

Fall Staging Swan Survey

Kimiwan Lake

2001



Photo Credit: J. Bisley

M. D. Heckbert
Kimiwan Lake Naturalists

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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 high numbers of swans in the fall with both tundra and trumpeter swans spending time at the lake. However the total fall staging numbers of swans has never been documented.

Recently, spring and fall waterfowl staging information was collected in 2000 at the lake (Heckbert and MacKinnon 2001), but focused on ducks staging activities. Historical fall staging counts at the lake were conducted intermittently between 1962 and 1985 by Alberta Fish and Wildlife Service 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 five years and are designed to inventory breeding and non-breeding trumpeter swans throughout their known summer range. The most recent survey of the Northwest Boreal Region was completed in August and early September 2000. This survey did not record staging swans.

Recent 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 habitat at the lake. The group also believes that they must play an active role in the collection of this information and as such, secured 50% of the necessary funding for this project from Ducks Unlimited Canada and provided the remaining funds for the project.

Methods

A total of 25 surveys of staging swans were completed at the lake between September 24 and November 6, 2001 (Table 1). Surveys were completed from the ground, using binoculars (10 x 40) and a spotting scope (15-45 X) 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 and Lakeview Boulevard. Surveys were completed a minimum of three days per week, typically Monday, Wednesday and Friday. If inclement weather conditions prevented observation of the whole lake, the survey was completed on the next possible day.

Surveys were completed between 0900 and 1430. Swans observed were recorded on data sheets, with the approximate location of groups of swans marked on a grid map of the

lake. No differentiation was made between tundra and trumpeter swans. Weather, time of survey and additional comments were also recorded on the data sheets.

Results

Swans began to arrive at Kimiwan Lake on September 28 and remained at the lake until November 6 (Table 1). The minimum number of swans observed was 61 (October 1) and the maximum number of swans was recorded on October 5 (N= 1735). An average of 548 swans were recorded during each survey day over the course of the program. There were dramatic fluctuations in the daily total counts as birds staged and then left the lake, only to have more swans arrive and depart again. The most dramatic changes occurred in the first week of October when 74 swans were recorded on October 2, 925 swans recorded on October 4 and 1735 swans recorded on October 5. Total swan numbers remained at greater than 1650 until October 13, when 890 swans were recorded. Total swans recorded remained similar between October 13-17 (M= 801), and between October 18-26 (M= 374). From October 28 until November 6, the total count gradually declined. A single swan was recorded feeding in a grain field on the west side of the lake on November 7. No swans were recorded after November 7 (Figure 1).

One measure of the value of Kimiwan Lake to staging swans is to calculate the total swan-days utilized at the lake during the recorded staging period. Using a total of 25 survey periods and a total of 13708 swans observed, an average of 548.32 swans were observed during each survey. Multiplying this average by the total days included during the survey effort (N=44) shows that a potential total of 24126 swan-days were utilized at Kimiwan Lake during the 2001 fall staging period.

The majority of the lake surface froze over on October 22 and remained frozen for the remainder of the survey period, with the exception of some very small pockets of open water. Staging swans rested on the ice after October 22.

The vast majority of the recorded swans were suspected to be tundra swans. On October 12 and 13, groups of six and four trumpeter swans respectively, were observed flying and calling over the Town of McLennan (P. Heckbert, pers.comm).

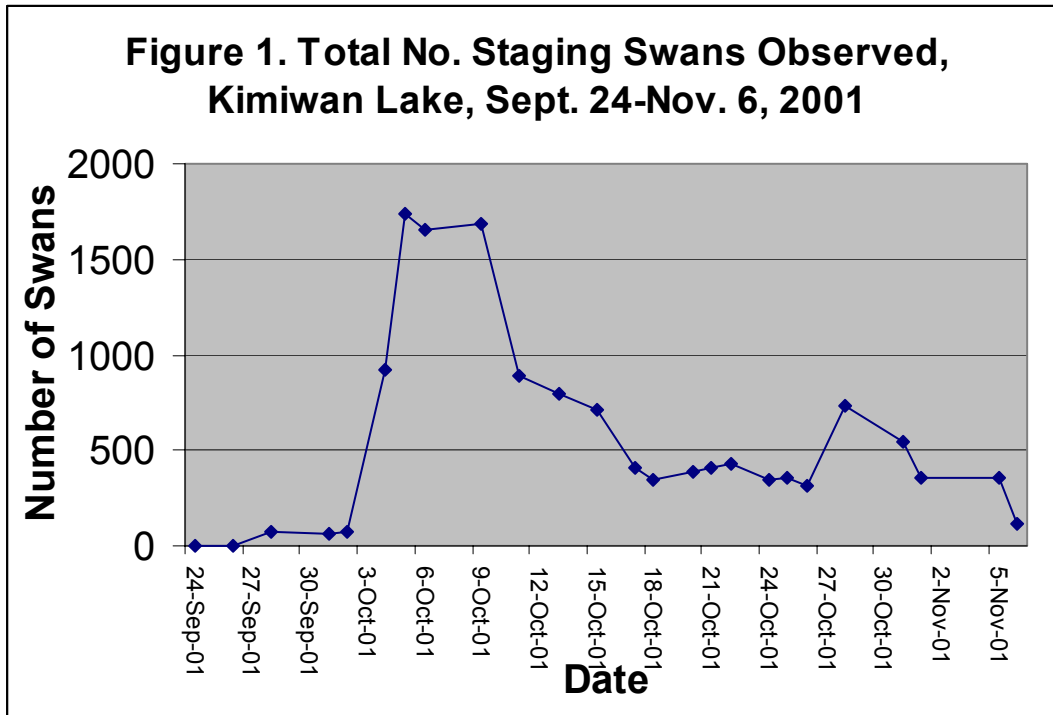
Surveys were carried out in several different time slots in an effort to obtain the maximum daily count. It was the surveyor's opinion that the swan population reached its daily peak around 1400 hours each day. Counts in the morning were typically less than in the afternoon.

Swans were recorded resting on most areas of the lake, with the exception of the west shoreline. Particularly large concentrations of swans were recorded along the east side of the lake. (Appendix 1). Spatial use of the lake by swans was not analysed for statistical differences.

Table 1

Total recorded swans, Kimiwan Lake September 24-November 6, 2001.

Date	Total No. Recorded Swans
September 24	0
September 26	0
September 28	77
October 1	61
October 2	74
October 4	925
October 5	1735
October 9	1650
October 11	1685
October 13	890
October 15	800
October 17	712
October 18	407
October 19	350
October 20	390
October 21	410
October 22	425
October 24	345
October 25	355
October 26	310
October 28	730
October 31	545
November 1	352
November 5	360
November 6	120
Total	13708



1.0 Discussion

This survey was the first 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 Kimiwan Lake to staging swans.

Kimiwan Lake is highly utilized as a staging lake for swans, although the extent of use by both species of swan was not quantified. Fall staging counts at Kakut Lake, AB were carried out by Ducks Unlimited Canada staff in 2001 between August 21 and October 19. At Kakut Lake, trumpeter swans were first recorded on September 21 and were present until October 12. Single day counts of swans peaked on October 5 when 633 swans were recorded. In total, 878 swans were recorded throughout the survey period, with an average of 175.6 swans observed per survey day, for a total of 6451 swan-days. Kimiwan Lake averaged over three times the number of swans observed during each survey day and had 3.52 times the estimated number of swan-days.

There appears to have been a substantial migration pulse of swans during the first week in October as evidenced by similar peaks in observed birds at Kimiwan and Kakut Lakes. Other less dramatic migration pulses were observed during the third and last weeks of October at Kimiwan Lake.

Both the timing of scheduled surveys and the viewing location for the survey were tested. While it was the surveyors opinion that there was less bird movement and more accurate counts in the early afternoon, the original location for viewing within the Town of McLennan continued to be the best spot for a complete view of the lake.

2.0 Recommendations

1. Continue with fall staging counts for several years.
2. Counts on scheduled survey days should be completed in the early afternoon.
3. Continue to explore partnership opportunities to fund the survey.
4. Strive to utilize local surveyors if possible.

References

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