked up from each wetland has been made annually since 1975. The species composition of birds retrieved in 1988 is shown in Table 1. Beginning in 1984, chronic outbreaks of avian cholera have also occurred in the late fall on Big Sandy Reservoir Number 1, located on the National Meat Animal Research Center, near Clay Center in Clay Co. Losses have ranged from an estimated 250 birds in 1987 up to as many as an estimated 1,800 in 1986.

In the spring of 1986, one Ross' Goose was retrieved on Mallard Haven Waterfowl Production Area (WPA), in Fillmore Co. Then, during the avian cholera outbreak in November 1986, a total of 10 Ross' Geese was picked up and identified by Game and Parks Commission personnel on Big Sandy Reservoir Number 1. During the spring 1987 avian cholera die-off, a total of 8 Ross' Geese was picked up on three different wetlands (Harvard WPA, Mallard Haven WPA, and Massie WPA) in Clay and Fillmore counties by field personnel of the Nebraska Game and Parks Commission and the U.S. Fish and Wildlife Service. In the spring of 1988 a total of 15 Ross' Geese was picked up on five different wetlands (Harvard WPA, Smith WPA, Mallard Haven WPA, Pintail Wildlife Management Area (WMA) and Big Sandy Reservoir Number 2), again in Clay and Fillmore counties. The number of Ross' Geese retrieved during avian cholera outbreaks within the past 16 months (November 1986 - March 1988) totals 33 birds. From 1975 to 1986, records indicate only two Ross' Geese had been picked up during avian cholera outbreaks, one in spring 1984 in Clay Co. and one in spring 1983 in Phelps Co. A search of The Nebraska Bird Review indicates no previous documentation of Ross' Geese in any of the 17 Rainwater Basin counties since 1964. Annual occurrences during spring and fall migration are known from counties bordering the Missouri River and counties in the Central Panhandle. Based on the information presented above, it appears that there has been an increase in the occurrence of Ross' Geese in the Rainwater Basins during the past 4-5 years.

The reason for the apparent increase in numbers of Ross' Geese occurring in the Rainwater Basins area is unknown at this time. It is known that Ross' Geese associate freely with Lesser Snow Geese *(Chen caerulescens)* on the wintering grounds and will accompany them during migration. Data show there has

Table 2 Corresponding Number of Snow Geese Retrieved From Areas Where Ross' Geese Were Picked Up in 1988

Area	Number of Geese Ross'	Snow
Harvard WPA	1	143
Smith WPA	7	31
Mallard Haven WPA	4	79
Pintail WMA	2	19
Big Sandy Res. No. 2	1	6
Total	15	278

been a marked increase over the past 6-7 years in the number of Lesser Snow Geese using the Rainwater Basins during spring migration. Therefore, a possible explanation for the apparent increase in Ross' Geese may be due to the increase in numbers of Lesser Snow Geese in the basins and the close association of Ross' Geese with them. Table 2 shows the corresponding number of Lesser Snow Geese retrieved from areas where Ross's Geese were picked up in 1988.

An international Snow Goose neckbanding project is currently underway and should provide new information concerning Lesser Snow and Ross' Goose migration. The project was initially aimed at Lesser Snow Geese of the Western Canadian Arctic, but has been expanded to include Lesser Snow Geese of Wrangel Island, USSR, and Ross' and Lesser Snow Geese of the Central Canadian Arctic. The project's objectives are to determine population sizes, spatial and temporal distribution, distribution and rates of harvest, survival rates, and relationships among populations. Neck and leg banding of Lesser Snow Geese in the Western Canadian Arctic began in 1987. In 1988, neckbanding will continue in the Western Canadian Arctic and begin on Wrangel Island. Neckbanding of Ross' and Lesser Snow Geese should begin in the Central Canadian Arctic in 1989. Success of the project relies on information provided by observers who sight neckbanded geese on wintering grounds and during spring and fall migration. Any sightings in Nebraska can be reported to the Nebraska Game and Parks Commission. A special effort should be made to identify the color of neckbands sighted.

Identification as Ross' Geese was made based on characteristics outlined by Bellrose, 1976. These characteristics are: a short stubby bill (average length of culmen 1.6 in.), warty protuberances between the nostrils and the base of the upper bill, lack of the black "grin patch" typical in Lesser Snow Geese, overall small body size and weight, and shorter neck.

LITERATURE CITED

Nebraska Game and Parks Commission, 1985. *Wildlife Disease and Mortality Investigations, Work Plan S-85.*

Bellrose, F. C. 1976. *Ducks, Geese and Swans of North America.* Stackpole Books Harrisburg, Pa.

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