

# **Fall Staging Swan Survey**

## **Kimiwan Lake**

**2002**



Photo Credit: Ducks Unlimited Canada

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## Acknowledgements

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## Introduction

Kimiwan Lake is a well known staging lake for waterfowl (MacDonald 1987, IBA Conservation Plan 2000, Heckbert and MacKinnon 2001) 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.

In recent years, 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.

As demonstrated in the fall of 2001, a ground survey of staging swans can be delivered efficiently and with reliable results indicating trend and population estimates of staging swans at Kimiwan Lake (Heckbert 2001).

## Methods

A total of 19 surveys of staging swans were completed at the lake between September 23 and October 31, 2002 (Table 1). Surveys were completed from the ground, using binoculars (10 x 50) and a spotting scope (15-45 X 60 mm) from a higher elevation point located on the south bank of the lake, within the Town of McLennan, at the corner of 2<sup>nd</sup> 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 1300 and 1800. 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, although if trumpeter swans could be differentiated by their calls, they were recorded. Weather, time of survey and additional comments were also recorded on the data sheets.

## Results

Swans began to arrive at Kimiwan Lake on prior to September 23 and remained at the lake until October 14, with one other record of swans observed on October 23 (Table 1). The minimum number of swans observed was 0 (October 7, 16, 19, 20, 21, 25, 28 and 31) and the maximum number of swans was recorded on September 30 (N= 177). An average of 31 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 second week of October when 40 swans were recorded on October 10, and essentially no other swans staged at the lake for the rest of the fall. (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 19 survey periods and a total of 582 swans observed, an average of 30.6 swans were observed during each survey. Multiplying this average by the total days included during the survey effort (N=39) shows that a potential total of 1193 swan-days were utilized at Kimiwan Lake during the 2002 fall staging period.

The lake level was very low during fall 2002 with dramatic fluctuations of shoreline and water depth following rain events, temporary freezing and warm spells. The majority of the remaining water in the lake froze over on October 19 and remained frozen for the remainder of the survey period.

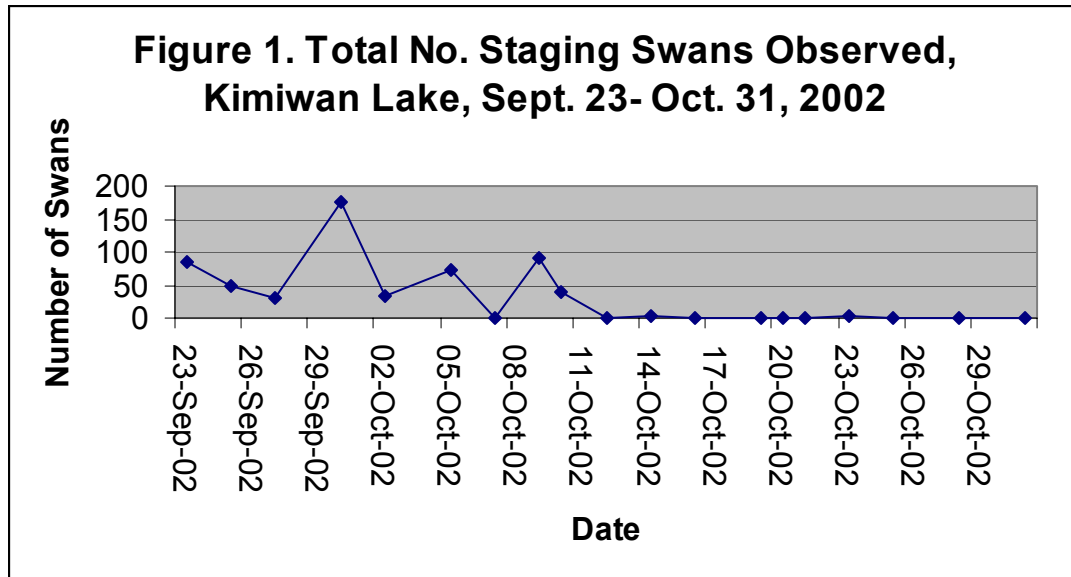
The vast majority of the recorded swans were suspected to be tundra swans.

Surveys were carried out in the afternoon in order to obtain the maximum daily count. Following the 2001 survey, it was recommended that the optimal time to count resting swans at the lake was in the afternoon, in the best light and when daily movements of the birds were less.

Swans were recorded resting only on the central area of the lake. 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.

<b>Date</b>	<b>Total No. Recorded Swans</b>
September 23	85
September 25	47
September 27	31
September 30	177
October 2	32
October 5	74
October 7	0
October 9	91
October 10	40
October 12	1
October 14	2
October 16	0
October 19	0
October 20	0
October 21	0
October 23	2
October 25	0
October 28	0
October 31	0
<b>Total</b>	<b>582</b>



### Discussion

This survey was the second comprehensive and systematic survey of staging swans at Kimiwan Lake and continues to be a very cost-effective method of quantifying the value of Kimiwan Lake to staging swans.

Kimiwan Lake in 2002 was not highly utilized as a staging lake for swans, largely due to greatly reduced water levels, early freeze up and what appears to be a compressed migration.

The change in swan use of the lake in 2002 is dramatic when compared to the observed levels of use in 2001. In 2001 swans first appeared later (September 28) than in 2002 and stayed longer (November 6). Peak numbers of swans observed in 2002 were 5 days earlier than in 2001. While high numbers of swans remained at the lake in 2001 until November 6, a total of five swans were observed at the lake in 2002 after October 10. The migration pulses recorded in 2001 were less obvious in 2002, however there appears to have been a pulse of swans depart the lake on October 7 and a new wave of migrants arrive by October 9, only to depart again, essentially for good, on October 10-11.

Overall, the observed numbers of swans was 95.8% lower in 2002 than in 2001 (N=13,708 to 582). The average number of swans observed during each survey dropped from 548.2 in 2001 to 30.6 in 2002, a decline of 94.4%. Similarly, the total number of swan-days utilized in 2002 (N=1193) declined by 95.1% from levels observed in 2001 (N=24126).

It is important to remember that wetlands are dynamic habitats and water levels fluctuate; not necessarily to the advantage of staging waterfowl every year. While we observed dramatic changes in the water level of Kimiwan Lake in 2002 and the resultant decline in

use by staging swans, shorebird numbers using Kimiwan Lake were recorded as some of the highest in recent years (G. Beyersbergen, pers. comm.).

#### 1.0 Recommendations

1. Continue with fall staging swan count annually.
2. Continue with surveys in the early afternoon.
3. Strive to utilize local surveyors if possible.

## References

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