

**THE ONTARIO SPRING WARBLER
MIGRATION COUNT**

1998

George M. Fairfield

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There is a widening interest in the Spring Warbler Count study and we now have counts going on in Cobourg, Newmarket, Orillia, Port Hope and Whitby, in addition to Toronto. The ideal situation would be to have monitoring stations in communities across the Province.

We also received the Estimated Totals (ETs) from bird observatories at Long Point, Prince Edward Point and Ottawa (See page 2 for the method of calculating the ETs). Paul Prior provided the ETs for our targeted species at the Long Point Bird Observatory, Eric Machell sent in the ETs from Prince Edward Point in Prince Edward County and Bill Murphy provided the ETs from the Innis Point Bird Observatory at Ottawa.

The spring warbler count is a very attractive project for those who enjoy morning bird walks and would like to see some results from their outings. It involves picking out a small area of woodland and walking the same route through it each morning. The length of the route should only be what can be covered in an hour on a day of heavy migration. (This keeps the areas to roughly equal size). Twenty-one species of warblers and three other passerines - Swainson's Thrush, Scarlet Tanager and Rose-breasted Grosbeak are counted (We ask that other warbler species be recorded but because of the low numbers do not include them in the averaging). The study period is May 1 to June 5. (For a complete set of the rules see Appendix 1).

The study is aimed principally at participants who can easily visit a park or wooded area near their home each morning before going to work but who may not be able to commit extended periods of time at an established migration station. Some participants go out every morning for the full 36 days but most find it more convenient to split the task between two or three observers.

The results from Toronto go back to 1970 though we missed 1985 and 1986.

Toronto has always covered several plots which allows the averaging of results. Having more than one study area within a community increases the accuracy by allowing averaging of the results. However most communities, due to the lack of birders may wish to limit the number to one or two good areas. It is more important to provide daily coverage than to have several poorly covered plots. There is an advantage to picking an area that is unlikely to be altered by development in the future. A wooded parkland within the community is ideal.

The short term purpose of the project is to record the songbird migration each spring. The long term is to determine the rise and fall of bird populations that are not well measured with the Breeding Bird Survey.

If you wish to initiate a warbler count in your community please write to the coordinator George Fairfield, [REDACTED] There is no charge for participating in the Warbler Count.

THE OBSERVERS AND THE STUDY AREAS

Table 1 lists the study areas, the number of visits made to each of them in 1998, and the name of the person(s) responsible for each area. All the observers are competent, experienced birders capable of identifying all species by voice and in all plumages. The participants showed great dedication in getting up and out almost every morning for five weeks and indeed some of them covered two areas. Harry and Eileen Kerr, Don Peuramaki, Patrick Stepien-Scanlon and Mike Solomon covered two study areas each.

Don Barnett has taken over Bob Yukich's study area in the north of High Park in Toronto, which goes back nine years. Bob covered a new area in the south of the Park.

Three Bird Observatories contributed their Estimated Totals (ETs) to the study. The ETs are arrived at as follows. First, an observer walks an identical census route each day. This is the same as our warbler count. Second, the birds that are netted and banded are factored in. Third, any birds that were missed by the other two methods but are seen during the day are added in. Because of the very different method used by the Observatories and the Warbler Counts we are limited in the comparisons we can make. Nonetheless the general pattern of the migration should be comparable and can be used to pinpoint major arrivals and departures of the warblers.

TABLE 1

| <u>Study Areas</u> | <u>No. of Visits</u> | <u>Observers</u> |
|---|----------------------|---------------------------------|
| Toronto | | |
| <i>Standard Counts:</i> | | |
| Cedarvale Park | 36 | Mike Solomon |
| Cedarvale Ravine | 36 | Mike Solomon |
| High Park North | 35 | Don Barnett |
| High Park South | 30 | Bob Yukich |
| Humber River (South) | 30 | Patrick Stepien-Scanlon |
| Moore Park Ravine | 36 | Harry & Eileen Kerr |
| Mount Pleasant Cemetery | 36 | Harry & Eileen Kerr |
| Pine Hills Cemetery | 35 | Robert Shillabeer |
| Rennie Park | 30 | Patrick Stepien-Scanlon |
| Rosedale Valley | 33 | Donald Peuramaki |
| Unwin Avenue | 35 | Donald Peuramaki |
| Wychwood Park | 31 | Herb Elliott et al. |
| Total visits in Toronto | 403 | |
| <i>"Property" Counts:</i> | | |
| 12 Cluny Drive (Rosedale Ravine) | 16 | Ron Tasker |
| 218 Humbercrest Blvd. | 27 | John Carley |
| 39 Lincoln Avenue | 31 | Bob Yukich |
| Total visits | 74 | |
| Cobourg | 34 | Lori Wesley |
| Newmarket (Mabel Davis Cons'n Area.) | 26 | Kevin Shackleton |
| Orillia (Carthew Bay) | 36 | Cliff MacFayden |
| Port Hope | 34 | Elizabeth Kellogg & Roger Frost |
| Whitby (Thickson's Woods) | 36 | Margaret Bain |
| <i>Estimated Totals:</i> | | |
| Innis Point Bird Observatory | 36 | Bill Murphy et al. |
| Long Point Bird Observatory (Old Cut Station) | 35 | Paul Prior et al. |
| Prince Edward Point Bird Observatory | 36 | Eric Machell et al. |

TORONTO

Don Barnett has taken over Bob Yukich's study area in the north of High Park which goes back nine years. Bob covered a new area in the south of the Park.

In 1998 there were fifteen study areas in Toronto. Twelve of these counts conformed to the guidelines for the study - i.e. they covered the same route each morning through a wooded area taking up to one hour for each visit.

Three observers whose homes are situated on wooded hillsides counted the birds they could see from their properties. These counts averaged much lower than those that followed a route through a ravine or park and so have been treated separately.

The study areas are mostly wooded ravines and hillsides surrounded by built-up areas of the city. Their positions within heavily built-up residential and industrial areas discourages those species that would normally nest in this part of Ontario from setting up territories. Although this may result in lower counts than richer habitats away from the city it also avoids the problem of sorting out the resident birds from the migrants.

THE STANDARD PLOTS

Table 2 sets out all of the observations within Toronto of the 12 standard counts for the 24 species studied. The totals for each day and each species are given.

In addition the average number of warblers per visit per day (the daily total divided by the number of observers that visited their plots that day) are included; see - "Birds per Visit". This data is much more meaningful than the simple total of the birds observed. It eliminates the error which results from a different number of observers going out on any given day and thus allows a comparison between days. Similarly, by dividing the total number of warblers seen during the five weeks - 2867, by the total number of visits - 439, we arrive at the average number of warblers per visit per year in 1998 - 6.5. This allows us to compare 1998 with the other years of the survey (see Table 4). The average number of warblers per visit is set out in graph form below (Graph 1). The changes in warbler numbers over the years are discussed below (see *Warbler Counts over a 29 Year Period*).

TABLE 2

TORONTO SPRING WARBLER COUNT - 1998
12 METRO PLOTS COMBINED

| SPECIES | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | 5 | TOTAL |
|-------------------------------------|-----|----|----|----|----|----|-----|----|----|----|----|-----|----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|------|----|----|----|-----|------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | | | |
| Black & White | 0 | 1 | 1 | 0 | 6 | 2 | 2 | 1 | 3 | 1 | 0 | 6 | 1 | 11 | 10 | 3 | 1 | 2 | 2 | 2 | 0 | 1 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 63 | | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 5 | 17 | 13 | 20 | 24 | 26 | 17 | 19 | 21 | 9 | 7 | 3 | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 191 | | |
| Nashville | 0 | 1 | 3 | 0 | 4 | 4 | 18 | 11 | 23 | 5 | 2 | 20 | 27 | 15 | 9 | 2 | 1 | 0 | 5 | 0 | 1 | 1 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 160 | | |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 5 | 19 | 16 | 16 | 10 | 13 | 6 | 7 | 3 | 2 | 5 | 6 | 16 | 3 | 5 | 7 | 2 | 1 | 1 | 2 | 0 | 1 | 0 | 2 | 155 | | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 8 | 29 | 14 | 10 | 18 | 23 | 15 | 10 | 18 | 19 | 21 | 28 | 26 | 27 | 6 | 2 | 0 | 3 | 4 | 0 | 0 | 1 | 286 | | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | | |
| Black-thr. Blue | 0 | 0 | 0 | 2 | 0 | 2 | 12 | 5 | 5 | 1 | 2 | 8 | 8 | 9 | 13 | 6 | 2 | 9 | 5 | 6 | 7 | 5 | 5 | 7 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 127 | | |
| Yellow-rumped | 3 | 8 | 13 | 16 | 52 | 26 | 44 | 26 | 47 | 15 | 3 | 39 | 16 | 29 | 24 | 7 | 7 | 17 | 5 | 2 | 2 | 0 | 1 | 2 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 409 | | |
| Black-thr. Greer | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 2 | 3 | 0 | 0 | 5 | 3 | 11 | 8 | 2 | 0 | 4 | 3 | 5 | 3 | 2 | 7 | 4 | 6 | 5 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 1 | 5 | 1 | 0 | 2 | 8 | 8 | 3 | 5 | 7 | 11 | 7 | 2 | 4 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 72 | | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 5 | 8 | 15 | 7 | 2 | 8 | 8 | 3 | 5 | 4 | 3 | 9 | 14 | 6 | 8 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 117 | | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 8 | 10 | 5 | 15 | 11 | 8 | 5 | 6 | 7 | 9 | 6 | 10 | 4 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 113 | | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 4 | 14 | 14 | 9 | 15 | 11 | 22 | 19 | 27 | 25 | 8 | 5 | 3 | 3 | 10 | 2 | 2 | 1 | 0 | 196 |
| Palm | 0 | 0 | 0 | 3 | 12 | 9 | 6 | 4 | 4 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | | |
| Ovenbird | 0 | 0 | 0 | 2 | 4 | 2 | 11 | 2 | 2 | 0 | 0 | 17 | 6 | 9 | 9 | 5 | 3 | 7 | 4 | 4 | 1 | 3 | 5 | 14 | 14 | 3 | 3 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 134 | | |
| N. Waterthrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 1 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 7 | 8 | 9 | 6 | 2 | 6 | 8 | 9 | 5 | 10 | 8 | 9 | 9 | 10 | 6 | 4 | 2 | 2 | 6 | 4 | 4 | 2 | 1 | 1 | 141 | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 1 | 3 | 8 | 1 | 3 | 5 | 4 | 14 | 2 | 4 | 7 | 4 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 68 | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 2 | 2 | 6 | 3 | 2 | 1 | 3 | 11 | 11 | 9 | 7 | 4 | 3 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 76 |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 3 | 11 | 19 | 23 | 12 | 31 | 29 | 33 | 27 | 20 | 28 | 22 | 26 | 21 | 26 | 12 | 3 | 3 | 7 | 5 | 5 | 3 | 6 | 5 | 385 | |
| Number of Visits | 12 | 11 | 10 | 12 | 13 | 13 | 13 | 13 | 12 | 13 | 10 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 12 | 13 | 13 | 13 | 13 | 11 | 9 | 7 | 12 | 12 | 13 | 12 | 11 | 439 | |
| DAILY TOTALS | 3 | 10 | 17 | 23 | 78 | 46 | 110 | 54 | 95 | 26 | 9 | 110 | 99 | 146 | 199 | 123 | 82 | 161 | 177 | 135 | 105 | 124 | 128 | 189 | 165 | 137 | 142 | 48 | 20 | 16 | 23 | 23 | 17 | 7 | 11 | 9 | 2867 | |
| BIRDS / VISIT | 4 | 1 | 2 | 2 | 6 | 4 | 8 | 4 | 8 | 2 | 1 | 8 | 8 | 11 | 15 | 9 | 7 | 12 | 14 | 10 | 8 | 10 | 10 | 16 | 13 | 11 | 11 | 4 | 2 | 2 | 3 | 2 | 1 | 2 | 1 | 1 | 6.5 | |
| Rounded to the closest whole number | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Swainson's Thr. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 10 | 30 | 17 | 8 | 9 | 31 | 12 | 9 | 27 | 13 | 43 | 23 | 13 | 16 | 9 | 5 | 6 | 6 | 2 | 1 | 1 | 2 | 1 | 300 | |
| Scarlet Tan. | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 8 | 11 | 8 | 3 | 7 | 4 | 3 | 4 | 3 | 1 | 3 | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 64 | |
| Rose-br. Gros. | 0 | 0 | 0 | 1 | 4 | 0 | 7 | 6 | 8 | 5 | 0 | 18 | 35 | 34 | 23 | 23 | 7 | 13 | 13 | 10 | 6 | 5 | 7 | 7 | 4 | 3 | 4 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 252 | |

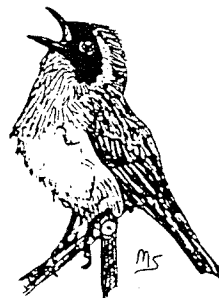
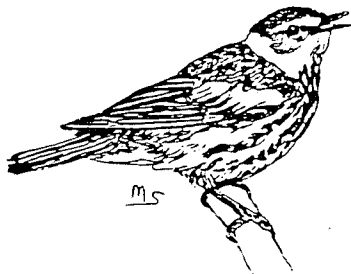
THE PROPERTY PLOTS

Table 3 gives the observations gathered at three participants' homes ("Property Plots"). We used the same method of calculation as for the standard plots and, as would be expected, the numbers were well below those on the Standard Plots. The average per visit for the five weeks was only 2.0 as compared to 6.5 for the Standard Plots. This does not mean that the counts from peoples' homes are not worth doing but only that we should not mix the results of the two methods of counting.

TABLE 3

TORONTO SPRING WARBLER COUNT - 1998
3 PROPERTY COUNTS COMBINED

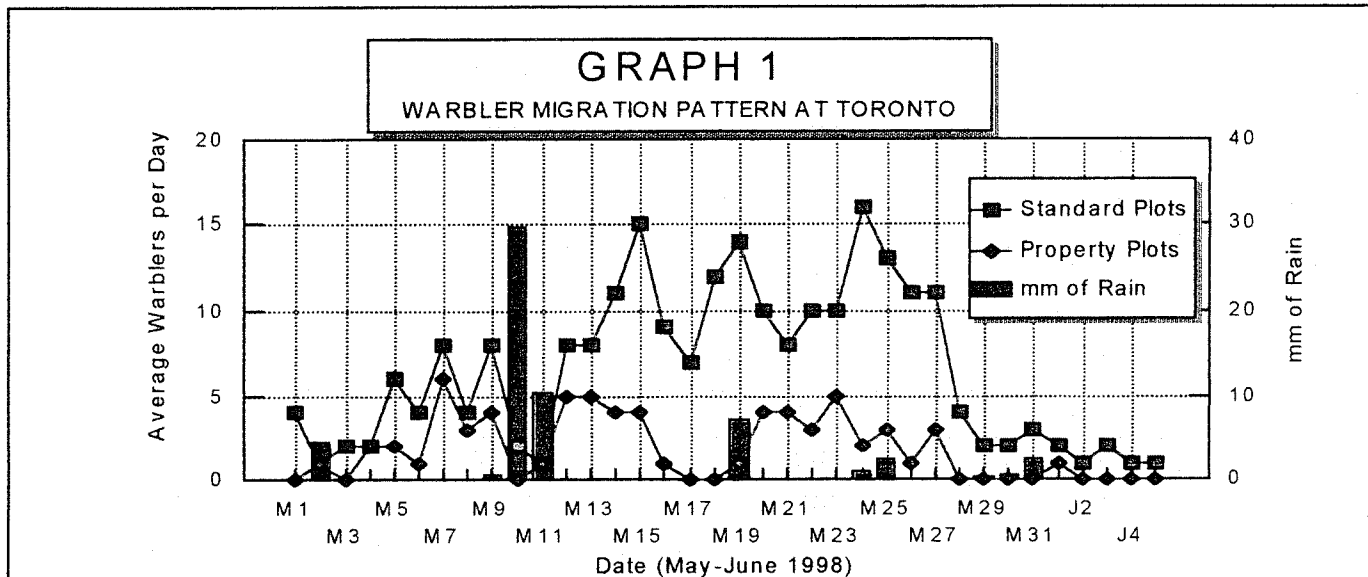
| PROPERTY COUNTS COMBINED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | TOTAL | |
|--------------------------|---|---|---|---|---|---|----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|---|---|---|----|-------|---|
| MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPECIES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | |
| Black & White | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | |
| Nashville | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 3 | 2 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| Black-thr. Blue | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| Yellow-rumped | 0 | 3 | 0 | 3 | 0 | 0 | 9 | 4 | 3 | 0 | 0 | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | |
| Black-thr. Green | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 9 | | |
| Palm | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | |
| Ovenbird | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | |
| N. Waterthrush | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 1 | 2 | 5 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | | |
| Number of visits | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 74 | |
| DAILY TOTALS: | 0 | 3 | 0 | 4 | 2 | 1 | 12 | 5 | 8 | 0 | 1 | 5 | 9 | 7 | 4 | 1 | 0 | 0 | 5 | 12 | 13 | 9 | 14 | 7 | 9 | 4 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 146 | |
| BIRDS / Visit | 0 | 1 | 0 | 2 | 2 | 1 | 6 | 3 | 4 | 0 | 1 | 5 | 5 | 4 | 4 | 1 | 0 | 0 | 1 | 4 | 4 | 3 | 5 | 2 | 3 | 1 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | |



THE MIGRATION PATTERN - TORONTO

Graph 1 shows the pattern of migration for the Standard Plots (upper line) the Property Plots (lower line) and the millimetres of rainfall (the bars) in Toronto.

There is not a strong correlation between the rain storms and the groundings of warblers this year. The biggest storm during May occurred on the 10th and 11th with a total of 40 mm over the two days. Obviously there was little migration underway at that time because the rain did not result in any noticeable grounding of warblers. Our graph shows a peak on May 15 when there was no rain! (See *Summary* on pages 18-19). Peaks on May 19th and the 24th/25th may have been associated with the rain showers on those days.



TORONTO WARBLER COUNTS OVER A 29-YEAR PERIOD

By dividing the total number of warblers seen at all the Toronto plots during the full five weeks by the total number of visits that the observers made to their plots, we arrive at the average number of warblers per visit per year. In 1998, we counted 2867 warblers in 439 visits giving us an average number of birds per visit of 6.5. This average allows us to compare 1998 with the other years of the survey.

Table 4(a), 4(b), and 4(c), give the average number of birds per visit for the full five weeks for each of the years for which we collected data since the study began in 1970. No counts were taken in 1985 and 1986. The purpose is to provide a rough measurement of the rise and fall of warbler populations which nest north of Toronto.

TABLE 4(a)
THE 1970's

| Year | No. Of Visits | Birds Counted | Average No. of Birds per Visit |
|------|---------------|---------------|--------------------------------|
| 1970 | 117 | 1413 | 12.1 |
| 1971 | 99 | 1248 | 12.6 |
| 1972 | 249 | 2622 | 10.5 |
| 1973 | 269 | 3071 | 11.4 |
| 1974 | 303 | 3174 | 10.5 |
| 1975 | 301 | 2921 | 9.7 |
| 1976 | 243 | 4466 | 18.4 |
| 1977 | 271 | 3007 | 11.1 |
| 1978 | 242 | 2321 | 9.6 |
| 1979 | 201 | 2826 | 14.1 |

Average birds per visit in the nineteen-seventies = 12.0

TABLE 4(b)**THE 1980's**

| | | | |
|------|----------------|------|------|
| 1980 | 203 | 2340 | 11.5 |
| 1981 | 237 | 1436 | 6.1 |
| 1982 | 216 | 1721 | 8.0 |
| 1983 | 150 | 1051 | 7.0 |
| 1984 | 108 | 864 | 8.0 |
| 1985 | No count taken | - | - |
| 1986 | No count taken | - | - |
| 1987 | 187 | 1313 | 7.0 |
| 1988 | 198 | 1537 | 7.7 |
| 1989 | 149 | 1013 | 6.8 |

Average number of birds per visit in the 1980's = 7.8

TABLE 4(c)**THE 1990's**

| Year | No. of Visits | Birds Counted | Av. No. of Birds per Visit |
|------|---------------|---------------|----------------------------|
| 1990 | 221 | 2587 | 11.7 |
| 1991 | 263 | 2805 | 10.7 |
| 1992 | 294 | 2676 | 9.1 |
| 1993 | 349 | 5641 | 16.2 |
| 1994 | 299 | 4017 | 13.4 |
| 1995 | 369 | 5170 | 14.0 |
| 1996 | 360 | 4518 | 12.6 |
| 1997 | 467 | 5247 | 11.2 |
| 1998 | | | 6.5 |

Average number of warblers per visit in the 1990's = 12.4

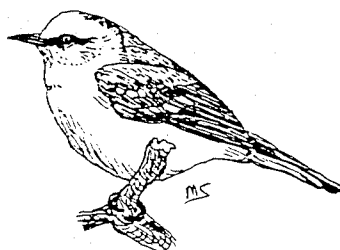


OTHER WARBLERS

Several species of warbler are not included in our statistical analyses because too few are seen. Those reported by the observers are set out in Table 5. For the names of the observers please refer to Table 1.

TABLE 5

| <u>Species</u> | <u>Number</u> | <u>Date</u> | <u>Study Plot</u> |
|-----------------------|---------------|----------------|-------------------|
| Blue-winged Warbler | 1 | May 12, 13 | Unwin Avenue |
| " | 1 | May 13, 14 | South Humber Park |
| Golden-winged | 1 | May 15 | Moore Park Ravine |
| Orange-Crowned | 1 | May 12 | Moore Park Ravine |
| " | 1 | May 19 | Rennie Park |
| Northern Parula | 1 | May 18, 21, 22 | Rosedale Valley |
| " | 1 | May 24 | Cedarvale Ravine |
| Pine Warbler | 1 | May 3 | High Park South |
| " | 1 | May 14 | Cedarvale Ravine |
| Cerulean Warbler | 1 | May 16 | Unwin Avenue |
| Worm-eating Warbler | 1 | May 19 | Rosedale Valley |
| Louisiana Waterthrush | 1 | May 19 | Rennie Park |
| Kentucky Warbler | 1 | May 13 | Rosedale Valley |



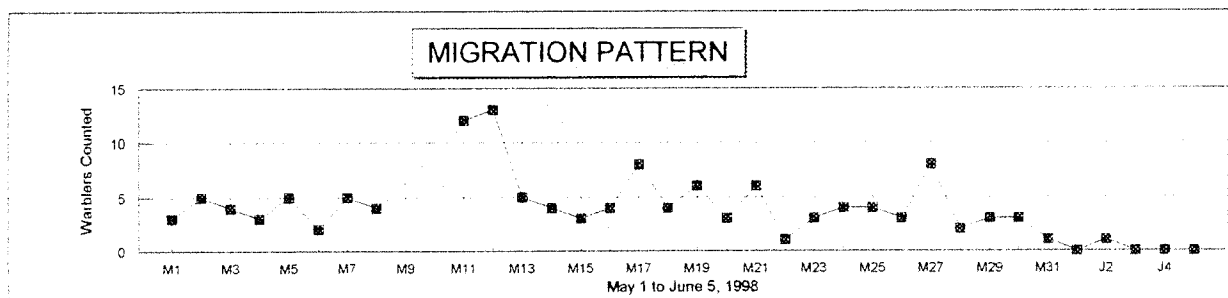
COBOURG SPRING WARBLER COUNT

Lori Wensley has expanded her plot to include a more heavily treed area to the east to provide a more protected area from winds off the lake. Lori describes it as "mature deciduous with some spruce and cedar". Because of the increase in the plot size caution will therefore have to be used in comparing the 1997 results with that of 1998 and subsequent years.

As with most other observers Lori reported "somewhat disappointing numbers. Perhaps the very warm May - warblers flew on without stopping along the shore."

COBOURG SPRING WARBLER COUNT - 1998

| SEASONS OF KING WARBLER COUNTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | TOTAL | |
|--------------------------------|-----|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|--------------------------|---|---|----|-------|--|
| Lori Wensley | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| SPECIES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | | |
| Black & White | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | |
| Nashville | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Yellow | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 4 | 1 | 2 | 1 | 0 | 1 | 2 | 1 | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 29 | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Black-thr. Blue | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| Yellow-rumped | 3 | 3 | 3 | 3 | 4 | 2 | 5 | 4 | 0 | 0 | 7 | 13 | 4 | 0 | 1 | 2 | 3 | 3 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | |
| Black-thr. Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | |
| Palm | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| Ovenbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| N. Waterthrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 9 | | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | |
| VISIT=1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 34 | | |
| DAILY TOTALS: | 3 | 5 | 4 | 3 | 5 | 2 | 5 | 4 | 0 | 0 | 12 | 13 | 5 | 4 | 3 | 4 | 8 | 4 | 6 | 3 | 6 | 1 | 3 | 4 | 4 | 3 | 8 | 2 | 3 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 132 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Warblers per visit = 3.9 | | | | | |
| Swainson's Thr. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Rose-br. Gros. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | |



PORT HOPE SPRING WARBLER COUNT - 1998

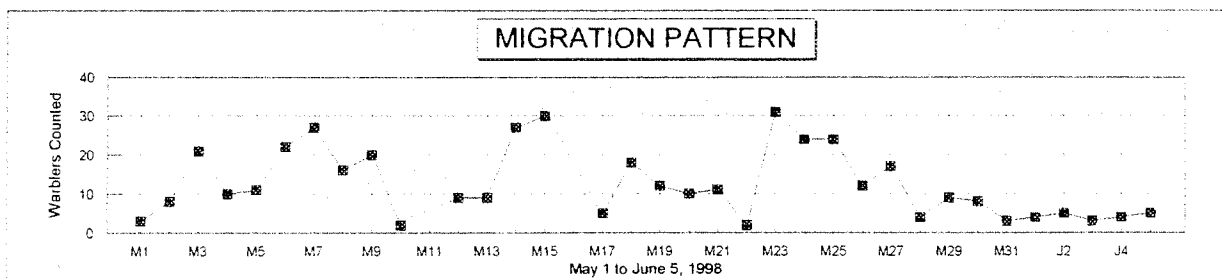
Elizabeth Kellogg writes: "It was rather a hard slog this spring. The vegetation was so advanced that it was almost impossible to see most of the birds as they migrated through. Also, there was next-to-no grounding weather. Roger found several warbler species, such a Mourning Warbler, on territory a few miles north of the lake shore before we had seen any in our plot.

There was also one other difficulty for us this year. The town was laying a new water main along Victoria Street. The path of construction included a scrubby hillside at the south end of the street which had been one of the good places to find birds. As well, Roger's work hours changed so that he started work at 8 a.m. This meant that on most days, we were doing the count about an hour earlier than last year when it was still relatively cool and insects not very active, so the birds were not very active either. This may be one of those years that gets tossed out for statistical analysis".

We will not agree to toss out this year's statistics, but Elizabeth's letter points out the problems our participants have with changes to their plots and with the vagaries of weather and foliage. Perhaps the best we can do is to see if each warbler species maintained its same proportion as part of the total warblers counted. Since all the warblers are subject to the same conditions any variation in commonness should reflect actual population trends.

PORT HOPE SPRING WARBLER COUNT

| Roger Frost et al. MAY | | | | | | | | | | | F = Roger Frost, K = Elizabeth Kellogg, S = Bob Short | | | | | | | | | | | | | | | | | | | JUNE | | | | | | | | | | |
|----------------------------------|---|---|----|---|---|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|---|---|---|---|----|-------|----|--|--|
| SPECIES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | TOTAL | | | |
| | K | F | F | K | K | F | K | K | F | K | | F | K | K | K | S | K | F | K | K | K | F | K | K | F | K | F | F | K | F | K | K | K | F | K | F | K | | | |
| Black & White | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | | |
| Nashville | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | | | |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | | | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 6 | 5 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | | | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | | |
| Black-thr. Blue | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | | |
| Yellow-rumped | 2 | 7 | 19 | 7 | 6 | 12 | 18 | 7 | 14 | 1 | 0 | 4 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | | | |
| Black-thr. Green | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 8 | | | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | | | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | | | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | | | |
| Palm | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | | | |
| Ovenbird | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | | | |
| N. Waterthrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 8 | | | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | | | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | | | | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | | | | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 2 | 1 | 3 | 0 | 2 | 3 | 3 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 25 | | | | |
| VISIT=1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 34 | | | | |
| DAILY TOTALS: | 2 | 7 | 20 | 9 | 9 | 18 | 21 | 13 | 17 | 1 | | 7 | 3 | 13 | 15 | | 2 | 10 | 4 | 5 | 5 | 0 | 19 | 18 | 17 | 10 | 11 | 3 | 5 | 5 | 1 | 2 | 2 | 1 | 1 | 2 | 278 | | | |
| Average warblers per visit = 8.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Swainson's Thrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | | | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | | | |
| Rose-br. Grosbeak | 0 | 0 | 0 | 0 | 1 | 2 | 4 | 2 | 2 | 0 | 0 | 1 | 3 | 7 | 4 | 0 | 2 | 4 | 3 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 41 | | | |



Port Hope (cont.)

OTHER WARBLERS

| Date | Northern Parula | Pine | Hooded |
|--------|-----------------|------|--------|
| May 2 | | 1 | |
| May 3 | | 2 | |
| May 18 | 1 | | |
| June 2 | | | 1 |

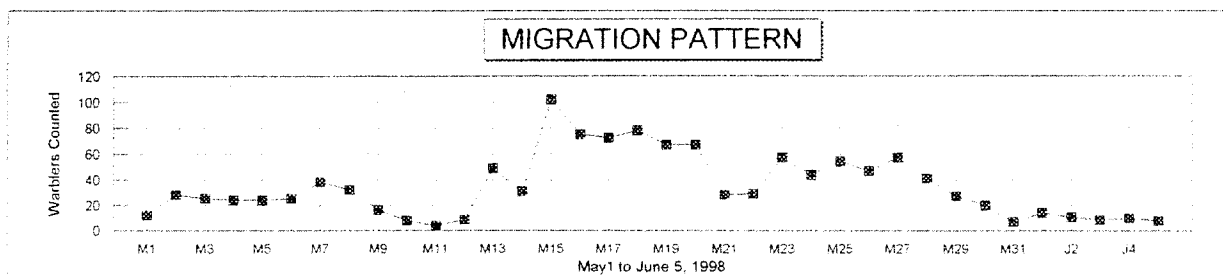
WHITBY SPRING WARBLER COUNT - 1998

Thickson's Woods, within which Margaret Bain has her study plot, is a large, mature, mixed woodland at the foot of Thickson Road, Whitby, on the shore of Lake Ontario. It is by far the richest area for migrating warblers among our standard study plots. But even in Thickson's warblers were well below their usual numbers this year. The average count per visit was 34.7 this year compared to 76.4 in 1997.

WHITBY SPRING WARBLER COUNT - 1998

THICKSON'S WOODS - Margaret Bain

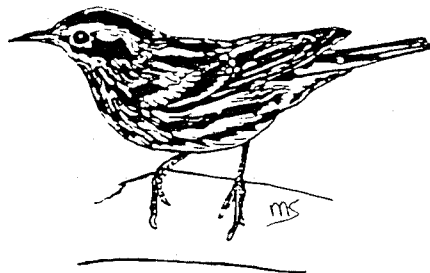
| MAY | | | | | | | | | | | | | | | JUNE | | | | | | | | | | | | | | | | | TOTAL | | | | | | |
|---------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|----|---|----|-----|------|--|
| SPECIES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | | |
| Black & White | 0 | 0 | 1 | 0 | 1 | 2 | 3 | 0 | 2 | 1 | 0 | 0 | 5 | 2 | 5 | 3 | 3 | 1 | 1 | 2 | 1 | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 45 | | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 6 | 8 | 5 | 5 | 1 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 53 | |
| Nashville | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 1 | 0 | 1 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | |
| Yellow | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 2 | 2 | 5 | 8 | 5 | 4 | 6 | 5 | 2 | 4 | 5 | 4 | 5 | 5 | 5 | 6 | 8 | 8 | 3 | 6 | 5 | 4 | 5 | 5 | 124 | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 8 | 6 | 8 | 8 | 9 | 3 | 2 | 6 | 3 | 4 | 3 | 3 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 82 | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| Black-thr. Blue | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 3 | 2 | 1 | 0 | 1 | 6 | 4 | 5 | 6 | 5 | 6 | 5 | 4 | 2 | 1 | 2 | 2 | 5 | 4 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 76 | |
| Yellow-rumped | 12 | 25 | 20 | 18 | 15 | 15 | 20 | 20 | 5 | 2 | 2 | 5 | 15 | 8 | 40 | 15 | 9 | 10 | 5 | 4 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | |
| Black-thr. Green | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 6 | 5 | 4 | 4 | 3 | 2 | 1 | 0 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 6 | 9 | 2 | 5 | 2 | 2 | 8 | 3 | 2 | 2 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 4 | 3 | 5 | 4 | 4 | 4 | 2 | 3 | 2 | 1 | 4 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 57 | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 2 | 3 | 1 | 1 | 1 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 3 | 1 | 3 | 2 | 5 | 4 | 5 | 5 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 40 | |
| Palm | 0 | 2 | 2 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | |
| Ovenbird | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 3 | 1 | 1 | 0 | 0 | 3 | 2 | 3 | 2 | 2 | 1 | 4 | 3 | 2 | 1 | 2 | 2 | 3 | 1 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | |
| N. Waterthrush | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 3 | 1 | 2 | 2 | 2 | 3 | 3 | 5 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 | 3 | 5 | 4 | 4 | 4 | 6 | 4 | 2 | 2 | 4 | 3 | 3 | 3 | 4 | 4 | 3 | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 76 | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 3 | 4 | 4 | 4 | 2 | 2 | 3 | 4 | 2 | 2 | 4 | 3 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 45 | | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 3 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 32 | | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 5 | 6 | 5 | 6 | 6 | 3 | 2 | 6 | 5 | 6 | 5 | 5 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 84 | |
| VISIT=1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 36 | |
| DAILY TOTALS: | 12 | 28 | 25 | 24 | 24 | 25 | 38 | 32 | 16 | 8 | 4 | 9 | 49 | 31 | 102 | 75 | 72 | 78 | 67 | 67 | 28 | 29 | 57 | 44 | 54 | 47 | 57 | 41 | 27 | 20 | 7 | 14 | 11 | 9 | 10 | 8 | 1249 | |
| Warblers per visit = 34.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Swainson's Thru | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 12 | 9 | 8 | 5 | 12 | 8 | 5 | 3 | 8 | 7 | 5 | 6 | 4 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 105 | | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 4 | 8 | 8 | 5 | 1 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | | |
| Rose-br. Grosbe | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 2 | 1 | 2 | 0 | 5 | 6 | 5 | 16 | 12 | 5 | 2 | 5 | 12 | 3 | 2 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 94 | |



Whitby (cont.)

OTHER WARBLERS

| Date (May- June) | Blue- winged | Golden- winged | Orange- crowned | Northern Parula | Pine | Prairie | Cerulean |
|------------------------|-----------------|-------------------|--------------------|--------------------|------|---------|----------|
| 1 | | | | | 1 | | |
| 2 | | | | | 1 | 1 | |
| 3 | | | | | 1 | 1 | |
| 4 | | | | | 1 | | |
| 5 | | | | | 1 | | |
| 7 | 1 | | | | | | |
| 10 | | | | 1 | | | |
| 11 | | | | 1 | | | |
| 13 | 1 | | | 1 | | | |
| 14 | 1 | | | | | | |
| 15 | | | | 1 | | | |
| 16 | 1 | | 1 | | | | |
| 17 | | | 1 | 1 | | | |
| 18 | | 1 | 2 | | 1 | | |
| 19 | | | | | | | |
| 20 | | | | | 1 | | |
| 21 | | | | | 1 | | |
| 22 | | | | | 1 | | |
| 23 | | | 1 | | 1 | | |
| 24 | | | | | 1 | | 1 |
| 25 | | | | | 1 | | |
| 26 | | | | 1 | 1 | | |
| 31 | | | | | 1 | | |



ORILLIA SPRING WARBLER COUNT - 1998

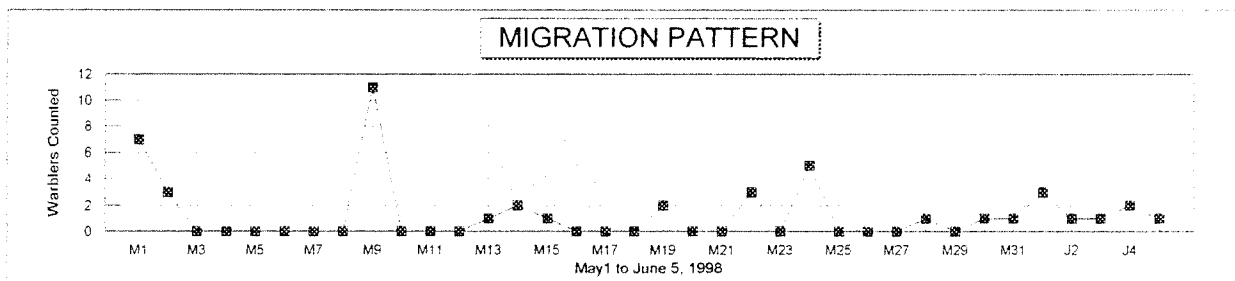
Cliff MacFayden's plot is on Carthew Bay, approximately five miles south of Orillia on the west shore of Lake Simcoe and runs from Cliff's home around to Eight-mile Point which creates the bay. The habitat is a mainly mature deciduous bush along the shore.

Cliff suffered the same difficulties as the other participants this year - too few groundings and too advanced foliage. If anything the conditions were worse at Orillia. The proof is in the average number of birds counted per visit. In 1997 Cliff averaged 24.8; in 1998 - 1.3. Do not be discouraged Cliff. This was the lowest year for counting warblers since 1981. Next year is bound to be more interesting.

ORILLIA SPRING WARBLER COUNT - 1998

CARTHEW BAY - Cliff MacFayden

| | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | TOTAL | | | | |
|-----------------------|-----|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|---|---|---|----|-------|----|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | TOTAL | | | | |
| Black & White | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 7 | | | | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Nashville | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | | | | |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | | | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | | | | | |
| Black-thr. Blue | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Yellow-rumped | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | | | | |
| Black-thr. Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | | | | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | | | | | |
| Palm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Ovenbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| N. Waterthrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | | | | | |
| VISIT=1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 36 | | | | | |
| DAILY TOTALS: | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 1 | 2 | 1 | 46 | | | |
| Birds per visit = 1.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Swainson's Thr. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Rose-br. Gros. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | | | | |



Kevin Shackleton writes:

There is not much to tell this year. It seemed to start off normally with a little trickle of warblers, but it never developed much beyond that. When I usually experience the peak there was almost nothing. This was despite rain one or two mornings which in the past has produced a profusion of warblers. The lone Common Yellowthroat recorded almost every day from May 18th on was likely bird trying to establish territory. He was not there on May 31 and I took that as a sign that I should stop my visits. I look forward to a more normal year in 1999.

MABEL DAVIS CONSERVATION AREA - Kevin Shackleton

MIGRATION PATTERN

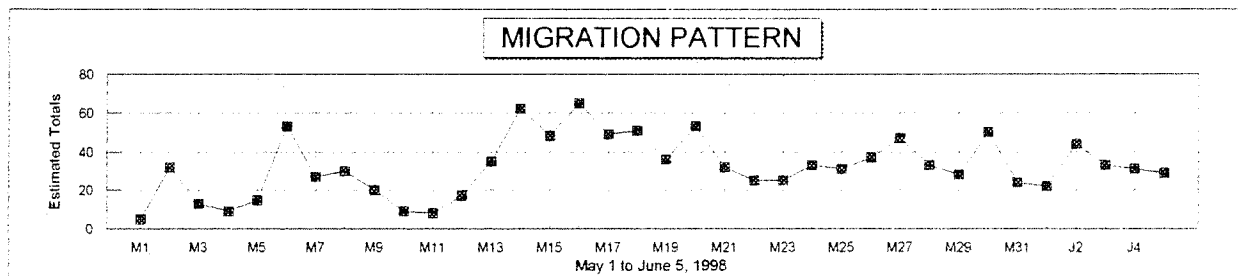
| Date | Warblers Counted |
|------|------------------|
| M1 | 0 |
| M2 | 1 |
| M3 | 0 |
| M4 | 1 |
| M5 | 2 |
| M6 | 0 |
| M7 | 2 |
| M8 | 2 |
| M9 | 1 |
| M10 | 0 |
| M11 | 1 |
| M12 | 1 |
| M13 | 0 |
| M14 | 0 |
| M15 | 1 |
| M16 | 0 |
| M17 | 3 |
| M18 | 1 |
| M19 | 1 |
| M20 | 0 |
| M21 | 1 |
| M22 | 2 |
| M23 | 1 |
| M24 | 1 |
| M25 | 1 |
| M26 | 1 |
| M27 | 1 |
| M28 | 1 |
| M29 | 0 |
| M30 | 1 |
| M31 | 0 |
| J2 | 0 |
| J4 | 0 |

SPRING WARBLER MIGRATION AT INNIS POINT (WEST OF OTTAWA).

Innis Point is located along the Ottawa River in Kanata, about 20 kilometres west of Parliament Hill. The bird observatory operates on lands owned by the Department of National Defense as part on the Connaught Range and Primary Training Centre.

OTTAWA SPRING WARBLER COUNT - 1998 INNIS POINT BIRD OBSERVATORY

| INNIS POINT BIRD OBSERVATORY | | | | | | | | | | | ESTIMATED TOTALS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|-----|----|----|---|----|----|----|----|----|----|------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-------|--|
| | MAY | | | | | | | | | | | JUNE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPECIES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | TOTAL | |
| Black & White | 0 | 2 | 1 | 1 | 3 | 7 | 4 | 5 | 5 | 3 | 2 | 5 | 7 | 6 | 4 | 11 | 6 | 2 | 0 | 1 | 2 | 1 | 1 | 3 | 1 | 2 | 2 | 2 | 1 | 2 | 0 | 2 | 2 | 1 | 2 | 0 | 99 | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| Nashville | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 11 | 35 | 20 | 23 | 25 | 30 | 25 | 25 | 22 | 12 | 15 | 19 | 18 | 20 | 20 | 14 | 16 | 35 | 20 | 15 | 21 | 16 | 20 | 18 | 500 | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Black-thr. Blue | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | |
| Yellow-rumped | 5 | 30 | 12 | 7 | 11 | 40 | 19 | 22 | 8 | 2 | 5 | 10 | 5 | 3 | 6 | 6 | 2 | 8 | 3 | 4 | 1 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 217 | | |
| Black-thr. Green | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 16 | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 3 | 1 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 3 | 1 | 0 | 1 | 1 | 1 | 1 | 30 | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 10 | | |
| Palm | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | |
| Ovenbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| N. Waterthrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 14 | | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 6 | 5 | 2 | 6 | 3 | 1 | 4 | 4 | 8 | 4 | 2 | 8 | 2 | 5 | 6 | 4 | 1 | 3 | 2 | 4 | 2 | 1 | 2 | 87 | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 2 | 2 | 1 | 0 | 2 | 0 | 0 | 13 | | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 4 | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 4 | 3 | 10 | 2 | 3 | 4 | 10 | 3 | 0 | 1 | 5 | 2 | 4 | 12 | 5 | 1 | 1 | 0 | 1 | 14 | 12 | 6 | 7 | 115 | |
| VISIT=1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 36 | | |
| DAILY TOTALS: | 5 | 32 | 13 | 9 | 15 | 53 | 27 | 30 | 20 | 9 | 8 | 17 | 35 | 62 | 48 | 65 | 49 | 51 | 36 | 53 | 32 | 25 | 25 | 33 | 31 | 37 | 47 | 33 | 28 | 50 | 24 | 22 | 44 | 33 | 31 | 29 | 1161 | |
| Average warblers per day = 32.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Swainson's Thr. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | |
| Rose-br. Gros. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 6 | 12 | 4 | 4 | 4 | 3 | 4 | 3 | 2 | 2 | 4 | 3 | 3 | 2 | 3 | 1 | 4 | 3 | 1 | 0 | 2 | 1 | 1 | 1 | 77 | |



OTHER WARBLERS

Northern Parula - One on May 16 and one on May 17

SPRING WARBLER MIGRATION AT PRINCE EDWARD POINT - 1998

Prince Edward Point projects into Lake Ontario at the south-east corner of Prince Edward County.

The following is extracted from Eric Machell's report in the Prince Edward Point Bird Observatory Newsletter. Some of the information that does not relate to our target species (mainly warblers) has been omitted.

During the 1998 spring migration the bird observatory was in operation from April 12 to June 6, the purpose being to monitor the migration of birds through this specific area. ...Banding was carried out for six hours each day, except in adverse weather conditions. The primary capture method was with mist nets. ... A census was done daily, estimated totals were derived from capture numbers, census data and general observations throughout each day.

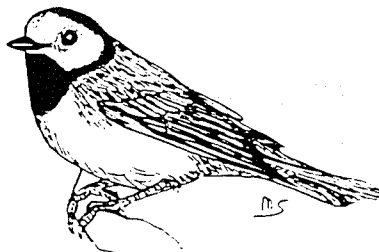
A significant factor affecting bird migration in 1998 was the weather. This was the year of strong El Nino, which resulted in a mild winter, followed by a warmer spring than average. During the months of April and May, Prince Edward Point experienced light winds and very little rain. This affected the vegetation cover with trees leafing early, and many flowers and flowering shrubs being in bloom approximately two weeks earlier than usual....It is believed that in many cases migrants overflowed on route to their breeding sites.

I have omitted Eric's description of April migration and the non-warbler migration during May. Eric reports that 33 Yellow-rumped Warblers were banded on April 29.

The next movement occurred on May 5, 6, and 7 when there were many new arrivals...Chestnut-sided Warbler, Blackburnian Warbler, Ovenbird ...On May 6 Common Yellowthroat.

The major movement of the spring commenced on May 13, and peaked the following day. New arrivals on those two days were : on May 13 Swainson's Thrush, Tennessee Warbler, Magnolia Warbler, Cerulean Warbler and Scarlet Tanager. On May 14: Blue-winged Warbler, Golden-winged Warbler, Brewster's Warbler, Bay-breasted Warbler, and Blackpoll Warbler.

Good numbers of birds continued to move through the area for the next several days, but after May 20 movement was very light indeed.

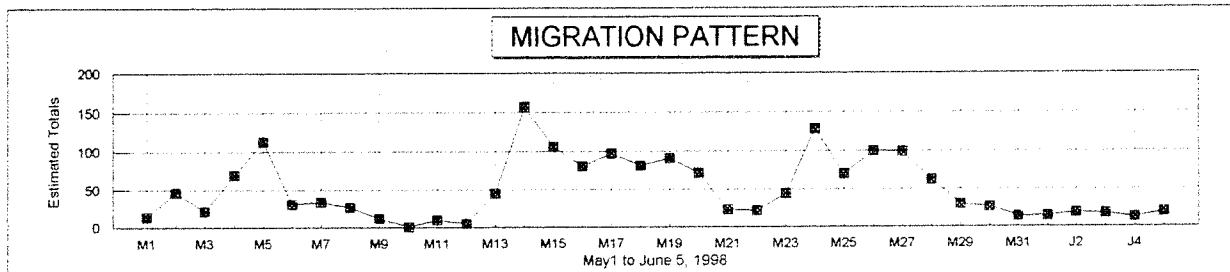


PRINCE EDWARD POINT SPRING WARBLER COUNT - 1998

Eric Machell et al

ESTIMATED TOTALS

| SPECIES | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | TOTAL | |
|-------------------------|-----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|-----|----|----|----|----|----|----|----|----|-----|----|-----|----|----|----|----|----|------|----|----|----|-----|-------|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | | |
| Black & White | 0 | 2 | 0 | 1 | 5 | 2 | 0 | 1 | 2 | 0 | 1 | 0 | 2 | 6 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 6 | 5 | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | | |
| Nashville | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 3 | 0 | 0 | 2 | 1 | 3 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | |
| Yellow | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 15 | 80 | 40 | 15 | 12 | 20 | 35 | 30 | 10 | 12 | 15 | 30 | 20 | 15 | 20 | 16 | 10 | 12 | 1 | 8 | 9 | 13 | 10 | 12 | 465 | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 14 | 30 | 25 | 20 | 16 | 4 | 1 | 0 | 12 | 20 | 7 | 15 | 7 | 7 | 8 | 0 | 2 | 0 | 0 | 0 | 4 | 197 | | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Black-thr. Blue | 0 | 0 | 0 | 1 | 2 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 2 | 8 | 0 | 15 | 5 | 5 | 3 | 2 | 1 | 0 | 3 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 61 | |
| Yellow-rumped | 14 | 40 | 20 | 60 | 75 | 10 | 25 | 6 | 6 | 0 | 0 | 0 | 2 | 15 | 10 | 2 | 1 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 298 | |
| Black-thr. Green | 0 | 0 | 0 | 1 | 14 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 6 | 2 | 2 | 1 | 15 | 7 | 2 | 3 | 1 | 1 | 3 | 10 | 1 | 7 | 3 | 0 | 1 | 2 | 3 | 1 | 1 | 0 | 0 | 0 | 92 | |
| Blackburnian | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 4 | 1 | 1 | 3 | 6 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 33 | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 10 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 4 | 15 | 6 | 4 | 2 | 1 | 5 | 2 | 0 | 0 | 2 | 3 | 4 | 12 | 10 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 2 | 4 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | |
| Palm | 0 | 3 | 1 | 3 | 2 | 1 | 1 | 3 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | |
| Ovenbird | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 4 | 4 | 7 | 3 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | |
| N. Waterthrush | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 6 | 0 | 1 | 2 | 3 | 2 | 8 | 7 | 12 | 4 | 4 | 12 | 20 | 8 | 8 | 5 | 15 | 15 | 14 | 16 | 10 | 6 | 10 | 5 | 1 | 4 | 4 | 2 | 2 | 211 | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 10 | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 8 | 3 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 22 | |
| Am. Redstart | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 4 | 6 | 3 | 10 | 10 | 12 | 10 | 2 | 1 | 0 | 3 | 6 | 10 | 10 | 20 | 10 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 133 | |
| VISIT=1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 36 | |
| DAILY TOTALS | 14 | 46 | 22 | 69 | 113 | 31 | 34 | 27 | 12 | 1 | 10 | 5 | 45 | 157 | 106 | 80 | 97 | 81 | 91 | 71 | 23 | 22 | 44 | 129 | 70 | 100 | 99 | 62 | 30 | 27 | 14 | 15 | 19 | 18 | 13 | 20 | 1817 | |
| Warblers per day = 50.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Swainson's Thru | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 3 | 1 | 2 | 4 | 10 | 0 | 0 | 1 | 3 | 4 | 1 | 4 | 7 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 52 | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 8 | 1 | 5 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | |
| Rose-br. Grosbe | 0 | 0 | 0 | 1 | 1 | 1 | 4 | 1 | 0 | 0 | 0 | 2 | 20 | 12 | 5 | 0 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 8 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63 |



OTHER WARBLERS

| Date (May) | Blue-winged | Golden-winged | Brewster's | Northern Parula | Cerulean | Hooded |
|------------|-------------|---------------|------------|-----------------|----------|--------|
| 13 | | | | | 1 | |
| 14 | 3 | 1 | 1 | | | |
| 15 | | | | 1 | | |
| 18 | | 1 | | 1 | | 2 |
| 25 | | 1 | | | | |

SPRING WARBLER MIGRATION AT LONG POINT BIRD OBSERVATORY - 1998

Old Cut Station

The Old cut banding station is near the base of Long Point, on the north shore of Lake Erie south of Simcoe, Ontario.

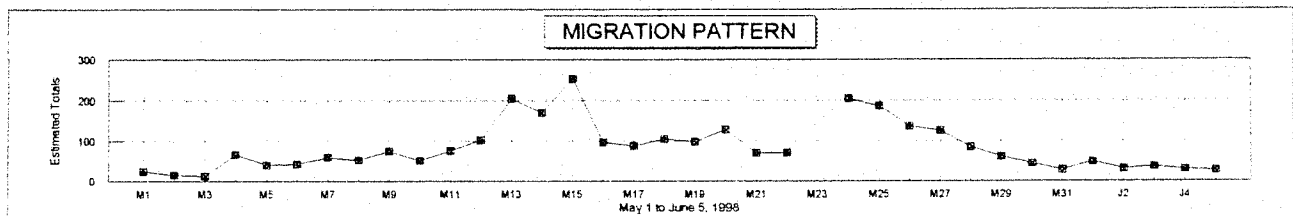
Thank you to Long Point Bird Observatory for sending along their Estimated Totals for the period of our warbler count. Their analysis of the spring migration had not been published at the time we made up this report.

LONG POINT SPRING WARBLER COUNT - 1998

LONG POINT BIRD OBSERVATORY - OLD CUT STATION

ESTIMATED TOTALS

| | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | | |
|------------------|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|----|----|-----|----|-----|----|----|----|-----|-----|-----|-----|----|----|----|----|------|----|----|----|----|-------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | TOTAL | |
| SPECIES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Black & White | 1 | 3 | 2 | 10 | 3 | 5 | 2 | 0 | 2 | 1 | 5 | 4 | 8 | 6 | 8 | 2 | 0 | 0 | 1 | 3 | 0 | 3 | 0 | 1 | 2 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 7 | 7 | 8 | 8 | 5 | 6 | 10 | 4 | 6 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 71 |
| Nashville | 0 | 0 | 0 | 5 | 3 | 8 | 9 | 6 | 7 | 6 | 7 | 8 | 20 | 6 | 15 | 8 | 5 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 |
| Yellow | 2 | 1 | 1 | 4 | 1 | 4 | 5 | 6 | 6 | 6 | 5 | 12 | 60 | 40 | 50 | 20 | 22 | 13 | 20 | 20 | 15 | 10 | 0 | 20 | 20 | 25 | 12 | 12 | 9 | 12 | 14 | 16 | 20 | 20 | 14 | 12 | 529 | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 30 | 40 | 50 | 13 | 12 | 30 | 20 | 28 | 15 | 5 | 0 | 115 | 75 | 25 | 30 | 20 | 10 | 13 | 0 | 10 | 4 | 3 | 8 | 4 | 566 | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | |
| Black-thr. Blue | 0 | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 6 | 6 | 12 | 8 | 9 | 6 | 2 | 7 | 0 | 3 | 0 | 1 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 | |
| Yellow-rumped | 16 | 0 | 6 | 30 | 16 | 7 | 25 | 30 | 40 | 18 | 30 | 25 | 12 | 10 | 25 | 10 | 4 | 5 | 7 | 5 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 332 | |
| Black-thr. Green | 3 | 0 | 0 | 6 | 2 | 4 | 5 | 3 | 4 | 2 | 1 | 7 | 12 | 5 | 8 | 3 | 4 | 4 | 1 | 12 | 3 | 5 | 0 | 6 | 4 | 10 | 4 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 123 | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 8 | 6 | 2 | 5 | 0 | 1 | 5 | 2 | 8 | 6 | 6 | 0 | 10 | 1 | 9 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 74 | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 8 | 7 | 9 | 2 | 2 | 5 | 0 | 5 | 2 | 3 | 0 | 10 | 8 | 10 | 10 | 9 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 98 | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 3 | 5 | 5 | 5 | 5 | 5 | 0 | 5 | 3 | 1 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 46 | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 5 | 5 | 5 | 8 | 8 | 6 | 8 | 0 | 8 | 10 | 15 | 10 | 6 | 5 | 3 | 1 | 2 | 0 | 1 | 0 | 2 | 113 | |
| Palm | 0 | 4 | 1 | 2 | 9 | 2 | 2 | 3 | 8 | 8 | 5 | 8 | 2 | 3 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63 | |
| Ovenbird | 0 | 0 | 0 | 6 | 1 | 7 | 2 | 0 | 0 | 0 | 1 | 8 | 5 | 8 | 6 | 0 | 3 | 5 | 5 | 6 | 1 | 0 | 0 | 5 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 76 | |
| N. Waterthrush | 3 | 3 | 3 | 4 | 4 | 1 | 2 | 0 | 1 | 1 | 1 | 2 | 0 | 2 | 2 | 1 | 0 | 3 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 44 | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 10 | 4 | 4 | 2 | 7 | 3 | 2 | 1 | 1 | 0 | 0 | 37 | | |
| Yellow-throat | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 4 | 6 | 5 | 5 | 10 | 10 | 15 | 35 | 10 | 8 | 1 | 5 | 3 | 4 | 4 | 0 | 6 | 15 | 10 | 14 | 10 | 12 | 8 | 8 | 5 | 4 | 8 | 3 | 6 | 241 | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 7 | 4 | 2 | 2 | 3 | 4 | 0 | 5 | 8 | 9 | 18 | 6 | 2 | 0 | 2 | 10 | 1 | 1 | 0 | 0 | 90 | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 0 | 1 | 0 | 4 | 8 | 5 | 7 | 6 | 4 | 1 | 1 | 2 | 0 | 1 | 3 | 0 | 49 | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 3 | 8 | 5 | 14 | 6 | 1 | 5 | 15 | 6 | 5 | 5 | 0 | 5 | 15 | 3 | 15 | 12 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 131 | |
| VISIT=1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 35 | |
| DAILY TOTALS | 25 | 16 | 13 | 67 | 40 | 43 | 60 | 53 | 75 | 52 | 77 | 103 | 205 | 170 | 254 | 97 | 88 | 105 | 99 | 129 | 72 | 72 | | 206 | 187 | 137 | 126 | 86 | 63 | 44 | 29 | 49 | 31 | 37 | 30 | 27 | 2967 | |
| Swainson's Thr. | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 4 | 10 | 8 | 9 | 8 | 5 | 6 | 19 | 15 | 6 | 0 | 15 | 15 | 20 | 12 | 15 | 6 | 5 | 2 | 4 | 1 | 2 | 1 | 0 | 191 | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 10 | 4 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | |
| Rose-br. Gros. | 0 | 0 | 0 | 2 | 2 | 2 | 6 | 4 | 4 | 6 | 6 | 8 | 20 | 12 | 9 | 8 | 4 | 0 | 3 | 5 | 2 | 3 | 0 | 4 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 117 | |



SUMMARY OF WARBLER MIGRATION ACROSS SOUTHERN ONTARIO

Our count of warblers this year was the lowest since 1981. I think most observers would agree that it is too early to report a crash in the warbler populations. The low count was likely caused by the occurrence of fine, warm weather during May which allowed the birds to fly over and continue on to their nesting territories. The mean temperature for the City of Toronto for May was 18.0 C compared with an average of 13.8 C and the total rainfall was only 59.2 mm compared to the average of 67.8 mm. The fewer groundings of warblers together with the difficulty of seeing the birds because of the very early leafing out of the trees, were the likely causes of the low counts.

Peter Whelan reported that Point Pelee experienced the same lack of sightings as the rest of the province. In his column in the Globe and Mail on May 23rd he reported that "The advanced growth of the greenery, two weeks ahead of schedule is one oddity of this spring. El Nino-inspired heat brought on summer-lush foliage two weeks early."

Joseph Thill reporting on migration in May from the Buffalo area notes that "...there were no reports of sizable 'drop-downs...of passerine migrants this month." Mr. Thill supports the theory above "the exceptionally long period of pleasant weather in May with virtually no climatic disturbances and the 'fly-over effect' which facilitates the passage of birds that migrate at night when clear skies permit celestial-navigation and consequently fewer migrants in territorial habitats".

He also cites a second hypotheses as to the reason for the decline in numbers seen this spring. "a disastrous mortality rate for the migrants during the spring of 1997, the coldest on the Niagara Frontier in 30 years with its negative effect on the emergence of insects and other invertebrates as well as early vegetation so vital to the sustenance of birds in passage."

Our warbler counts over the next two or three years should give us an answer as to which of these hypotheses is the more likely. If, next spring, we find that our warbler numbers have bounced back to the pre-1998 numbers we can feel safe that we just missed most of the migrants in 1998. If, on the other hand the numbers remain low we can assume that warbler population have crashed and we are into the next low cycle in warbler numbers as was the case in the early 1980's. This points up the value of continuing our coverage over a period of many years.

While warbler numbers were lower than usual at all our sampling areas the phenomenon was less noticeable close to the lake than it was farther inland. Newmarket and Orillia nearly missed the warbler migration entirely this spring.

The table below compares the numbers in 1998 with those in 1997 at study areas close to the lake and farther inland.

| Community | CLOSE TO LAKE | | | Community | INLAND | | |
|-----------|-------------------------|-------------------------|------------------------|-----------|-------------------------|-------------------------|------------------------|
| | Birds per visit 1997 | Birds per visit 1998 | Percentage Decrease | | Birds per visit 1997 | Birds per visit 1998 | Percentage Decrease |
| Toronto | 11.2 | 6.5 | 42.0 | Orillia | 24.6 | 1.3 | 94.7 |
| Whitby | 76.4 | 34.7 | 54.6 | Newmarket | 6.5 | 1.0 | 84.6 |
| Port Hope | 35.3 | 8.2 | 76.8 | | | | |

Cobourg is not included in the totals because of the large addition of good warbler habitat that was added to the plot in 1998.

Aside from the fact that it was a poor year for viewing warblers what can we say about the spring migration in 1998? With the early spring vegetation, we were expecting an early migration. However when we examine our migration pattern charts we find that, aside from the low numbers counted, this was a very ordinary year. The two main peaks were on May 15 and May 24, about when they would be expected. On May 15th (the 16th at Ottawa) the species making up the bulk of the warblers were Tennessee, Yellow, Magnolia, Yellow-rumped, Chestnut-sided and Redstart. On May 24 we again had many Yellows, Magnolias and Redstarts but they were accompanied by such later migrants as Blackpolls, Wilson's and Canadas, with good numbers of Bay-breasteds at Prince Edward Point.

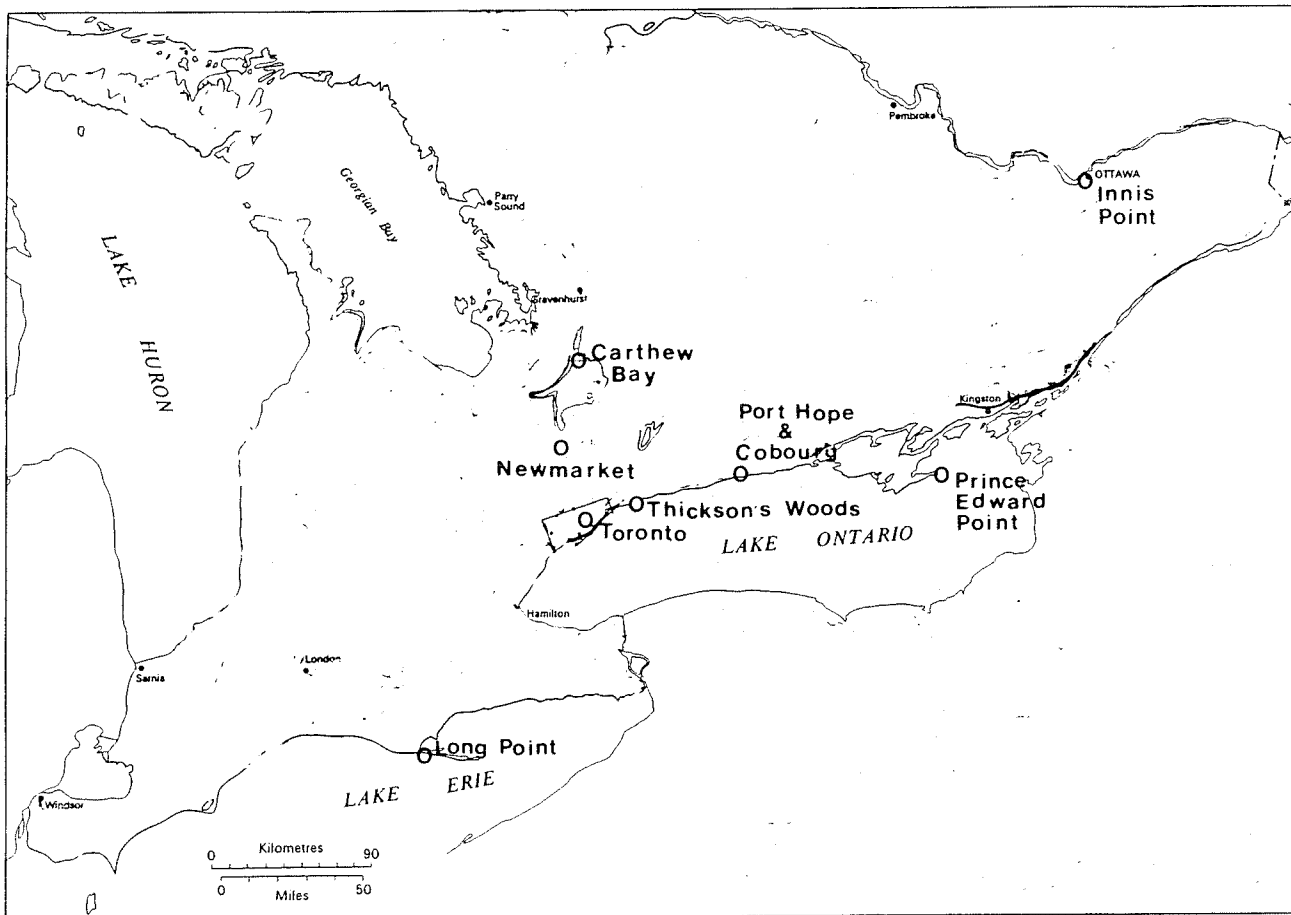
On reflection perhaps the timing of the migration this ^{YEAR} is what we should have expected. The birds leaving their winter territories have no idea what weather patterns they will encounter on their way north. They begin their migration at the time dictated by their internal clocks. If they meet fair weather throughout their northward migration they just continue their normal migration, flying at night and stopping during the daylight hours to rest and feed. If, as in this spring, they are not held back by cold weather or forced to the ground by heavy storms, their migration, as seen those monitoring the migration, tends to be about average.

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ACKNOWLEDGMENTS

Many thanks to the observers listed in Table 1 who got up early each morning to count the birds on their study plots. Thanks also to Long Point Bird Observatory, Prince Edward Point Bird Observatory, and Innis Point Bird Observatory who supplied the data from their stations. Thanks to the Ontario Climate Control Centre, Environment Canada, for supplying the weather information. And a special thank you to Mike Solomon who provided the warbler drawings.



Appendix 1 - Instructions to warbler counters.

TORONTO ORNITHOLOGICAL CLUB SPRING WARBLER COUNT

1. For your study plot pick a wooded area which you can conveniently visit in most mornings between May 1st and June 5th.
2. Visit your plot each morning and spend one-half to one hour counting and listing the species listed on the attached form. If you are sure you know the bird's song you can count it even if you do not see it. It is a good idea to go over your warbler record or tape to review the songs. Remember, you are counting birds, - do not try to estimate the number of birds on your plot!
3. Follow the same route through your plot each day. You can get someone to do the count on mornings when you cannot make it. Just be sure the person knows the birds! Two people can share one plot as long as they cover the area the same way. Note which trip is done by which observer by entering an initial where it is indicated on the warbler form. Do not count together or combine two lists.
4. You may wish to enter your notes in a field note book and transfer them to the warbler form later. Records of any warblers not in the form can be listed below or on a separate sheet.
5. Write a short description of your plot including the location and the boundaries in case someone else should wish to use the same area in future years when you are not available.
6. On days when you do not visit your plot mark the form with a -1 in the first space in the column and run a wiggly line to the bottom. If you visit the plot but see no birds just leave the column blank.

Early in June post your completed form to : George Fairfield



OTHER WARBLER SPECIES:

| <u>Species</u> | <u>Number</u> | <u>Date</u> | <u>Species</u> | <u>Number</u> | <u>Date</u> |
|----------------|---------------|-------------|----------------|---------------|-------------|
| ----- | ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- | ----- |
| ----- | ----- | ----- | ----- | ----- | ----- |

LOCATION AND DESCRIPTION OF STUDY PLOT:

ONTARIO SPRING WARBLER COUNT - 2000

Plot name -

Observer(s) -

[illegible]

ADDENDUM TO THE ONTARIO SPRING WARBLER MIGRATION COUNT - 1998

The warbler counts from Sault Ste. Marie, Echo Bay and Glen Stewart Ravine in Toronto were all received after the warbler report had been printed. We therefore have included these counts as an attachment to the main report.

SAULT STE. MARIE SPRING WARBLER COUNT - 1998

We were very pleased to receive our first counts from Bob Knudsen in Sault Ste. Marie and Euan Aitken in Echo Bay. Echo Bay is about 20 kilometres east of the Sault. These two counts are well to the west and north of our other study areas and it is interesting to see how they differ from those areas. It is likely that Bob and Euan's birds are in a different flyway and subject to different weather conditions than the others. In any case we hope that we will have many more counts from the Sault area in the future.

Plot 1 - White Pines High School

Description:

Mixed woods dominated by Trembling Aspen and White Pine. Woodlot approximately 1.5 square kilometres with open field areas. Soil conditions predominately sandy.

Approximate UTM; Zone 17; 715000E 5156000N.

SAULT NATURALISTS SPRING WARBLER COUNT - 1998

WHITE PINES HIGH SCHOOL - Bob Knudsen

| | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | |
|------------------|-----|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|---|---|---|-----|-------|
| SPECIES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | TOTAL |
| Black & White | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 2 | 0 | 1 | 2 | 2 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| Nashville | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | |
| Black-thr. Blue | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Yellow-rumped | 3 | 1 | 1 | 0 | 0 | 0 | 2 | 3 | 4 | 2 | 1 | 3 | 0 | 2 | 3 | 1 | 3 | 2 | 2 | 3 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 43 | |
| Black-thr. Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 26 | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Palm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ovenbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | | |
| N. Waterthrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 4 | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 6 | | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 5 | 6 | 6 | 4 | 4 | 0 | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 42 | |
| VISIT=1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 30 | |
| DAILY TOTALS: | 3 | 1 | 1 | 0 | 0 | 0 | 2 | 3 | 4 | 2 | 1 | 7 | 0 | 5 | 8 | 9 | 11 | 21 | 15 | 14 | 5 | 14 | 13 | 6 | 8 | | 3 | 9 | 2 | | 3 | 13 | | | | 183 | |
| Swainson's Thr. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | | |
| Rose-br. Gros. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | | |

Plot 2 - Waterfront Road - Echo Bay.

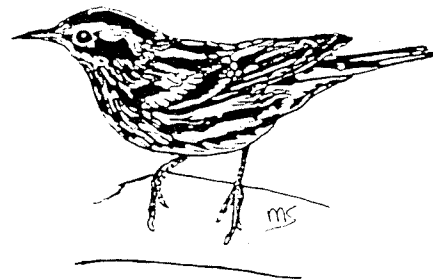
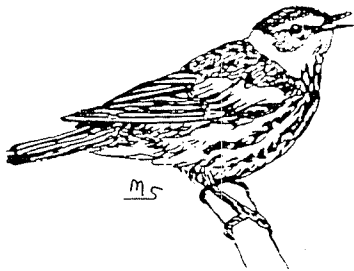
Description: -

One kilometre in length running north and south; the road bisects a wooded area of one kilometre in length by five kilometers. The woodland is mixed deciduous and conifer of secondary or tertiary growth. Approx. UTM Zone 17; 725000E 518000N.

SAULT NATURALISTS SPRING WARBLER COUNT - 1998

WATERFRONT ROAD, ECHO BAY - Euan Aitken

| | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | |
|------------------|-----|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|---|-----|----|-------|
| SPECIES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | TOTAL |
| Black & White | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 11 |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nashville | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 15 |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 1 | 0 | 0 | 0 | 0 | 4 | 19 |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Black-thr. Blue | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Yellow-rumped | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 2 | 3 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 19 |
| Black-thr. Green | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 2 | 0 | 0 | 0 | 0 | 7 | 21 |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Palm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Ovenbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 6 | 5 | 0 | 0 | 0 | 7 | 27 | |
| N. Water Thrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 2 | 6 | |
| VISIT=1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 10 |
| DAILY TOTALS: | | | | 1 | | | 8 | | 11 | 12 | 9 | | 12 | | | | | | | | | | | | | | | 15 | 23 | 13 | | | 26 | | 130 | | |
| Swainson's Thr. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Rose-br. Gros. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |



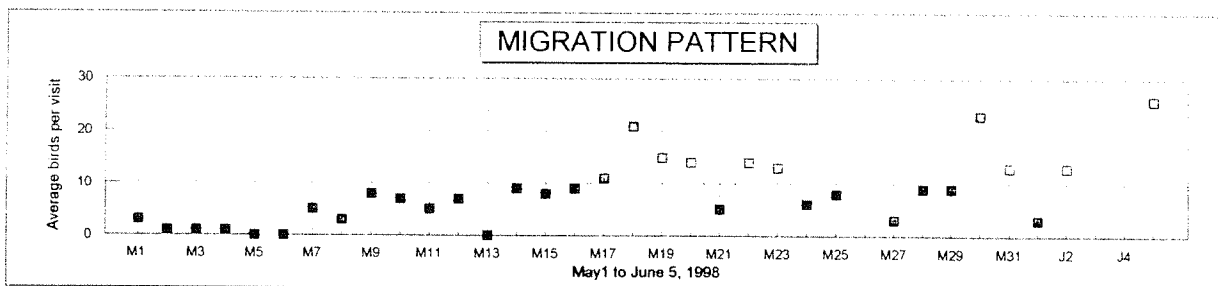
Plots 1 and 2 combined

These two plots, when combined and averaged, give a better picture of the arrival of the migrants to Northern Ontario than they do separately. Their proximity to one another justifies combining them. Some of our plots within Toronto are more widely separated than the two presented here.

The principal peaks in the migration at Sault / Echo Bay - May 18 and 30, are several days later than those to the south and east. The earlier peak is similar in makeup to the May 15 peak in Southern Ontario but the May 30 peak lacks the late migrants such as Blackpolls, Wilsons and Canadas. The high count at Echo Bay on June 5 with seven each of Black-throated Green and Ovenbird may contain many local nesters.

SAULT NATURALISTS SPRING WARBLER COUNT - 1998 SOO & ECHO BAY COMBINED

| SPECIES | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | TOTAL |
|-------------------------------------|-----|---|---|---|---|---|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|---|----|----|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | |
| Black & White | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 3 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 2 | 0 | 1 | 2 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 29 | |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| Nashville | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 4 | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 20 | |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 8 |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 1 | 4 | 4 | 1 | 0 | 0 | 0 | 0 | 4 | 32 |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| Black-thr. Blue | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| Yellow-rumped | 3 | 1 | 1 | 1 | 0 | 6 | 3 | 6 | 5 | 3 | 3 | 0 | 5 | 3 | 1 | 3 | 2 | 2 | 3 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 62 | |
| Black-thr. Green | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 2 | 0 | 0 | 0 | 7 | 24 | |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 7 | | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 4 | 1 | 1 | 0 | 0 | 5 | 0 | 0 | 2 | 29 | |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Palm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ovenbird | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 6 | 5 | 0 | 1 | 0 | 7 | 30 | |
| N. Water Thrush | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 7 | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 5 | 6 | 6 | 4 | 4 | 0 | 4 | 0 | 0 | 2 | 0 | 0 | 3 | 1 | 3 | 0 | 0 | 0 | 2 | 48 |
| VISIT=1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 40 |
| DAILY TOTALS: | 3 | 1 | 1 | 1 | 0 | 0 | 10 | 3 | 15 | 14 | 10 | 7 | 0 | 17 | 8 | 9 | 11 | 21 | 15 | 14 | 5 | 14 | 13 | 6 | 8 | 0 | 3 | 9 | 17 | 23 | 13 | 3 | 13 | 0 | 0 | 26 | 313 |
| BIRDS / VISIT | 3 | 1 | 1 | 1 | 0 | 0 | 5 | 3 | 8 | 7 | 5 | 7 | 0 | 9 | 8 | 9 | 11 | 21 | 15 | 14 | 5 | 14 | 13 | 6 | 8 | | 3 | 9 | 9 | 23 | 13 | 3 | 13 | | 26 | 8 | |
| Rounded to the closest whole number | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Swainson's Thr. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| Rose-br. Gros. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |



Glen Stewart Ravine - Toronto

We could not integrate Tony Lang's count from Glen Stewart Ravine without recalculating the whole Toronto report. We have included it in this attachment so that it will be available for future analysis of the 1998 spring migration. This is important because Glen Stewart Ravine has a long history as part of our study. Fred Bodsworth carried out the counts there for 15 years.

The pattern of migration at Glen Stewart count is very similar to the others in Southern Ontario with major peaks falling on May 15 and May 24.

GLEN STEWART RAVINE - Tony Lang

| SPECIES | MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | JUNE | | | | | TOTAL |
|------------------|-----|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|---|---|---|-----|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | |
| Black & White | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Nashville | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Magnolia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Cape May | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Black-thr. Blue | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| Yellow-rumped | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Black-thr. Green | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| Blackburnian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| Chestnut-sided | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Bay-breasted | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Blackpoll | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Palm | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| Ovenbird | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| N. Water Thrush | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| Mourning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| Yellow-throat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| Wilson's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| Canada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| Am. Redstart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 4 | 2 | 1 | 1 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| VISIT=1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 19 |
| DAILY TOTALS: | | | 6 | 2 | 3 | 2 | 2 | 1 | | | 0 | | 9 | | 11 | 8 | 3 | 13 | 8 | 6 | 7 | 11 | | 16 | 8 | | | | | | 1 | | | | | 117 | |
| Swainson's Thr. | 0 | 0 | 6 | 2 | 3 | 2 | 2 | 1 | | | 0 | | 9 | | 11 | 8 | 3 | 13 | 8 | 6 | 7 | 11 | | 16 | 8 | | | | | | 1 | | | | | 29 | |
| Scarlet Tanager | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | |
| Rose-br. Gros. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | |

