

# 2022 Fall Staging Survey of Swans

Kimiwan Lake, Alberta



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December, 2022

## Introduction

Kimiwan Lake is a well-known staging lake for waterfowl (Macdonald 1987) with regional and national importance (Poston et. al. 1990). The lake stages the highest numbers of swans in the fall in north western Alberta and may in fact, be at times, the most utilised fall staging wetland for tundra swans in all of Alberta.

Both Tundra Swans and Trumpeter Swans stage at the lake, with increasing numbers of Trumpeter Swans as the Alberta population continues to show positive population trends (M. Heckbert pers. comm). Fall staging swan counts at Kimiwan Lake have been undertaken by the Kimiwan Lake Naturalists consecutively since 2001 (Kimiwan Lake Naturalists, 2001-2021).

Historical fall waterfowl staging counts at the lake were conducted intermittently between 1962 and 1985 by Alberta Fish and Wildlife Services and Ducks Unlimited Canada, however the timing of the surveys (generally August and early September annually) missed the staging swans. Only one survey on October 17, 1985 resulted in the observation of 91 swans at the lake (Macdonald 1987).

Continent-wide surveys for Trumpeter swans are completed every 5 years (last surveyed in 2015) and are designed to inventory breeding and nonbreeding Trumpeter swans throughout their known breeding range, however Kimiwan Lake was not located in an active survey block area for any of the surveys.

Past conservation planning for the Kimiwan Lake Important Bird Area completed by the Kimiwan Lake Naturalists, identified the need for accurate inventories of staging swans as part of an ongoing program of bird population data collection and monitoring at Kimiwan Lake. The Kimiwan Lake Naturalists feel that these inventories are important information to support continued efforts to maintain secure staging habitats free of disturbance at the lake. It is possible that human-caused disturbances during the important staging period for swans may disrupt vital feeding and resting behaviour of swans. The Kimiwan Lake Naturalists believe that they can play an important role in the collection of staging information and as such, fund the annual staging swan census.

## Methods:

A total of 18 surveys of staging swans were completed at the lake between September 29th and October 31st, 2022 (Table 1). Surveys were completed from the ground, using a spotting scope (15-45x) from a higher elevation point located on the south bank of the lake, within the Town of McLennan, at the corner of 2nd Street East. Surveys were completed a minimum of 2 days a week. If inclement weather conditions prevented observation of the lake, the survey was completed the next possible day. Typically surveys were completed in the late afternoon or evening when light conditions were most favourable.

Table 1. Numbers of Staging Swans Observed at Kimiwan Lake, 2022

Date	Time (minutes)	Number of swans	Cloud percentage	Light Intensity	Temperature (°C)
09/29/22	7	0	95	medium	15
10/06/22	10	227	0	bright	15
10/07/22	10	211	0	bright	18
10/10/22	8	3	10	low	6
10/12/22	6	3	0	bright	14
10/13/22	7	2	30	bright	20
10/14/22	13	58	20	bright	16
10/15/22	9	9	20	bright	21
10/17/22	8	69	0	bright	24
10/19/22	9	0	90	medium	20
10/20/22	7	0	0	bright	14
10/22/22	12	0	10	medium	1
10/23/22	6	0	10	medium	5
10/25/22	11	0	40	medium	7
10/27/22	6	0	20	medium	4
10/28/22	7	0	0	bright	6
10/29/22	5	0	30	medium	2
1031/22	8	0	0	medium	8

## Results

Swans were first observed at Kimiwan lake on October 6th, 2022 (227 swans). The last swans observed were recorded at Kimiwan lake on October 17th, 2022 (69 swans). The minimum number of swans recorded was 0 (September 29th and October 19th to October 31) and the maximum number of swans recorded was 227 (October 6th). When swans were recorded on the lake, the average number of swans recorded at each survey with swans on the lake was 73 swans.

There were major fluctuations in the numbers of swans this year. The average number of swans per day of the entire survey was 32.3. The largest fluctuations were between October

7 and October 10 as the number of swans diminished from 211 to 3. During the peak swan migration, typically the second to third week of October, a total of only 504 swans were recorded. No swans were recorded after October 19th! As observed in previous years, low numbers and the quick migration of staging swans are sometimes observed at Kimiwan Lake. The exact reasons behind this are unclear. Poor weather can speed up migration or reduce the staging time. While it was an overall warm fall, it is not believed that poor weather reduced swan use at the lake. Generally, populations of both species of swans are strong in North America such that even a poor reproductive summer should not have resulted in low numbers of swans at the lake. Interestingly, a total of 24 swans were observed on October 17th at the McLennan-Girouxville canal crossing at highway #2 just south of McLennan. This observation indicates that swans were using other open water sources as migration stopovers.

#### Comparison (2022 and 2020)

The most recent survey where significant numbers of swans were observed on Kimiwan Lake was in 2020. The total number of swans observed in 2020 was 2060 while the total number of swans observed in 2022 was 582. The daily maximum of swans in 2020 was 957 while the daily maximum swan total in 2022 was 227. An average number of 114 swans per survey was recorded in 2020. By multiplying the average with the total number of possible survey days (38) resulted in a potential of 4347 swan-days. The average number of swans observed in 2022 was 32.3. The total number of possible survey days (32) multiplied by the average number of swans recorded in 2022 resulted in 1035 swans-days in 2022. The swans that were recorded in 2022 did arrive during the peak of the migration proving that some annual consistency still appeared in 2022.

Overall, the average number of swans recorded on Kimiwan Lake in 2022 was lower than that of 2020 but swans were staged on the lake for a longer period of time in comparison to 2020.

#### Discussion

This survey was another comprehensive and systematic survey of staging swans at Kimiwan Lake and has turned out to be a very cost-effective method of quantifying the value of Kimwas Lake to staging swans. Kimiwan Lake has historically been a highly utilized staging location for swans, although the extent of use by each swan species has not been quantified.

#### Recommendations

1. Continue the annual survey
2. Counts should be completed near the middle to late part of the day during the peak of swan population on the lake.
3. Use local surveyors when possible that can complete the counts accurately

## References

Heckbert, D.A. 2020. Fall Staging Swan Survey at Kimiwan Lake. Kimiwan Lake Naturalists. Unpublished Report. McLennan, Alberta