

# Fall Staging Swan Survey

## Kimiwan Lake

2004



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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, Heckbert 2004). 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 and generation of local interest in swan monitoring and conservation at Kimiwan Lake.

## Methods

A total of 10 surveys of staging swans were completed at the lake between September 27 and October 20, 2004 (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 1230 and 1715. 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 prior to September 27 but were not recorded during surveys at the lake after October 14. (Table 1). The minimum number of swans observed was 0 (October 18, 20) and the maximum number of swans was recorded on October 14 (N= 96). An average of 34.2 swans were recorded during each survey day over the course of the program. There were less dramatic fluctuations in the daily total counts compared to other years (Heckbert 2002, Heckbert 2003, Heckbert 2004). As observed in all previous surveys, swan staging peaked at the lake in the second week in October (Heckbert 2002, Heckbert 2003, Heckbert 2004)

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 10

survey periods and a total of 342 swans observed, an average of 34.2 swans were observed during each survey. Multiplying this average by the total days included during the survey effort (N=24) shows that a potential total of 820.8 swan-days were utilized at Kimiwan Lake during the 2004 fall staging period.

The lake level was, again, very low during fall 2004, although it was noticeably deeper than in 2003, as a result of frequent rain in September. For most of October, the shoreline was flooded into the shallow emergent vegetation. However, it appears that the depth of the water was still insufficient to supply forage growth in 2004 to sustain large numbers of staging swans. The lake froze permanently on October 15.

Surveys were carried out in the afternoon in order to obtain the maximum daily count. Surveys in 2001, 2002 and 2003 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 east 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 27-October 20, 2004.

<b>Date</b>	<b>Total No. Recorded Swans</b>
September 27	12
September 29	12
October 1	53
October 4	14
October 6	44
October 8	54
October 10	57
October 14	96
October 18	0
October 20	0
<b>Total</b>	<b>342</b>

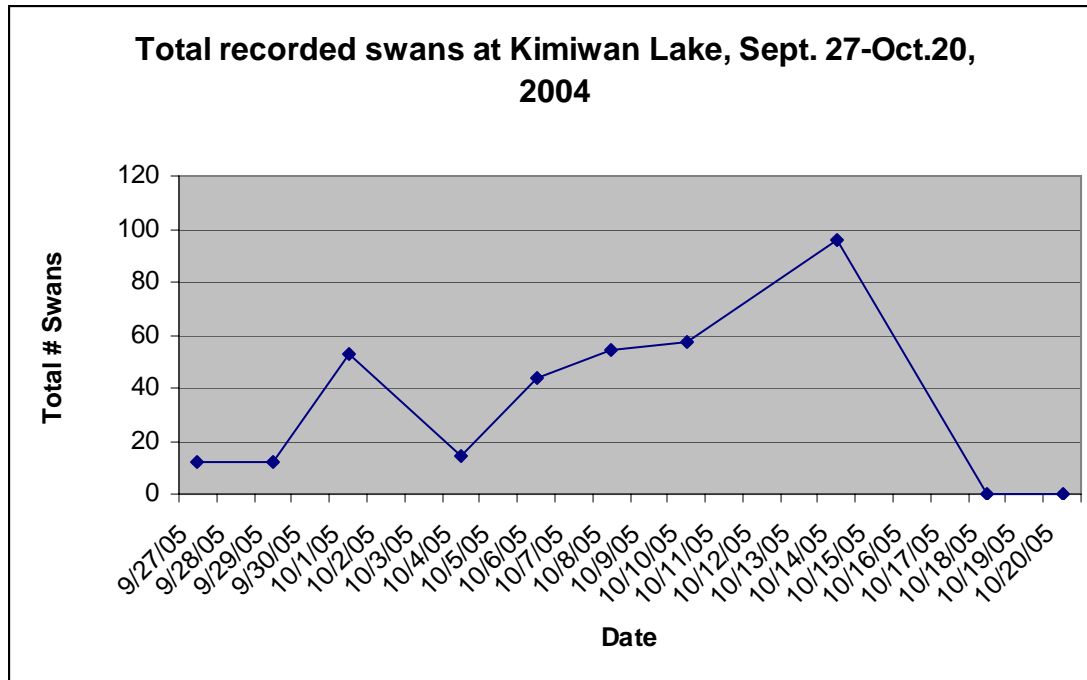


Figure 1 Total recorded swans at Kimiwan Lake, September 27 to October 20, 2004.

### Discussion

This survey was the fourth 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.

Swan utilization at Kimiwan Lake in 2004 was much higher than in 2003 (+85%), if measured in total swan-days (N=820.8) and average number of swans observed per survey period in 2004 was much higher (N=34.2) than in 2003 (N=12.7), for a total increase of 169% between years.

The increased water depths in 2004 are believed to be the principal reason for the increase in swan use. 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 and forage to stage.

### 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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