

POPULATION STATUS AND MANAGEMENT OF TRUMPETER SWANS IN SASKATCHEWAN

by D. J. NIEMAN and R. J. ISBISTER*

Once ranging as a breeding bird over a large portion of the central Great Plains, the Trumpeter Swan has been virtually eliminated from most of its former range by destruction of habitat.^{1 2 14} From a population of several dozen in 1916 this magnificent bird has made a remarkable comeback in North America and probably exceeds 4,000 individuals at present.^{9 5}

In the United States, Trumpeter Swans are restricted to several northwestern states and southern Alaska. In Canada this species winters in British Columbia and breeds in small numbers in Alberta and Saskatchewan.^{2 8 12} The status of the Trumpeter Swan in Saskatchewan from the first recorded sightings in the province (1914) until 1971 was reviewed in an earlier paper.¹² Since then, additional investigations have changed our knowledge of the status of this species in the province.

In 1972, the Canadian Wildlife Service implemented a program of research and management on Saskatchewan Trumpeters. Management is aimed at providing complete protection and collecting annual population data.^{10 11} Investigations into breeding biology, habitat relationships, mortality, migration routes and wintering grounds of Saskatchewan Trumpeters are underway. The objective is to assist in their preservation and to expand

their present breeding range in Saskatchewan.

Methods and Objectives

To provide protection, special posters were erected around all known breeding areas, warning against the killing or molestation of these birds. These signs are maintained through twice annual checks by Canadian Wildlife Service personnel. Information provided to landowners, federal and provincial enforcement personnel and other government officials served to provide additional protection.

Annual aerial surveys have been conducted in the Cypress Hills and other areas of Saskatchewan where Trumpeter Swans have been reported during the breeding season. These surveys have provided data on the location and size of the breeding population, the number of cygnets fledged, brood movement and fall distribution.

Breeding pair surveys were carried out May 31 and May 25 and the brood surveys July 24 and August 10 in 1972 and 1973, respectively. One fall aerial survey was conducted on September 5, 1972, and a search for new breeding areas on August 10, 1973. Investigations into the breeding biology and an evaluation of habitat requirements were conducted on the ground on June 6, 1972, and May 28, 1973. Information was collected on nest location, size and construction,

*Canadian Wildlife Service,
Prairie Migratory Bird Research Centre,
Saskatoon, Sask.



Trumpeter Swan nesting habitat in the Cypress Hills, Saskatchewan. D. J. Nieman

clutch sizes and the physical characteristics of the water areas used for breeding.

Cygnets and adults (flightless during the moult) have been banded and colour-marked for the past 2 years to obtain information on mortality, migration routes and wintering grounds, so far undetermined. This information may explain, partially, why this population has not expanded in recent years. Yellow plastic neck collars and matching leg bands with identifying numbers and letters were applied in addition to the standard metal leg bands.

Results

Three Trumpeter Swan nests were located in the Cypress Hills on May 31, 1972. They were on the same areas as in 1971 — two lakes and a beaver pond. No non-breeding swans were observed during this survey.

Clutch of 6 and 7 eggs and 5 recently hatched cygnets were observed during ground investigations on June 6 and 7. On a July 24 aerial survey,

broods of two, two and four were seen with the adults. We banded one adult female and four cygnets. None was colour-marked.

All 10 young and 6 adults were alive and flying on September 5. The 1972 population of 16 Trumpeter Swans in the Cypress Hills region was the same as the previous year and equal to the highest population recorded in Saskatchewan.

The Cypress Hills population dropped to two pairs in 1973. An aerial survey on May 25 was again unsuccessful in locating sub-adult swans. The reasons for this are not clear, as Trumpeter cygnets reportedly return to their natal marshes each breeding season until they attain maturity believed to be four years.¹ Ground investigations conducted on May 28 revealed two nests with 6 and 5 eggs on a lake and beaver pond used in the previous two years.

Two pairs of Trumpeters, each with a brood of three cygnets, were located during an aerial survey on August 10. On August 21, one adult female from



Adult Trumpeter Swans near the nest.

R. H. MacKay

Each family group and all six cygnets were banded. These eight birds were also colour-marked with plastic neck collars and tarsal bands. It would appear that there were 10 Trumpeter swans in the Cypress Hills in the fall of 1973, six fewer than the previous 2 years.

On August 17, 1973, we found another population of Trumpeter swans on three isolated lakes in the open parklands between Meadow Lake and North Battleford. There were one pair of adults with a brood of two cygnets and two non-breeders, believed to be sub-adults.

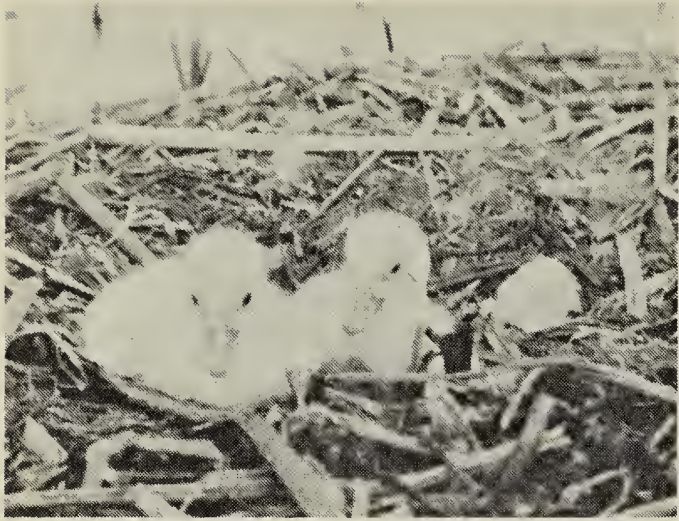
Discussion

First reported in Saskatchewan in 1914 and first recorded as breeding in the Cypress Hills in 1951,^{13 7} this population of Trumpeter Swans fluctuated between one and two pairs (plus

an occasional non-breeder) until 1971.^{3 6} The breeding population remained at three pairs during 1971 and 1972 when 9 and 10 cygnets, respectively, were fledged. In 1973, the breeding population dropped to two pairs. Six cygnets probably migrated south with them.

The banding and colour-marking program will hopefully reveal which factors are limiting the size of this isolated breeding population. The loss of even one nesting territory or breeding pair will seriously jeopardize the survival of this group unless there is sufficient recruitment. However, the population is not expanding and, although this species requires large breeding territories, there seems sufficient habitat in the Cypress Hills to support additional pairs.⁴

Cygnets mortality may be high during migration and on wintering grounds,



R. H. MacKay.

Newly hatched Trumpeter Swan cygnets on the nest.

or young from the Cypress Hills may be contributing to some other population. Banding and colour-marking may provide important answers.

This research indicates that differences do exist between this and other breeding populations. Saskatchewan swans have a shorter breeding season than some of the more southerly populations and clutch sizes average slightly larger. The shorter breeding season is probably a factor of the latitude of the breeding areas, and the larger clutch sizes could be an indication of unsaturated breeding habitat. Our observations have shown that Saskatchewan Trumpeters will tolerate Canada Geese and non-breeding Trumpeters on their territories and they appear to lack the brood attentiveness exhibited elsewhere.

Prior to 1973, only two relatively stable breeding populations of this species were known in Canada — at Grande Prairie, Alberta, and in the Cypress Hills of Saskatchewan.¹² The discovery of breeding swans in west-central Saskatchewan indicates that additional suitable habitat exists and that perhaps recruitment from the Cypress Hills flock to other areas of the province is occurring. Con-

tinuation of the colour-marking scheme could substantiate this.

The Canadian Wildlife Service is presently considering the possibility of a transplant program involving the relocation of Trumpeter Swans from established breeding populations into suitable habitat in Saskatchewan. However, a successful introduction program should not be implemented until basic population data, including a determination of the wintering grounds, migration routes and factors limiting the population size of the existing swans in Saskatchewan are known. A successful introduction program also would depend upon the protection given these birds on breeding and wintering grounds.

Acknowledgements

The authors wish to express their gratitude to the Jim Leslie and C. Harley Bryan families of the Cypress Hills for their genuine hospitality and full cooperation in our field activities. Their special interest in the Cypress Hills Trumpeter Swans, which has ensured the protection of these birds on their breeding areas, is deeply appreciated.



Paul Pryor

Trumpeter Swan cygnet with plastic collar

Special thanks go to John Worthington, Royal Canadian Mounted Police, for assistance during several aerial surveys. We gratefully acknowledge the contributions of Cliff Matthews, Canadian Wildlife Service, Ross Hanson, U.S. Bureau of Sport Fisheries and Wildlife, and Wayne Renaud who were instrumental in our discovery of the Trumpeter breeding area in west-central Saskatchewan.

¹BANKO, W. E. 1960. *The Trumpeter Swan*. North American fauna, 63, U.S. Dept. Interior, Washington. 214 pp.

²BANKO, W. E. and R. H. MacKAY. 1964. *Our native swans*. In *Waterfowl Tomorrow*. U.S. Dept. of Interior, Washington. 770 pp.

³BARD, F. C. 1953. *The Trumpeter Swan*. *Blue Jay*, 11:26-27.

⁴DELACOUR, J. 1954. *The waterfowl of the world*. Vol. 1. Country Life Ltd., London. 284 pp.

⁵EVENDEN, F. G. 1969. *Report of Committee on Conservation, 1969*. *Auk*, 86:738-744.

⁶LAHRMAN, F. W. 1961. *A second pair of Trumpeter Swans nesting in Saskatchewan*. *Blue Jay*, 19:18-19.

⁷LISTER, R. 1951. *Trumpeter Swans breeding in the Cypress Hills of Alberta*. *Can. Field-Nat.*, 65:157-158.

⁸MORRIS, W. A. 1971. *Birds of British Columbia*. In *Canadian Wildlife Service '71*. Canadian Wildlife Service, Ottawa. 88 pp.

⁹MUNRO, D. A. 1962. *Trumpeter Swans*. *Canadian Audubon*, 24:65-69.

¹⁰NIEMAN, D. J. 1971. *A proposed plan for management of the Cypress Hills Trumpeter Swans*. Unpublished report, Canadian Wildlife Service. 8 pp.

¹¹NIEMAN, D. J. 1972. *Cypress Hills, Saskatchewan, Trumpeter Swans*. Proceedings Second Trumpeter Swan Society Conference, Grande Prairie, Alberta. pp. 27-28.

¹²NIEMAN, D. J. 1972. *Trumpeter Swans in the Cypress Hills*. *Blue Jay*, Vol. XXX No. 2.

¹³SYMONS, R. D. 1967. *Hours and the birds*. Univ. of Toronto Press, Toronto. 224 pp.

¹⁴TAVERNER, P. A. 1949. *Birds of Canada*. The Musson Book Co. Ltd., Toronto. 447 pp.

MORE HUDSONIAN GODWITS IN SASKATCHEWAN

by WAYNE C. HARRIS*

The Hudsonian Godwit has been considered an uncommon migrant in Saskatchewan. Until 1969 it was listed in the Red Data Book as being a rare species.³ Even before they were removed from the rare and endangered species list, Hudsonian Godwits migrated through Saskatchewan, but always in small numbers and infrequently. Most previous dates are of

spring migrants. Fall migrants were considered rare. In fact, until 1970 numbers of Hudsonian Godwits over a flock of 15 had not been reported during fall migration. In 1970 and 1971 Gollop reported concentrations of Hudsonian Godwits for July and August and summarized all previous fall records from the Prairie Provinces to central Texas.¹ The following note reports more recent fall observations of Hudsonian Godwits in Saskatchewan.

Box 93,
Raymore, Sask.
S0A 3J0