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Lacreek National Wildlife Refuge 2004 Fall Trumpeter Swan Survey

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September 2004

Introduction

The annual fall trumpeter swan survey is conducted to determine production and distribution for a portion of the Interior Population of trumpeter swans in accordance with the Central Flyway and the Lacreek National Wildlife Refuge (hereafter Refuge) trumpeter swan management plans (1997 and 1982 respectively). Each plan outlines population objectives (VI-2 and A-1) and management strategies for monitoring population status, which at Lacreek includes aerial surveys. These surveys are part of a trumpeter swan monitoring program that spans over two decades.

Methods

The survey was conducted from August 30th to September 2nd, 2004 using a Cessna 177 RG airplane, flying at low elevations (600 to 800 ft) and speeds (120 to 160 mph). The weather conditions were favorable with cloud cover ranging from 0 to 15%, temperatures were in the low 90° F range, and winds gusted up to 15 mph on the ground.

The survey route included much of NW Nebraska, SW South Dakota, and a small portion of NE Wyoming in the vicinity of Colony, Wyoming (Fig. 1). Once a potential swan was sighted, it was verified to be a swan and classified by the observer(s). Swans were classified as pairs with or without broods, cygnets, and singles. A coordinate location was collected for each location where swans were observed.

Results

There were a total of 391 swans counted, which is an increase of 32% from 2003. The majority of the increase occurred in cygnet production at 52% (51 to 107). There was also a 24% increase in white birds from 213 to 282 in 2004 (Fig. 2). These results are above the 15-year (1990 – 2004) average for white birds (179 ± 14), cygnets (81 ± 6), and total birds (260 ± 17).

The majority of the swans were located in the sandhills and mostly in Nebraska (90% of the swans counted). Additional areas in Wyoming and South Dakota contained less than 40 swans combined.

Discussion

Habitat Conditions

Although the survey area continued to experience a drought (Fig. 3), precipitation was steady through out the summer months and kept water conditions favorable. Additionally many of the wetlands and lakes located in the sandhills provide much need isolation, cover, and food resources. The submergent aquatic vegetation (SAV) appeared to be plentiful in many areas and could be easily seen from the air. Habitat conditions outside the sandhills were of less quality, relative to the sandhills.

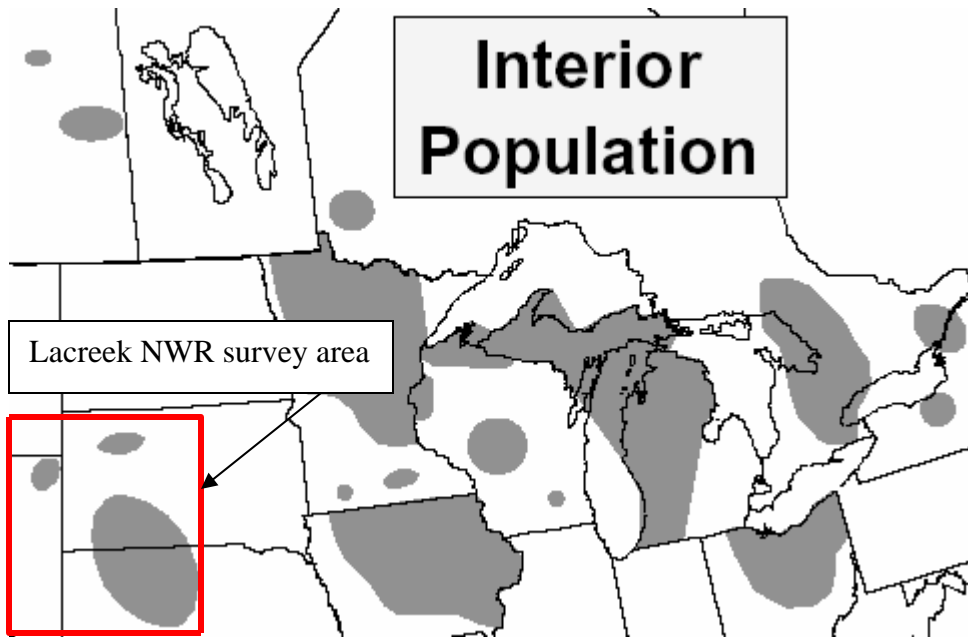


Figure 1. Lacreek NWR trumpeter swan survey area located in western SD, northern Nebraska, and northeast Wyoming.

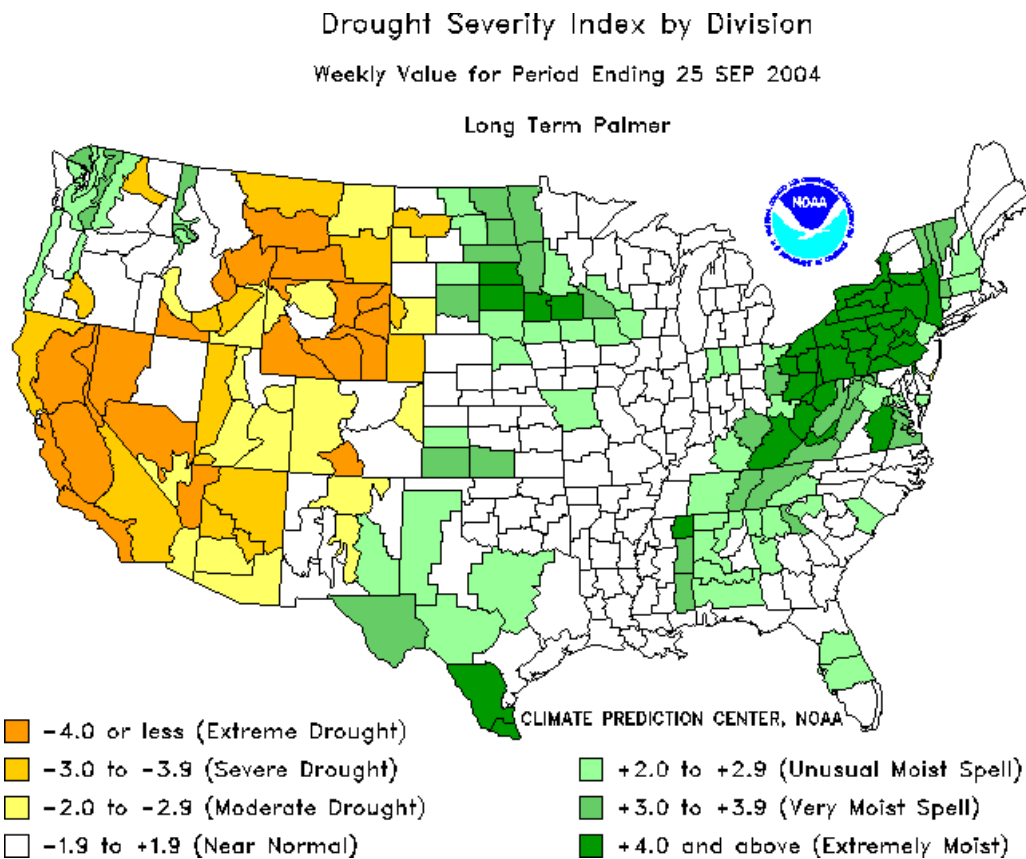


Figure 3. Palmer Drought Severity Index for survey area. The index in survey area ranged from near normal to extreme drought in Wyoming.

Recommendations

It is recommended that the survey route be changed to exclude Wyoming and parts of Central South Dakota. Few birds have been seen in those areas since the drought, perhaps due to less favorable habitat conditions. Alternatively, it is recommended the Nebraska portion of the survey be expanded. This could potentially be a more reliable indicator of production than what has been indicated in the past.

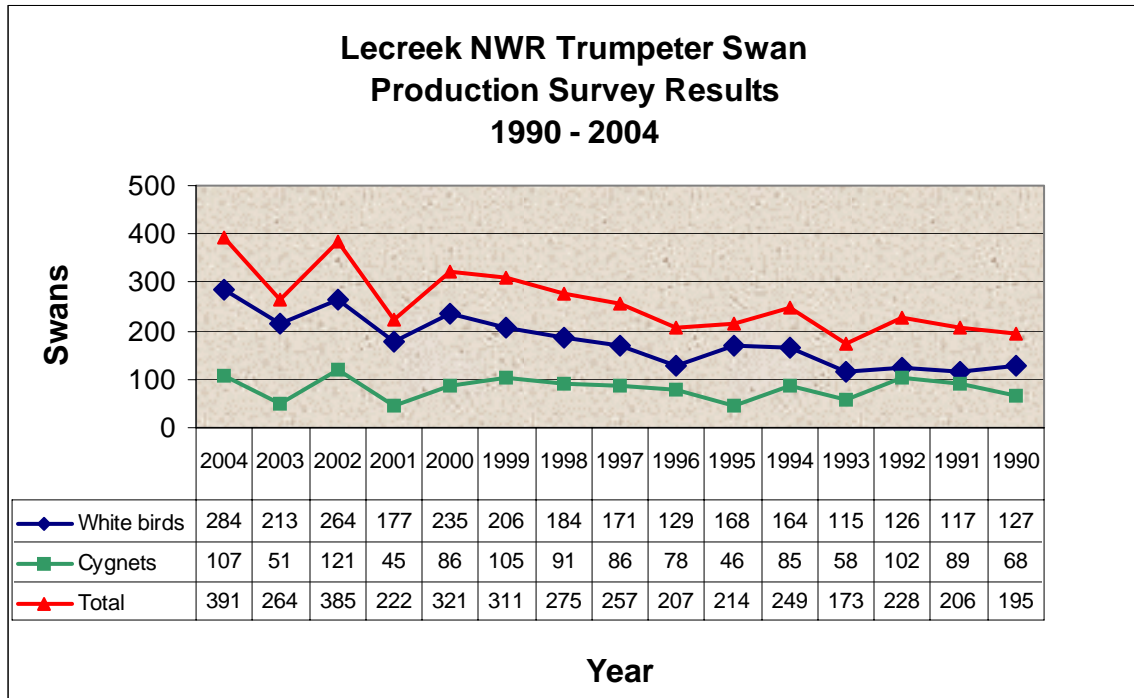


Figure 2. Lacreek NWR 2004 fall trumpeter swan survey results.

Literature Cited

Lacreek National Wildlife Refuge. 1982. Management plan for Lacreek trumpeter swans. USFWS Lacreek NWR. Martin, SD. Unpubl. rept. 35pp.

Subcommittee on the Interior Population of Trumpeter Swans. 1997. Mississippi and Central Flyway Management Plan for the interior population of trumpeter swans. Mississippi and Central Flyway Councils. [c/o/ USFWS, Migratory Coordinator] Twin Cities, MN. Unpubl. rept. 51pp.

Appendix A. Lacreek NWR 2004 Trumpeter Swan survey results by location.

Table 1. Lacreek NWR 2004 Trumpeter Swan survey results.

Date	White bird pairs	Cygnets	Group	State	Comment: Pilot Gilbert, Observer S. Comeau and R. Kraft
8/30/04	1	0	0	NE	So of Cody Lake
	0	0	5	NE	42 57.4 N 101 25.6 W
	1	0	0	SD	43 00.1 N 101 55.4 W
	1	3	0	NE	42 59.3 N 101 26.7 W
	1	0	0	NE	42 57.7 N 101 30.6 W
	2	0	0	NE	Round Lake
	1	0	0	NE	SB Lake
	3	0	0	NE	Goose Lake
	0	0	3	NE	42 58.8 N 101 39.4 W
	1	2	0	NE	Coffee Lake
	2	0	0	NE	42 58.5 N 101 52.1 W
	1	2	0	SD	East Lake
	1	0	0	NE	Frye Lake
	0	0	6	SD	Tutshenhagen Lake
	1	0	0	NE	Ester Lake
	0	0	8	NE	Dad's Lake
	1	0	0	SD	West Lake
	0	0	9	SD	Dog Ear Lake
	0	0	5	SD	Jack Lake
	1	3	0	SD	43 04.4 N 100 10.2 W
Subtotal	18	10	36		
8/31/04	1	0	0	NE	45 38.3 N 101 55.3 W
	1	4	0	NE	42 40.6 N 101 51.1 W
	1	3	0	NE	42 26.8 N 101 36.4 W
	1	2	0	NE	42 31.4 N 101 27.6 W
	1	3	0	NE	42 25.7 N 101 23.1 W
	1	3	0	NE	42 24.1 N 101 23.5 W
	1	1	0	NE	42 22.0 N 101 23.3 W
	1	0	0	NE	42 22.5 N 101 20.4 W
	1	1	0	NE	42 19.7 N 101 16.5 W
	1	0	0	NE	42 14.6 N 101 24.4 W
	1	4	0	NE	42 15.8 N 101 35.6 W
	1	0	0	NE	42 15.9 N 101 36.9 W
	1	0	0	NE	42 19.2 N 101 41.8 W
	0	0	3	NE	42 22.5 N 101 36.4 W
	1	2	0	NE	42 23.0 N 101 44.2 W
	1	0	0	NE	42 23.9 N 101 46.8 W
	1	0	0	NE	42 22.6 N 101 46.5 W
	1	2	0	NE	42 24.7 N 101 52.2 W
	1	4	0	NE	42 28.0 N 101 56.1 W
	1	5	0	NE	42 25.8 N 101 59.1 W
1	0	0	NE	42 27.7 N 102 00.1 W	
1	0	0	NE	42 31.9 N 102 00.7 W	
1	0	0	NE	42 32.1 N 102 08.7 W	
1	0	0	NE	42 25.2 N 102 04.0 W	

Table 1 continued. Lacreek NWR 2004 Trumpeter Swan survey results.

	1	1	0	NE	42 26.1 N	102 09.3 W	
	0	0	3	NE	42 20.8 N	102 05.2 W	
	1	0	0	NE	42 18.0 N	102 01.8 W	
	1	2	0	NE	41 45.5 N	102 18.3 W	
	1	1	0	NE	41 53.1 N	102 07.0 W	
	2	1	0	NE	42 14.2 N	102 00.0 W	
	0	0	3	NE	42 13.8 N	101 53.8 W	
	1	0	0	NE	42 14.8 N	101 50.9 W	
	1	0	0	NE	42 11.8 N	101 53.6 W	
	1	2	0	NE	42 12.3 N	101 54.4 W	
	0	0	13	NE	42 07.2 N	101 47.0 W	
	1	0	0	NE	42 05.7 N	101 52.0 W	
	1	0	0	NE	42 03.3 N	101 51.2 W	
	1	0	0	NE	42 00.8 N	101 50.1 W	
	2	5	0	NE	42 00.1 N	101 43.5 W	
	0	0	5	NE	41 52.4 N	101 41.9 W	
	1	0	0	NE	41 44.6 N	101 47.2 W	
	1	4	0	NE	41 42.1 N	101 38.4 W	
	0	0	3	NE	41 39.4 N	101 39.2 W	
	1	3	0	NE	41 39.5 N	101 35.3 W	
	0	3	0	NE	41 38.4 N	101 30.0 W; 1 single with 3 cygnets	
	1	0	0	NE	41 31.0 N	101 18.9 W	
	1	0	0	NE	41 41.1 N	101 21.0 W	
	1	3	0	NE	41 40.5 N	101 26.7 W	
	5	0	0	NE	41 49.4 N	101 35.1 W	
	2	4	0	NE	41 53.2 N	101 37.6 W	
	1	0	0	NE	42 02.2 N	101 32.5 W	
Subtotal	51	63	30				
9/1/04	0	0	0	SD	44 57.2 N	102.57.2 W; 1 single	
	1	0	0	SD	45 02.3 N	102.51.5 W	
	1	1	0	SD	44 45.6 N	102 40.2 W	
	1	0	0	SD	44 41.1 N	102 26.3 W	
Subtotal	3	1	0				
				Pilot: D. Gilbert, Observers: R. Kraft and T. Koerner			
9/2/04	1	0	0	NE	42 43.6 N	101 30.1 W	
	1	0	0	NE	42 43.7 N	101 28.5 W	
	1	1	0	NE	42 43.0 N	101 23.1 W	
	1	0	0	NE	42 45.5 N	101 23.2 W	
	0	0	6	NE	42 46.0 N	101 18.9 W	
	0	0	3	NE	42 40.2 N	101 16.1 W	
	1	3	0	NE	42 41.1 N	101 04.7 W	
	1	0	0	NE	42 40.1 N	101 02.8 W	
	1	3	0	NE	42 32.9 N	101 01.9 W	
	1	3	0	NE	42 31.3 N	101 56.7 W	
	1	0	0	NE	42 27.0 N	100 52.9 W	
	1	0	0	NE	42 26.1 N	100 53.3 W	
	1	5	0	NE	42 27.7 N	100 58.4 W	
	1	2	0	NE	42 11.9 N	101 40.5 W	

Table 1 continued. Lacreek NWR 2004 Trumpeter Swan survey results.

	4	0	0	NE	42 11.3 N	100 39.1 W
	1	0	0	NE	42 18.0 N	100 35.4 W
	1	1	0	NE	42 20.6 N	100 35.3 W
	1	3	0	NE	42 19.7 N	100 33.7 W
	1	4	0	NE	42 22.0 N	100 38.8 W
	1	5	0	NE	42 26.8 N	100 30.9 W
	1	0	0	NE	42 25.4 N	100 24.7 W
	1	0	0	NE	42 18.6 N	100 04.2 W
	0	0	3	NE	42 19.8 N	100 04.6 W
	1	1	0	NE	42 28.6 N	100 29.0 W
	0	0	4	NE	42 29.6 N	100 29.7 W
	1	0	0	NE	42 30.7 N	100 28.9 W
	1	2	0	NE	42 32.8 N	100 35.6 W
	1	0	0	NE	42 33.0 N	100 36.3 W
	1	0	0	NE	42 36.1 N	100 33.5 W
Subtotal	28	33	16			
Total	100	107	82			
Total birds	200	107	82		391 (including 2 single white birds)	
