

# Ontario Eastern Bluebird Society 1992 Fall Newsletter

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The OEBS Annual general meeting has been set for **April 3, 1993** at the Royal Botanical Gardens in Burlington.

Welcome to the 1992 OEBS Fall Newsletter!

This year's field season brought much lower than average temperatures and above average rainfall which greatly affected reproductive success of both tree swallows (TRSW) and Eastern Bluebirds (EABL). Andy Taylor from the Environment Canada weather office at the Waterloo-Wellington Regional Airport gave me the following information on Ontario's weather over the last ten months.

Mean Temperature °C		
	Actual	Normal
December 1991	-3°	-4°
January 1992	-5°	-7°
February 1992	-5°	-6°
March 1992	-1.5°	-1.5°
April 1992	5°	6°
May 1992	12°	12°
June 1992	15°	17°
July 1992	17°	21°
August 1992	17°	19°
September 1992	14°	15°

Mean Rainfall (mm)		
	Actual	Normal
April 1992	117	63
May 1992	63	74
June 1992	51	78
July 1992	158	79
August 1992	138	79
September 1992	115	75

The winter from December 1991 through March 1992 was warmer than usual (see chart) but from April to September the average temperatures were lower than normal for all months except May. Even though May's temperature (12°C) was at the norm, we did experience some very cold weather towards the end of the month as the first broods of EABL's were fledging. Day time highs from the 24th to the 27th of May were 11° - 14°C and on May 25th the temperature reached a low of 1°C. Greater than usual EABL mortality occurred during this period.

Second broods in most cases produced more young than first broods in 1992. (The opposite is usually the case.) Some mortality of EABL young did occur on the weekend of June 20, 21 (I lost 15 EABL nestlings on my trail during that weekend) but most Bluebirds were re-nesting or incubating and were not affected to the same extent as Tree Swallows. Food requirements for both species are much greater as the birds grow and especially just prior to fledging.

The cold front that moved through Ontario on June 20th and 21st caused very heavy tree swallow nestling mortality across the province. On my Canadian Wildlife Service Apple Orchard trail, I counted 189 dead Tree Swallow nestlings as a result of this cold front. This represented 28.5% Tree Swallow nestling mortality.

David Hussell, a research scientist who manages 3 tree swallow grids for the Long Point Bird Observatory, recorded 60-70% Tree Swallow nestling mortality at two of the mainland sites. The third site at the tip of Long Point escaped without serious mortality. David states that mortality of nestlings on this scale has not occurred previously in 15 years of study at Long Point.

There are several possible theories to help to explain why inland sites suffered greater nestling mortality than sites near water:

**Successful Nestings of Other Species:**

House Wren: \_\_\_\_\_ Tree Swallow: \_\_\_\_\_

Black Capped Chickadee: \_\_\_\_\_ House Sparrow: \_\_\_\_\_

**Banding Totals:**

Eastern Bluebird: \_\_\_\_\_ Tree Swallow: \_\_\_\_\_

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Name of Bander: \_\_\_\_\_

Number of years you have maintained a nestbox trail: \_\_\_\_\_

What methods were used to discourage House Sparrows? \_\_\_\_\_

Date of first Eastern Bluebird sighting in 1992 \_\_\_\_\_ Date of last Eastern Bluebird sighting in 1992: \_\_\_\_\_

Number of pairs of EABL's represented by your nestbox trail: \_\_\_\_\_ Has the population of EABL's in your area increased or decreased over the past 5 yrs.? \_\_\_ from 1991? \_\_\_\_\_

Number of pairs of Eastern Bluebirds in your area nesting in natural cavities \_\_\_\_\_

Where are your boxes located? Please circle:

Pastureland, open field, cereal crops (corn, barley, oats, wheat, etc.), hedgerow, woodland edge, railway tracks, lawn (any mowed area, park, golf course), cemetery, roadside, orchard, garden

If eggs or nestlings were lost, indicate the importance of the presumed cause, (Number - "1" for the most important to "8" for the least important):

Pesticides/herbicides: \_\_\_\_\_ Humans: \_\_\_\_\_ Raccoons: \_\_\_\_\_ House Wrens: \_\_\_\_\_

House Sparrows: \_\_\_\_\_ Squirrels: \_\_\_\_\_ Snakes: \_\_\_\_\_ Blowflies: \_\_\_\_\_

Weather: \_\_\_\_\_ Other: \_\_\_\_\_

Would you be willing to share your trail and experiences with others? \_\_\_\_\_

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Suggestions for changes in survey or overall comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Did you receive C.W.I.P funding?  
Yes: \_\_\_\_\_ No: \_\_\_\_\_

Mail to: William F. Read  
165 Green Valley Dr., #2,  
Kitchener, Ontario N2P 1K3

## Banding Studies on Eastern Bluebirds in Southern Ontario Apple Orchards

Over the past five years I have studied EABL and TRSW reproductive success in apple orchards. I band as many EABL's as possible in the orchard nestboxes. Young are banded as nestlings and adults are captured using a special nestbox trap. This is usually done when adults are feeding young of 10 days old or younger. They can then be trapped very quickly with minimal disturbance. Adult females are sometimes banded while incubating (only if it is past the 10th day of incubation since females will abandon the nest if handled early in incubation).

By banding as many adults and young as possible, I have a large data base of known age birds to work with. A retrap card is made out for each EABL that is retrapped after the initial banding. Information includes reproductive success, date, year, age, sex, location and comments each time a EABL is retrapped plus the initial banding information.

By doing this I can then compare reproductive success in known age birds i.e. Do 3rd year EABL's have the same reproductive success rate as 2nd year birds that nest in apple orchards? Below is a chart showing the number of EABL's retrapped and their age distribution to the end of the 1992 field season.

### EABL's Retrapped at Least 1 Field Season after Initial Banding

2nd Year	3rd Year	4th Year	5th Year	6th Year
27	17	6		1

Ex. A Hatch Year (HY) EABL banded in 1990 and retrapped in 1992 would be recorded as a 3rd year bird (in calendar years). I intend to continue this study for at least 10 years. The age distribution shown above may change somewhat as older birds are retrapped.

Some questions that might be examined would include:

1. Are older EABL's nesting successfully in apple orchards?
2. Do young birds (HY) that fledge from orchards seek out orchards to nest in?
3. Do they return to the same orchards from which they fledged?
4. Is this age distribution similar to a non-orchard population?

In 1993 I will employ an aging technique which will allow me to age captured unbanded adults as either 2nd year or after 2nd year. This will give me a larger data base of older birds to compare reproductive rates.

Retrap data is the most important focus of this study. I have never had a foreign retrap<sup>1</sup> of one of my banded EABL's, although several bluebirds have been recovered in my immediate banding area by other individuals.

### Recoveries

1. In August 1989, two adult EABL's (male-banded, female) were recovered from a rain barrel about 200 metres away from where the banded adult male successfully nested earlier. (The female was probably his mate.) Once in the water the birds were unable to get out and drowned. Bird baths that are too deep to allow the birds to touch the bottom and have steep sides can cause the same effect. Extreme drought conditions existed throughout most of Ontario in 1989.

<sup>1</sup>Foreign retrap - An individual recovering one of my banded birds outside my immediate banding area.

1. Inland sites would probably suffer greater mortality because the nestlings would be further developed than sites near large bodies of water (because of the lake effect). Young just prior to fledging have much greater food requirements.
2. Large bodies of water would cool much slower and insect hatches could still be found on the surface of the water. Very few flying insects were available at inland sites during the 20th/21st.

The highs of 9°C on June 20th and 21st were record low maximums. The lows both days were 5°C. It warmed up on the 22nd to 18°C and on the 23rd to 19°C but stayed very cool at night with 3°C on the 22nd and 2°C on the 23rd.

The actual Tree Swallow mortality may have been much greater than what was recorded i.e. dead nestlings. Adult Tree Swallows would have had a very difficult time finding insects to feed young that fledged in the week before June 20th/21st and were still dependent on adults for food. Very few nesting attempts were made by Tree Swallows after this weekend. It was just too late in the nesting season. The three month summer period (June, July, August 1992) was the coldest on record. Although no precipitation records were set, the summer was much wetter than average with July and August having almost double the expected rainfall. I can't recall a year when I have experienced more mosquitoes and they persisted very late into the fall.

There are several theories that may explain the unusually cold wet weather. Mt. Pinatubo erupting in the Philippines about one year ago pushed large amounts of dust and gases into the high atmosphere which eventually reduced the amount of sunlight hitting the earth's surface by reflecting it back into the atmosphere. This may have caused a 1°C difference in temperature.

There was also an oceanographic effect. El Nino, a current in the Pacific Ocean, apparently shifted the circulation patterns in North America to a south-east orientation. Because of this we got more cold air coming across the eastern half of North America which was partly responsible for lower than average temperatures.

Precipitation was more than average because the high level jet stream was much lower than usual over the North American continent which brought more rain into the area every couple of days. Usually we have a fairly dominant high pressure area over the Great Lakes which brings hot, dry summer temperatures. Not in 1992! These are only theories and the real explanation for this unusual weather may not be known for some years to come.

### ***Volunteers needed!!!***

The OEBS does not run itself, and if it is to continue, we need people to fill the following positions:

- Archivist:** Someone who resides near the Kitchener-Waterloo region. Duties would include sorting past newsletters, correspondence, various Bluebird material and making an inventory list.
- Recording Secretary:** Needed to record minutes of OEBS meetings including the Annual General Meeting.
- Directors at large:** Three people needed (in addition to existing Director, Doreen Stahle) one of whom would be responsible for co-ordinating all of the nestbox county co-ordinators.
- Nestbox County Co-Ordinator:** This person would make a list of all nestbox trails by county from the previous 6 OEBS nestbox surveys 1987-92.
- Corresponding Secretary:** This individual would help answer letters received by the OEBS, photocopy articles, etc.
- Others:** Individuals who we could call on to help out when needed, i.e. mailing the newsletter

If you are interested in one of these positions, please write Darlene Ryan, 80 Martinglen Crescent, Kitchener, Ontario N2E 2A2.

**\*Editor's Note:**

Late nestings where bluebirds fledge in August tend not to be as successful as earlier nestings (these are my own observations). I have calculated an average of 4.8 fledged young per EABL pair per nesting season. Nine fledged young is almost double this average (calculated using OEBS Nestbox Survey Reports).

### My Oldest Recapture

I also recaptured my oldest bluebird in 1992. A male EABL that was banded as an AHY male at Inksetter Carluke (at Box I-1) on June 10, 1988, was recaptured on May 23, 1992 nesting in the same nestbox. This bird is in at least its 6th calendar year and since it was AHY when banded it could be older. It was not recaptured between its initial banding and this year's 1st recapture. The female at this nesting was banded as an AHY F on June 7, 1991 in I-6 in the same orchard. (This bird is in at least her 3rd calendar year.) The second nesting attempt at this box in 1992 was the same female but a different male. The male this time was a bird initially banded as a HY bird in the same orchard on June 4th, 1989 in Box I-4. This bird would be in its 4th calendar year. Each nesting produced one fledged young. Both males were very aggressive and agitated when I checked this nestbox and attacked repeatedly by dive bombing me.

### Banding Sizes for EABL's

The CWS banding manual recommends either size 1 or 1B be used for EABL's. At present I use size 1 bands 99% of the time on both adults and nestlings. I have found the 1B is just too big a band for EABL's. If in doubt use the Soucy Band Gauge to make certain the band is large enough, especially for nestlings under the age of 10-12 days.

### North American Bluebird Society

I would recommend for all nestbox operators to become members of NABS (address below). Their Tenth Anniversary Edition 1988, has compiled some of the best articles written about Bluebirds over a ten-year period. I would recommend it highly, as I would recommend a subscription to the NABS.

North American Bluebird Society, Box 6295, Silver Spring, Maryland, U.S.A. 20906-0295  
Membership - Regular: \$15.00 U.S.

### Request for EABL Articles by Members of OEBS

If you have an article you would like published in our newsletter, please send it to the editor, Bill Read, 165 Green Valley Drive, Unit 2, Kitchener, Ontario N2P 1K3

### Some Recommendations for Starting a Bluebird Nestbox Trail

1. Read as much information as you can about EABL's. Information can be obtained from the Ontario Eastern Bluebird Society and the North American Bluebird Society. A book called *The Bluebird* by Lawrence Zeleny (Founder of NABS) is an excellent start and can be obtained from the NABS for around \$10 U.S. I still have my copy dated February 19, 1982 and remember carefully reading it during the latter part of that winter.
2. Contact a successful Bluebird trail operator and ask him or her if you can go out with them to find out how to manage and monitor your nestboxes. This way you can avoid making mistakes and gain from someone else's expertise.

2. In the fall of 1991, a home owner living adjacent to one of the orchards I monitor, recovered an adult male banded EABL in his fireplace when it was cleaned out in the fall. The band was removed but was later lost. (Make sure if you find a banded bird, to copy the band number before putting the band away so you have a record of it.) A pair of EABL's attempting a second nesting in 1991 adjacent to this house suddenly disappeared leaving four eggs in the nest. The male from that nesting had been banded and if the band is eventually found, it will probably be from that male.

**Editor's Note:** Bluebirds routinely examine any potential nest cavities for possible nesting sites. Many bluebirds have perished by becoming trapped down chimneys and smokestacks. On the basis of responses to a questionnaire sent out to users of the tobacco-curing burners, Finch<sup>2</sup> estimated that during the seven years following 1947, when the burners came into widespread use (in the southern United States), approximately two million bluebirds died in the manner just described. If you have a chimney or metal smokestack, make sure to put a metal screen over the top of it. Chimneys large enough to allow chimney swifts to enter would not be a problem.

### Some Interesting Retraps

In the spring of 1991, I banded five young from a first nesting in Box 11 at the Vanymeren orchard. The orchard is located just northeast of Paris, Ontario along the Grand River. During the 1992 field season, four of the five nestlings were retrapped in apple orchards (two in Vanymeren and two in Brubacher - about 5 km. to the east). For four of five young to survive the first winter is quite remarkable and even more so to retrap all four. A total of thirty-two young were produced by these second year birds. What makes this even more interesting is that one of the four, a female nested successfully three times in the Brubacher orchard. (The first time I have documented this by retrapping the female at each nesting.) I was unable to catch the male at the last two nestings so I cannot be sure if it was the same male at each nesting. It may sometimes appear that EABL's have nested three times in one season but they may in fact be different pairs. The first egg date for this female was April 13th and the last young fledged around August 17th. With courtship, nest building and feeding fledged young this would be over 6 months of nesting activity, an unusually long time for passerines. Three nestings per pair are often reported from the southern United States but in southern Ontario it can be a very difficult task in our unpredictable climate.

In the same orchard (Brubacher) where this female nested successfully three times, I examined a nestbox (Box 13) on April 13 that had a one inch buildup of bluebird fecal pellets in the bottom of the box. This indicates that EABL's had used this box to roost in during part of the winter and may in fact have overwintered in this nestbox.<sup>3</sup> This box was very close to the first nesting of the female mentioned above. She nested in three different nestboxes, which is unusual because birds that successfully fledge young tend to use the same nestbox. I intend to check all orchards this winter 1992-'93 to determine if EABL's are overwintering in apple orchards.

Nesting Record for Female 2021-79116 Brubacher Orchard

	1st Egg Date	Total Eggs	Approximate Hatch Date	Dead in Nest	Fledged	Approximate Date	Comments
Box 32	April 13	5	May 1	-	5	May 17	Very early nesting
Box 3	May 25	4	June 10	1	3	June 30	1 nestling hatched late and was out competed for food.
Box 15	July 12	4	July 28	3	1	August 17	No correlation with spray events*
Totals		13		4	9		

<sup>2</sup> Finch, J. R. 1972 - Disappearance of the Eastern Bluebird in Tobacco Producing Areas Address: Route 1, Bailey, N.C. 27807

<sup>3</sup> A nestbox at the Fisher orchard also had a build-up of fecal matter when visited in April, indicating bluebirds had spent a good part of the winter roosting in this box.

## **Ontario Eastern Bluebird Society Nestbox Survey - 1991**

**William Read**

Since 1987, the Ontario Eastern Bluebird Society has conducted a survey of the results from nestbox trails operated throughout Ontario. Continued monitoring of the results reported on survey forms returned by nestbox operators can provide a good indication of changes or trends in EABL populations.

Only 134 reports were received in 1991 compared to 148 in 1989. The data reported were incorporated directly into the attached summary table which is arranged on a county basis. Because not every form was complete, it was necessary to make some estimates for the missing data based on the information that was supplied. For example, if a respondent indicated six successful nestings, but made no estimate of total fledged young, an estimate of (4 x 6) or 24 fledged young was used. On the otherhand, no estimates were made for egg totals. This is why the egg total reported is lower than the EABL fledged total. The egg total would probably be around 11,000 if all trail operators had counted and recorded on their survey sheets, the eggs laid.

Warm weather during the 1991 nesting season resulted in higher than usual nesting success in most parts of Ontario. Overall numbers were up from the 1990 survey. The 1991 totals indicate 8138 EABL's fledged from nestboxes, an increase from 1990's total of 7307. The increase can probably be explained by favourable weather conditions throughout Ontario during most of the nesting season.

The number of monitored nestboxes decreased to 8704 from 1990's total of 9209. Fledged EABL's per nestbox monitored increased to 0.93 from 0.79 in 1989.

The 1991 nestbox survey represents a total of 1786 EABL pairs in Ontario. If EABL pairs were not recorded on survey forms, the figure was calculated using an average of 4.8 fledged young per EABL pair.

A total of 433 EABL's were reported banded during the 1991 nesting season together with over three times that number of Tree Swallows (1428).

Occupation (number of nestings only - not fledged young) of nestboxes by the usual other bird species occurred with 595 House Wrens, 3655 Tree Swallows, 60 Black-capped Chickadees and 53 House Sparrows.

Raccoon predation of nest boxes was the greatest single cause of nesting failure among both EABL's and TRSW's in 1991. The OEBS is now recommending placement of boxes on predator-proof poles whenever possible and the avoidance of brushy fencerows which are highways for EABL predators such as Red and Grey Squirrel, raccoon, deer mice, snakes, and weasel. Unmonitored, poorly-placed nestboxes continue to be a negative factor in promoting EABL nesting success.

The increase in well-managed predator-proof nestbox trails throughout eastern North America will continue to be an important factor in the EABL's recovery. Population monitoring such as the OEBS nestbox survey will assist in that recovery.

3. **Start small with four or five nestboxes that have predator protection.** "Too often well-meaning individuals and groups lavish care and money on the production of excellent Bluebird boxes only to set them out where there is little or no prospect that bluebirds will ever use them." (L. Zeleny, P.70, The Bluebird, Indiana University Press) Location is the most important factor in attracting Bluebirds. There have been many programs in Ontario that fund Bluebird box building projects with absolutely no thought given to placement of the boxes and proper management and monitoring. In many cases the boxes are put up anywhere and become a negative factor - the reverse of what was intended.
4. **Nest Box Placement:** I initially recommended placing nestboxes on fence posts (FON Supplement 1989). I have changed my opinion somewhat on this because of an increase in the raccoon population in Ontario (a major predator of EABL's that use nestboxes). I now recommend placement on a T-bar that is greased or a metal pole with a special raccoon cone guard. **Brushy fence rows are the worst possible place to put a bluebird box because they are highways for EABL predators such as raccoons, red squirrels, grey squirrels, deer mice, weasels, snakes and possibly opossum.**
5. **Keep records of your nestboxes.** One of the main aims of the OEBS is to monitor EABL populations so we can look at long term trends. This cannot be done if people do not keep records. Periodic checks of the nestbox will do no harm to the bluebirds especially if the nestbox is predator proof.
6. **Nestbox Design:** Kevin L. Berner of the New York Bluebird Society has done extensive research on designing nestboxes to make them predator proof. (Kevin was a featured speaker at our 1990 OEBS conference.) Based on his field trials, Kevin recommends "...using a standard wooden guard of 3/4 in. or slightly thicker in conjunction with an extended-length roof. As stated earlier, the 3/4 in. guard over the entry hole by itself does not provide adequate protection from raccoons. It is difficult to tell if the bluebirds intentionally avoided the thicker wooden guard or if they were selecting boxes more for the characteristics of the roof. My tests with captive raccoons indicate that extended roofs do provide additional protection. Both bluebirds and Tree Swallows readily used the extended-roof boxes which would also provide additional shade on warm summer days. Additional predator protection may also be provided by reducing nest heights as proposed by Read (1989). Experiments should be conducted with roofs having up to a 7 in. (17.8 cm) overhang which I have found increases the level of nest protection in captive raccoon tests".<sup>4</sup>
7. **Always get permission before placing nestboxes on someone else's property. Do not put boxes on telephone utility poles unless you have the permission of the utility company (in most cases Ontario Hydro). Do not put your boxes up near another bluebirder's trail.**

### Obtaining a Bird Banding Permit

I receive a number of inquiries throughout the year asking how to obtain a banding license. Banding licenses are very difficult to obtain and are issued by the Canadian Wildlife Service (address below). If you write them they will outline the requirements. Applicants must have a specific project in mind and at least two recommendations from master permit holders.

I would suggest contacting the Ontario Bird Banding Association (address below). They will be able to direct you to one of the Banding Stations or an individual bander who is willing to train you. This will allow you to learn bird banding first hand.

**Ontario Bird Banding Association (OBBA)**  
 Bander Training Program  
 Write: Martin McNicholl, 218 First Ave.  
 Toronto ON M4M 1X4

**Canadian Wildlife Service (CWS)**  
 Attention: Bird Banding Office  
 Director General  
 Environment Canada, Ottawa ON K1A 9Z9

<sup>4</sup>Sialia, Autumn 1990 Volume 12, Number 4, Page 127, North American Bluebird Society

# Ontario 1992 Eastern Bluebird Nestbox Survey

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

County where bluebird boxes are located: \_\_\_\_\_

If more than one county, number in each: \_\_\_\_\_

How many bluebird boxes did you monitor? \_\_\_\_\_ Total number of boxes on your trail? \_\_\_\_\_

How many times did you check your trail during the nesting season? \_\_\_\_\_

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Number of boxes used successfully<sup>1</sup> by Eastern Bluebirds? \_\_\_\_\_

Number<sup>2</sup> of successful Eastern Bluebird nestings (broods): \_\_\_\_\_

Number of young EABL's fledged<sup>3</sup>: \_\_\_\_\_ Unsuccessful Eastern Bluebird nestings<sup>4</sup>: \_\_\_\_\_

1. "Used successfully" means at least one bluebird was fledged. More than one nesting per box equals one box used successfully.
2. Include all Eastern Bluebird nestings in each box; for example, two broods raised in one box equals two successful nestings.
3. A young bird is said to be fledged when it leaves the nestbox on its own power.
4. Include in this category if a nest was built and eggs were laid but for some reason no Eastern Bluebirds fledged.

\*\*\*\*\*

Blue      White

Number of Eastern Bluebird eggs laid in boxes: \_\_\_\_\_

Number of EABL eggs known to have hatched: \_\_\_\_\_ Number of EABL eggs which did not hatch: \_\_\_\_\_

Number of eggs for which fate unknown: \_\_\_\_\_

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## Description of Box

Top opening: \_\_\_\_\_ Side Opening: \_\_\_\_\_ Front Opening: \_\_\_\_\_

Depth from bottom of hole to floor: \_\_\_\_\_ Inside dimensions: \_\_\_\_\_

Wood type and thickness: \_\_\_\_\_ Colour of box: \_\_\_\_\_

What sort of predator protection was used, if any? \_\_\_\_\_

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Table 1. Summary of Eastern Bluebird Nesting Success in Ontario in 1991.

County	Surveys	Boxes Monitored	Boxes on Trail	Boxes Used Successfully	Nestings Successful	Young Fledged	Unsuccessful Nestings	Eggs		Nesting Natural Cavities	EABL Pairs Represented	House Wren	Tree Swallow	Black-capped Chickadee	House Sparrow	Banded EABL	Banded TRSW
								Blue	White								
Algoma	2	25	25	4	4	11	1	15			7		6				
Brant	3	23	36	7	8	29	4	10			9		3				
Bruce	6	976	1006	169	154	1012	27	739	21	2	246	29	404	1	1	9	
Dufferin	7	584	582	114	166	459	2	50	20	1	98	6	33	4			
Durham	2	38	38	10	6	27	2	38			6	70					
Elgin	3	104	104	27	45	175	7	193	5	1	22	3	6	1		107	
Essex	5	132	180	17	25	90	4	105			18	27	52		1		
Frontenac	1	9	9														
Grey	7	1598	1600	6	572	1996	6	29		1	420	178	1110	3	21		
Haldimand-Norfolk	12	318	357	86	82	415	38	497	10		99	46	165	4	4		
Hallon	2	36	36	1	1	5	1	10			2	8	8				
Hamilton-Wentworth	2	160	160	30	121	128	6	180	4		26	8	44				
Hastings	2	52	52	9	9	42	4	40	14		8	10	118		3		
Huron	2	78	78	11	13	57		17	6		11	14	35		6		
Kenora	3	68	72	6	2	26		12			6	19					
Lambton	2	80	313	40	50	192	28	310			59	1	18				
Lanark	1	74	74	24	32	127	7	137			26	26	78	5			
Leeds-Grenville	4	80	80	15	21	73	2	78	4		15	64	89				
Lincoln	2	105	105	46	42	196	12	244	8	1	42	11	19				
Manitowlin	4	52	52	7	20	70		4	5	2	17	2	42	2			
Middlesex	2	17	17	2	2	7	1	1			3	1	4		4		
Muskoka	3	83	225	20	23	102	10	114		3	28	1	338	2	2		
Niagara	3	8	8	3	4	13	1	23		2	3		1		1		
Northumberland	4	264	264	55	67	233	10	292	7		42	12	50	2	1		
Ottawa-Carleton	5	207	265	50	62	219	22	268			54	15	51				
Oxford	7	296	306	15	22	158	72	244	17		42	18	158	4	7		
Parry Sound	2	41	41	9	10	46	1	55			9		26				
Perth	2	187	187	16	23	90	1	4			19		69				
Peterborough	5	212	212	9	18	173	3	79	5		33	15	91	1			
Prince Edward	2	52	52										5				
Renfrew	2	892	902	78	78	553	74	424			119			23	1		
Simcoe	7	167	182	48	65	235	23	285			56	12	41	1	3		
Temiskaming	1	316	398	37	37	150	6	186			30		200				
Thunder Bay	1	15	21	2	2	6	1	10			2						
Victoria	3	87	126	42	63	249	44	395		2	43		29	1			
Waterloo	8	608	624	19	23	449	10	136	10		91	5	71		4	200	
Wellington	2	504	393	25	27	98	2	103		1	26	11	220	3		117	1428
York	3	256	256	55	57	227	5	232	13		49	2	52	3			
Totals	134	8784	9438	1114	1956	8138	437	5539	145	20	1786	595	3655	60	59	433	1428
					Total			5684				6.77%	41.61%	0.68%	0.67%		