

Fall Staging Swan Survey

Kimiwan Lake

2003



Photo: Ducks Unlimited Canada

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Acknowledgements

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Introduction

The Kimiwan Lake Naturalists have completed fall staging counts of swans at Kimiwan Lake since 2001 (Heckbert 2002, Heckbert 2003). The surveys have provided quality data on swan use of the lake during the peak staging periods, typically late September until freeze-up. When water depths are favourable for foraging activities, the lake stages high numbers of swans (Heckbert 2002).

Added value that results from the surveys is the ability to employ local resident surveyors for seasonal work resulting in the generation of local interest in swans and conservation of habitat at Kimiwan Lake.

Methods

A total of 15 surveys of staging swans were completed at the lake between September 22 and October 27, 2003 (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 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 1200 and 1600. 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 22 and were present at the lake on the final survey on October 27, although there were periods through the survey when no swans were observed. (Table 1). The minimum number of swans observed was 0 (September 24, October 17, 20-24) and the maximum number of swans was recorded on October 6 (N= 117). An average of 12.7 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 (Figure 1). As observed in 2001 and 2002, swan staging peaked at the lake in the second week in October (Heckbert 2002, Heckbert 2003)

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 15 survey periods and a total of 191 swans observed, an average of 12.7 swans were observed during each survey. Multiplying this average by the total days included during the survey effort (N=35) shows that a potential total of 444 swan-days were utilized at Kimiwan Lake during the 2003 fall staging period.

The lake level was, again, very low during fall 2003 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 remained open until very late in October. The vast majority of the recorded swans were suspected to be tundra swans.

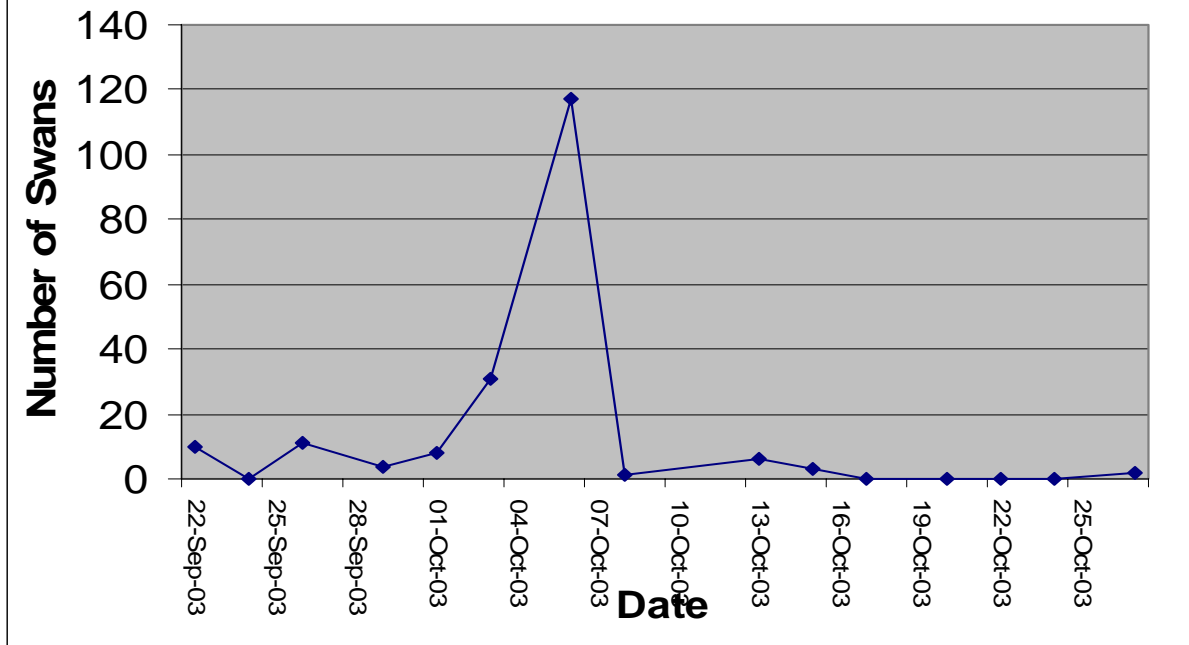
Surveys were carried out in the afternoon in order to obtain the maximum daily count. Surveys in 2001 and 2002 indicated that the optimal time to count resting swans at the lake was in the afternoon, in the best light and when daily movements of swans and other waterfowl were limited.

Swans were recorded resting only on the north and central areas of the lake, likely in the areas of greatest water depth. Spatial use of the lake by swans was not analysed for statistical differences.

Table 1 Total recorded swans, Kimiwan Lake September 22-October 27, 2003.

Date	Total No. Recorded Swans
September 22	10
September 24	0
September 26	11
September 29	4
October 1	8
October 3	31
October 6	117
October 8	1
October 13	6
October 15	3
October 17	0
October 20	0
October 22	0
October 24	0
October 27	0
Total	191

Figure 1. Total No. Staging Swans Observed, Kimiwan Lake, Sept. 22-Oct. 27, 2003



Discussion

This survey was the third 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 2003 was not highly utilized as a staging lake for swans, even less than in 2002. The low water depths are thought to be the principal reason for the low swan use in 2003. Swans require sufficient water depth (approximately 1 m) to forage for aquatic plants and because they must forage intensely during the migration period in order to maintain their body condition, it is most likely that migrating swans chose other area lakes with sufficient water depth to stage.

The reduction in swan use of the lake in 2003 continued from lower than normal levels of use observed in 2002. Compared to the survey results in 2002, in 2003 there was a 67% reduction in the total numbers of swans observed, a 59% reduction in the average number of swans observed per survey and a 63% reduction in total swan-days utilized at the lake. Similar to the numbers of swans observed at the lake after October 10 in 2002 (N=5), only 11 swans were observed after this time in 2003.

Compared to the survey results in 2001, the total number of swans observed in 2003 had declined by 98.6%.

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

Heckbert, M. D. 2001. Fall Staging Swan Survey, Kimiwan Lake 2001. Kimiwan Lake Naturalists, McLennan, AB. Unpubl. Rep. 8 pp.

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