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Table of Contents

Cover Illustration: Northern Mockingbird (*Mimus polyglottos*)
by *Christine Kerrigan*

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Thank You From The Editors

After 16 years, this issue marks our retirement as editors of Ontario Birds. This has been a wonderful experience for us, and we hope enjoyable and informative for you, our readers. We would like to thank all of the authors, artists, photographers, reviewers, and consultants we have had the pleasure of working with during the preparation of 48 issues of the journal. It has been great, but now we all want to free up some time for our many other interests.

Special thanks go to artist Christine Kerrigan (also retiring as art consultant) for her enthusiastic assistance with artwork over the years. John Aben, of Aben Graphics (our printer in Huntsville), has done a superlative job in the design, layout and printing of Ontario Birds. Lastly, the OFO Board has given us unqualified support in our attempt to produce a quality journal.

We look forward to assisting the team of Ross James, Glenn Coady and Chip Weseloh (editors), Judie Shore (design and layout), and Barry Kent MacKay (art consultant) as they embark on a new era in the production of Ontario Birds. We hope to continue to contribute articles, reviews and peer-reviews to the journal, and are confident that it will flourish in the coming years.

Ron Tozer, Ron Pittaway and Bill Crins
Editors, 1991–2006

Articles

The Changing Status of the Northern Mockingbird in the Greater Toronto Area

Roy B. H. Smith and Winnie Poon

Introduction

The Northern Mockingbird (*Mimus polyglottus*) was first recorded in Ontario in June 1860 at Chatham, *Chatham-Kent* (Dwight 1896), but was evidently very rare during the late 1800s. Indeed, McIlwraith (1894) stated that: "In Ontario, the Mockingbird is best known as a cage bird, numbers being occasionally brought from the south in captivity, and when exposed for sale are readily bought up by those who are fond of feathered pets."

There were only two other Ontario records prior to 1900: one at Strathroy, *Middlesex*, on 1 July 1880 and a pair which possibly nested in East Hamilton, *Hamilton*, during the summer of 1883 (McIlwraith 1894). The latter record was considered doubtful by Fleming (1907), who relegated it to his hypothetical list, apparently based on the opinion of C. W. Nash that the bird or birds had been misidentified. In retrospect, this seems somewhat harsh, since one was reported seen and heard singing multiple times, but there was only one sighting of two birds, and who today can second guess the authorities of that period, over 120 years after the event?

Meanwhile, the species remained unrecorded in the Toronto area at the start of the twentieth century (Fleming 1907). For the purposes of this paper, we have focussed primarily on the Greater Toronto Area (GTA), which comprises the Regional Municipalities of *Halton*, *Peel*, *York* and *Durham*, as well as the *City of Toronto* itself (formerly known as Metropolitan Toronto), and occupies about 7,124 square kilometres along the north shore of Lake Ontario. The Pearson International Airport, located at 43° 40' N, 79° 38' W in *Peel,* provides an appropriate reference point, since any climate data mentioned in this paper refer to that station.

The GTA extends from Burlington, *Halton*, in the west to beyond Bowmanville, *Durham*, at its eastern limit, and north to the southern shores of Lake Simcoe (Figure 1). The northern half of this region is separated from the southern half by a prominent landscape feature, the Oak Ridges Moraine, which runs east-west about 25 to 40 km north of Lake Ontario. At the western end of the region, the

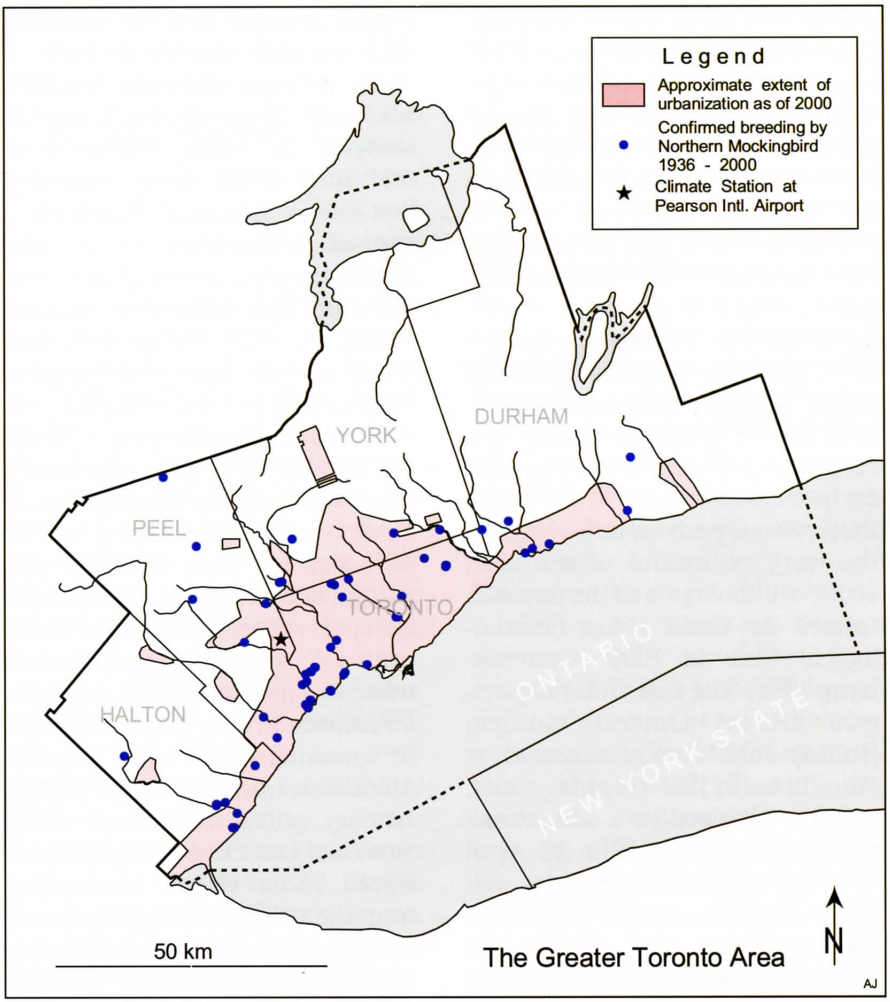

Figure 1: Confirmed breeding records of Northern Mockingbird in the Greater Toronto Area, 1936-2000. Map by *Andrew Jano*.

Niagara Escarpment also forms a significant landscape feature. As the twentieth century unfolded, the southern parts of the GTA became progressively more urbanized, so that by 2001, the human population was about 5.08 million (Statistics Canada, online). These features are outlined here because they may have had a significant influence on the distribution of Northern Mockingbirds which subsequently developed.

During the twentieth century, the Northern Mockingbird gradually spread northward into Ontario,

as part of a general continent-wide expansion along the northern limits of its range (e.g., Snyder 1957, Beddall 1963, de Vos 1964, Brazier 1964, Igl and Martin 2002). Initially, most Ontario records came from the extreme southwest of the province, where the first nesting was reported from Amherstburg, *Essex*, in 1906 (Barrows 1912). Although this report was second-hand and without precise details, it seems to have been accepted by later authorities (e.g., Baillie and Harrington 1937). Most of these early records came from Point Pelee, *Essex*, perhaps due in part to the work of several of the most active ornithologists of the day, who formed the Great Lakes Ornithological Club in 1905 (Cranmer-Byng 1984). The first Ontario specimen (Royal Ontario Museum [ROM] #52174) was collected at Point Pelee in 1906 (Fleming 1906), and was followed by a second one (ROM #69676) taken on 12 April 1909 (Saunders 1909, 1923), as well as several sight records, while local resident Albert Gardner reported at least two nestings there, in 1909 and 1919 (Saunders 1923).

In total, there were about twelve Ontario occurrences between 1900 and 1920, all except one from *Essex*, and all except one being spring or summer records. The exceptions were a fall sighting from Point Pelee on 16 September 1911 by J. S. Wallace (Saunders 1923), and one taken "before 1915" at Kingston, *Frontenac* (MacClement 1915). Despite the fact that the mockingbird was only considered to be a "rare summer visitor to southern Michigan" (Barrows 1912), anyone studying the Ontario situation at that time might have concluded that range expansion based on a gradual spread from the extreme southwest of the province was to be expected. But something changed during the 1920s. There were a few more records from southwestern counties, e.g., the second for *Middlesex*, collected by A. A. Wood (ROM #52177) at Duncrief about 5 km north of Coldstream on 6 January 1921 (Fleming 1930, Saunders and Dale 1933), but the pattern shifted to one of scattered, isolated records across a broad front of southern Ontario, and started to include late fall and winter records. In fact, the first example of wintering occurred at London, *Middlesex*, from December 1922 to January 1923 (Saunders 1923, Saunders and Dale 1933). We have traced about eleven occurrences from the 1920s, including confirmed nesting at Nanticoke, *Haldimand*, in 1924 (Chester D. Wedrick, ROM Species File; Baillie and Harrington 1937); a sighting near Paris, *Brant*, on 26 July 1925 (Williams 1928), the first for that county; and a sighting by J. H. Fleming at McNab, *Niagara*, on 12 May 1928 (Fleming 1930), which was the first for the Niagara peninsula. One pioneering individual even reached the James Bay coast at Moose Factory, *Cochrane*, on 4 June 1928 (Virtue 1929,

Manning 1952; ROM #336201050).

It was during the 1920s that the first and second occurrences for the GTA were reported. The first was seen at Bowmanville, *Durham*, from 20 October to 20 November 1921 (Gould 1922, Allin 1940) and, like the Duncrief bird, the record is interesting because it occurred in late fall. One might have expected the first record of a "southern" species expanding northward to have occurred as a spring overshoot. However, the second GTA record also occurred in late fall: one seen by J. Murray Speirs in his garden at Wolfrey Avenue, *Toronto*, from 20 November to 1 December 1927 (Speirs 1931, 1985). Interestingly, one turned up at South Street, Hamilton, *Hamilton*, at almost the same time, and was seen from 14 November 1927 (*The Globe*, 8 December 1927) through the winter and into 1928 (McMillan 1929). By 18 February 1928, there were sightings reported from Queen Street and Hess Street in the same vicinity and J. L. Baillie noted that "there are apparently two Mockingbirds wintering in Hamilton one of which visits Mr. Childs' backyard daily about 4 pm for food." It was last recorded on 25 February, when Baillie saw it "feeding on seeds of Sumac and frozen apples which still clung to the trees" (J. L. Baillie, ROM Species File).

These records are significant because a pattern of fall and winter occurrences had already been documented as characterizing the northward spread of Northern Mockingbirds in the New England states (Wright 1921). As more records accumulated, a similar pattern of initial colonization via fall and winter occurrences became apparent across the GTA. However, there must have been something unusual about 1928, because apart from the Moose Factory record, this was a year when a small influx occurred at widely scattered sites in Western Canada (Rogers 1937). This influx included the first nesting record for Alberta (Snell 1932), two spring records in Saskatchewan (Brazier 1964), and two records from Manitoba, including one found dead near Winnipeg on 25 December (Gresham 1940).

During the 1930s and 1940s, a few more GTA occurrences were noted (see Tables 1 and 2), including the first case of overwintering, appropriately recorded by none other than J. H. Fleming. He observed a mockingbird in his garden at 267 Rusholme Road, *Toronto*, on 8 November 1935, and again on 25 November, after a heavy frost. It was next seen on 1 January 1936, but then not until 12 February. On 13 February, a strong easterly blizzard developed, trapping the bird against Fleming's library walls. It fed freely on currant-loaf, but being concerned for its survival, Fleming trapped it and brought it into his conservatory. However, it died later that day, and the specimen was preserved (Fleming 1936), eventually ending up in the ROM collection (#52178).

It may be significant that this first case of overwintering in Toronto, although unsuccessful for the individual bird in question, was followed later that year by the first reported nesting record there. A note by Jim Baillie, found in the ROM Species File, indicates that a nest with four eggs was found by Reg James in 1936. Unfortunately, few additional details are available (see *City of Toronto* records section), and this record was omitted from an authoritative review of breeding status published in the following year. In their account for Northern Mockingbird, Baillie and Harrington (1937) recorded that: "This bird is very rare and except for an accidental record at Moose Factory (June 4, 1928) is found only in extreme southern Ontario north and east to Middlesex and Durham Counties. It has been found breeding on but four occasions, three in Essex and the other in Haldimand County." Consequently, a nest found by J. A. Brodie on his father's farm at Highway 7 and Concession 3, Markham, *York*, on 11 June 1938 (Devitt 1960) constitutes the first *generally accepted* nesting record for the GTA (see Table 4a).

It is widely believed that the mid 1930s represented an unusually warm and dry period during the twentieth century (Moseley 1947). For example, in July 1936 the highest temperatures ever recorded in Toronto were reached (J. L. Baillie Journal # 22). It may be that these warmer than average conditions gave an added push to the northward spread of Northern Mockingbirds, for it was during this period that numbers of reports from the northern Great Plains states and Prairie Provinces increased, including the first nesting records for Saskatchewan (Brazier 1964). The species first reached British Columbia in 1931 (Campbell et al. 1997), while the first nesting in Nova Scotia was recorded at Halifax in 1938 (Tufts 1986). These records and others not discussed in detail here indicate that the species seemed to be expanding north and to some extent westward on a broad front across the entire continent.

However, if one looks for a source population immediately to the south of Ontario, it appears that mockingbirds were generally very rare in the northern parts of New York State during the 1930s, although an "influx" was reported in the "Niagara Frontier" (Buffalo) area in 1938, based on a total of four records that year (Beardslee and Mitchell 1965). In parallel with this, we can see with hindsight that the small numbers which began to show up in the Niagara peninsula during the 1930s and 1940s were actually establishing themselves, although another 25 years or so were to elapse before it became evident that the birds were established and wintering in significant numbers in the Niagara region (Yaki 1969).

If one compares the number of occurrences per decade (Table 2), it

is clear that the early colonization was a slow process. Several years could go by between individual occurrences, which were noteworthy events for the local birding community. The instances of breeding seem to have been random, and tended to occur in rural areas, beyond the urban fringe as it was then (Tables 4a and 4b). Despite some cold winters early in the 1940s, and perhaps reduced birding effort because of the war years, the overall trend was one of slow and erratic increase, with a more pronounced increase after about 1954. Perhaps this represented another warmer-than-average period, or an increase in birding activity, but we think it was more likely related to increases in populations not far to the south. For example, the CBC data for New Jersey and Pennsylvania showed a large increase in numbers in those states starting around 1954-1955, while there were still very low numbers (less than one per 100 party-hours) in southern New York and southern Connecticut during the same period (Beddall 1963). Yet in the next few years, resumed expansion in the New York City-Long Island area of New York State (Bull 1964) may have provided the surplus required to fuel continued population growth in southern Ontario, even while numbers in the northern part of New York State were still rather low. It seems logical to look first at the closest breeding populations as potential sources of "surplus" birds, and we can rule out Michigan as a likely source because the mockingbird "has never been more than an uncommon resident in Michigan" (Brewer et al. 1991).

Although mockingbirds were still rare anywhere in Ontario during the 1950s, some pioneering birds were turning up, and even nesting occasionally, hundreds of kilometres north of the GTA. An extreme example of this would be the confirmed nesting record on Manitoulin Island, *Manitoulin*, in 1955 (Baillie 1955, Nicholson 1981), which was mentioned by Snyder (1957) in his discussion of range changes involving Ontario birds. He noted that the Northern Mockingbird had spread northward approximately 240 miles (385 km), largely during the twentieth century. In the following year, the first sighting for the Ottawa area was noted from 15-17 May 1956 (Spencer 1957), while in the spring of 1958 there were several reports from northern locations, including one (or two?) which reached Moosonee, *Cochrane*, between 26-30 May (Gunn 1958). In 1960, D. W. Simkin reported that a pair had been seen collecting nesting material at Sioux Lookout, *Kenora*, but had disappeared soon after 15 June (de Vos 1964). Also in 1960, one vagrant reached the McConnell River in Nunavut, where it was collected on 20 June (Godfrey 1966). This location is about 360 km north of Churchill, Manitoba, and represents the northernmost known

occurrence in Canada (J. M. Richards, pers. comm.).

In subsequent decades, the numbers (both breeding and wintering) increased slowly and steadily, but the species was still considered rare in the GTA during the 1960s, with sight records being reported individually, e.g., in the *Toronto Birdfinding Bulletin* (1964-1967) and most naturalist club newsletters of that period.

Even in the Niagara region, which Ontario birders traditionally think of as "core range" for mockingbirds in the province, numbers were still very low prior to the 1960s. Not long after the first sighting in 1928 (Fleming 1930), the first case of overwintering occurred in 1931-1932. This bird showed up at the Vineland Horticultural Station, *Niagara*, in mid November, but was not properly identified until 5 December 1931 (an indication of how unfamiliar the species was at that time). It was seen again on 18 December, and on the Vineland CBC on 24 December 1931 by members of the Brodie Club, and apparently stayed until early April 1932. This mockingbird's main food supply seems to have been "the very abundant berries of the Boston Ivy (*Parthenocissus tricuspidata*) which covers both the south and east walls of the Administration Building" (Sheppard et al. 1936).

Rather few were reported from Niagara during the remainder of the 1930s and 1940s, but one which showed up in Grimsby on 1 January 1945 (W. L. Putnam; Sheppard 1970) was subsequently collected on 6 January (*Hamilton Spectator*, 20 January 1945; ROM Species File). Another was seen at Port Colborne from 19-21 May 1945 (Dr. Gordon B. White, fide J. L. Baillie; ROM Species File). Additional wintering birds were reported from the Vineland Experimental Station between October 1946 and February 1947, from the H. Troup Farm near St. Catharines in "winter" 1949, and at Grimsby on 23 January 1954, while one at Morgan's Point on 7 May 1950 was apparently the first for [then] Welland County (Yaki 1969, Sheppard 1970).

In retrospect, it seems that what must have been happening was a slow buildup of numbers, largely undetected (or at least unreported) by local observers. The first published breeding record for *Niagara* occurred in 1961, when a pair nested near Rose Hill Road, about 3 miles (4.8 km) west of Fort Erie. This first nesting was evidently unsuccessful, since the nest with three young disappeared entirely sometime between 19-21 June, but a second attempt resulted in three fledged young on 21 July (Beardslee and Mitchell 1965). However, by the end of the decade, breeding had been reported from several different sites, including the previously mentioned Troup Farm (1963), Rathfon Point on Lake Erie (1964), Queenston, the northeast fringes of the City of Niagara Falls

(1967), and the Creelman Farm near Vineland in 1968 (Sheppard 1970).

Wintering numbers had also increased markedly and by the late 1960s, Gustave J. Yaki was able to find as many as nine mockingbirds during a two-hour trip between Niagara Falls and Niagara-on-the-Lake on 28 January 1968, albeit visiting "known sites". He also knew of 21 birds wintering in 1968, most of which he saw personally, although some of them were not recorded again after a severe ice storm in mid January 1968 (Yaki 1969). These wintering locations ranged from Grimsby, through St. Catharines (8 sites) and Niagara-on-the-Lake, south to Niagara Falls and Chippawa, with just a few west of the Welland Canal. In total, there were up to 36 mockingbirds wintering in the Niagara peninsula in 1967-1968 (Goodwin 1968), and by the end of the decade, it was noted that "in the sixties, the Mockingbird populated the territory from Vineland to Niagara Falls, to a quite remarkable extent" (Sheppard 1970).

It is interesting that most were concentrated in the eastern part of the Niagara peninsula, because numbers were also starting to build up in the Hamilton area during the 1960s. For the 1950s, we have just 12 database reports (8 occurrences) for *Hamilton*, based on sightings reported in *The Wood Duck*, but these numbers jump to 33 database reports (22 occurrences) for the 1960s, and 49 database reports (41 occurrences) for the 1970s. During the 1970s, several locations started to yield multiple reports, and there seems to have been a concentration of sightings in the Stoney Creek area.

Another way of examining the Niagara-Hamilton situation is through CBC data. The Hamilton CBC has a long history back to 1921 (Curry 2006), and the Niagara Falls CBC (which straddles the Canada-United States border) started in 1966, while the St. Catharines CBC started only in 1982. Niagara Falls averaged 12.2 Northern Mockingbirds per count during the 1966-1980 period, but the average masks a period between 1969-1973 when 20-22 mockingbirds were consistently recorded, and a period of much lower numbers in the late 1970s. The Hamilton CBC did not start to record mockingbirds consistently until 1965, although there had been isolated occurrences of single birds on the 1954 and 1955 counts. The numbers on this CBC averaged 2.7 during the 1966-1980 period. Ignoring variables such as date, effort and weather on-the-day, these numbers provide a rough indication of wintering numbers across the Niagara peninsula during the 1970s.

The 1970s also witnessed an increasing number of records from central and northern Ontario. For example, there were 36 occurrences in Manitoulin District during that decade compared with just two previously, and some individuals stayed

for several months, including one overwintering in 1972-1973 (Nicholson 1981). Similarly, in Algoma District there were nine reports during the 1970s, including a bird holding territory at Hornepayne in both 1974 and 1975 (Baxter 1985). Of course, these apparent increases may have been an artifact, to some extent, of better record-keeping and publication of local avifaunas. On the other hand, Northern Mockingbirds had been reported well north of Lake Superior since the 1940s, with records from Kapuskasing on 25 October 1942 and South Porcupine on 30 May 1944, both in Cochrane District (ROM Species File), as well as the first report from Thunder Bay District on 20 July 1948 (Allin and Dear 1949). Much farther north, one was seen on South Twin Island in James Bay by D. H. Baldwin on 25 July 1972. This is actually part of Nunavut, but lies much closer to Ontario than most of Nunavut, being situated about 275 km north of Moosonee. It established a new northernmost record for the James Bay region (Manning 1981). By the end of the decade, the first breeding record for Moosonee had been reported. A pair nested in a backyard poplar tree, and two fledged young were seen with the adults on 31 August 1979 (Fred Johnston, *in litt.* to Ross James, ROM Species File).

Moosonee remains the northernmost confirmed breeding location in Ontario, but in the context of northern occurrences it may have been surpassed by Churchill, Manitoba, where there have been at least 11 observation records (Manitoba Avian Research Committee 2003). The similarities between these locations are striking: both are remote northern towns separated by several hundred kilometres of boreal forest from more typical mockingbird habitat farther south, and both are linked to southern population centres by railways. It seems possible that pioneering mockingbirds follow linear landscape features such as railway corridors, thus accounting for clusters of records from locations such as Moosonee and Churchill.

By the time of the first Ontario Breeding Bird Atlas (1981-1985), mockingbirds had occupied most of the Niagara peninsula, in terms of breeding range, and had also pushed into eastern Ontario, with pockets of confirmed breeding in Prince Edward County and around Kingston (Curry 1987). In the Kingston area, the main expansion had occurred in the mid 1970s, with some pullback after the harsh winters of 1977 and 1978, but rebounding again in the 1980s (Weir 1989).

In the Niagara-Hamilton area, the Atlas map (Figure 2) showed 29 contiguous 10-km squares with breeding evidence (20 confirmed), but many of those squares, especially in the western part of the peninsula, held low numbers, and only nine reported abundance estimates exceeding 10 pairs per 10-km

square. These must have been concentrated along the south shore of Lake Ontario, since the species account noted that "on the Lake Ontario plains, from the Niagara River west to Hamilton, it is a fairly common bird in gardens and orchards" (Curry 1987). However, the southern part of the Niagara peninsula along the Lake Erie shore was still sparsely occupied, as was the higher ground above the Niagara Escarpment. The Atlas map also showed an abrupt boundary to the occupied range north and east of Hamilton, and only a very sparse breeding season distribution in the GTA at that time. In fact, only ten 10-km squares recorded the species at all, with seven possible, two at the probable level, and one confirmed (at Ajax, *Durham*). We also have found one report in the literature of confirmed breeding in *Peel* in 1985, which it seems was never reported to the Atlas. Nonetheless, the Atlas data, being the results of a systematic survey spread over a five-year period, provide a good snapshot of the status at that time.

The only other indications of status that we have found in the local literature, subsequent to the first Ontario Atlas, are a few small items in local club newsletters and reports. For example, the *Toronto Region Bird Report* for 1987 recorded this species' status as "rare resident and migrant; sometimes breeds" (Jaramillo 1990). However, within five years the *South Peel Naturalists' Club Bulletin* (SPNC) of August 1992 noted that "Northern Mockingbirds continued to expand along the Hwy 5 corridor near Winston Churchill" (Coey 1992). Similarly, the *Durham Region Natural History Report* for 1992 mentioned that "this species seems to be gaining a foothold in Durham. Birds were reported from about 10 localities, from Cannington to the traditional Pickering sites at the foot of Sandy Beach Road and Corner Marsh" (Bain and Henshaw 1993).

It was not until the early to mid 1990s that the main expansion (range and numbers) began in the GTA. This is best shown by the Christmas Bird Count (CBC) data (see Figures 4 to 9), with an initial increase in winter numbers starting on the Peel-Halton count around 1990, and a more substantial increase beginning around 1995 for that count, and around 1997-1998 for the Toronto count. At about the same time, Sandra Hawkins started her studies in southern Etobicoke (west Toronto), where she found numerous nests along the railway tracks in an area of about four square kilometres approximately bounded by Etobicoke Creek on the west, Bloor Street on the north, Islington Avenue on the east and the QEW to the south. In a note describing her findings which referred to this study area as "Mockingbird Alley", she stated that "we believe that the Northern Mockingbird is better established,

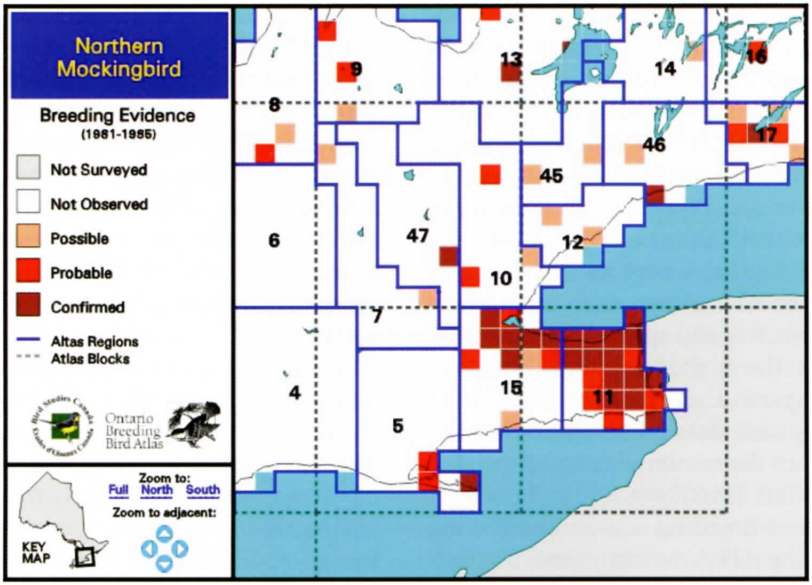

Figure 2: Breeding distribution of Northern Mockingbird in south-central Ontario 1981-1985.

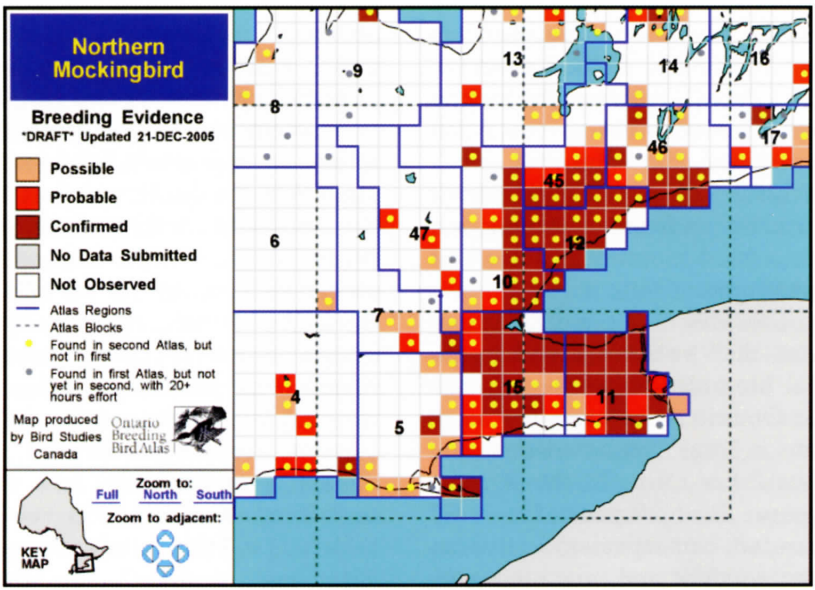

Figure 3: Breeding distribution of Northern Mockingbird in south-central Ontario 2001-2005.

and present in much larger numbers, than is implied by the published reports and counts. Underreporting of their population may be attributed to scarcity of preferred habitat and the locally common nature of the species. When appropriate locales are searched, Mockingbirds may be found in number at any time of year" (Hawkins and Hawkins 1998).

Even in 2000, mockingbirds were still increasing in the Hamilton area and the southwestern parts of the GTA, as indicated by the results of the Hamilton 2000 Fall Bird Count. This count area, which coincides with the Hamilton Study Area circle, yielded 67 mockingbirds that year, easily surpassing the previous high of 54 in 1999, and the compiler stated that "also of note was the record number of Northern Mockingbirds on this year's count. The stronghold for this species in the Hamilton Study Area (HSA) is still the Grimsby area, however; 21 parties recorded 'mockers' this year. This species is definitely expanding and solidifying its range in the HSA as indicated by the three parties that recorded mockingbirds in Oakville, as well as sightings in Burlington and the old Haldimand Township" (Lamond 2001).

Methodology

In studying the history of the Northern Mockingbird in the GTA, we undertook a comprehensive search of the local literature. This included well-known general sources such as Saunders (1947) and Speirs (1985), specific regional works such as Tozer and Richards (1974) and Speirs (1975), and many of the more obscure sources listed in Coady and Smith (2000). In particular, newsletters of all the local naturalist clubs were researched, and all useable reports of Northern Mockingbirds extracted and transferred to a specialized database. These sources included: the *Richmond Hill Naturalists Club Bulletin* [RHNC] (1955 to 2004) and their bird records card file; the *West Humber Naturalists' Club Newsletter* [WHNC] (1982 to 2001); the *Pickering Naturalist* (1977 to 1999), newsletter of the Pickering Field Naturalists' Club; *The Naturalist* (1955 to 2001), newsletter of the Oshawa Field Naturalists and later the Durham Region Field Naturalists; the *Toronto Field Naturalists Newsletter* [TFN] (1938 to 2003); the *South Peel Naturalists' Club Bulletin* (1957 to 2003); and *The Wood Duck* (1948 to 2003), newsletter of the Hamilton Naturalists' Club. A relatively short-lived newsletter called the *Toronto Birdfinding Bulletin*, which was published between 1964 and 1967, yielded some interesting records from that period also.

Other published sources included the seasonal reports in *Audubon Field Notes, American Birds,* and *North American Birds*; the *Ontario Field Biologist* and its predecessor, *The Intermediate*

Naturalist; and local bird reports such as those issued by the Toronto Ornithological Club (1984, 1985, 1987 and 1989), and the Durham Region Bird Reports (1989-1993).

In addition, all the Toronto Ornithological Club (TOC) Record Books (five volumes covering 1934 to 1981) were searched, while data for the period 1989 to 2005 were obtained from the TOC Database. Mockingbird records from George A. Scott's unpublished notes were provided by Tyler Hoar. Special collections in the ROM Library for Otto E. Devitt (SC85), Cyril Peake (SC88), Richard M. Saunders (SC86), and others were searched also, but selectively in view of the large volume of material. Some of James L. Baillie's journals and some papers of the late Gerald M. Bennett were examined in the Fisher Rare Book Library. We attempted to obtain unpublished records from a significant number of local birders and ornithologists who were known to keep personal records also. Many additional reports (and sometimes clarifications of previously published reports) were obtained in this way (see Acknowledgements).

Other data sources examined included the Ontario Nest Records Scheme (ONRS) cards housed at the Royal Ontario Museum (about 147 cards as of 2001, or 180 as of 2004, but excluding those generated from this study), the ROM Species File for Northern Mockingbird, and the ROM specimen collection. Furthermore, all the Christmas Bird Count data relating to counts in our area, for the period 1900 to 2005, were extracted from online resources (National Audubon Society, online), and (for the last few years) we attempted to verify or obtain precise locational details for as many records as possible, by contacting the compilers or original observers. Other sources were used for counts not submitted to Audubon (e.g., Tozer and Richards 1974, Currie 1990).

Early in 2002, we distributed a "Wanted" flyer (initially to Ontario Breeding Bird Atlas participants) seeking additional observations of Northern Mockingbirds in the GTA, but this was aimed at current, ongoing observations rather than historical records. Our data request was also published in the Richmond Hill, West Humber and South Peel Naturalist Clubs' newsletters, as well as the TOC Newsletter. It was also picked up and reported in the Toronto Field Naturalists' newsletter and, perhaps surprisingly, in *Birdwatchers Digest* (Blom 2002). This additional publicity brought in a few more records, as did regular monitoring of the current websites and listservs relating to Ontario birding, notably ONTBIRDS (the email listserv of the Ontario Field Ornithologists), and the University of Toronto's former BIRDBOARD (now OutdoorOntario.net).

One of the authors (RBHS) has been the administrator of the TOC's database since 1989, so we

attempted to keep that database updated with all the records obtained as a result of this study. This proved to be a considerable task, because for the period 1860 to 2000 we collected about 2,385 database records from all of Ontario, of which 1,696 were GTA records. Furthermore, our own fieldwork which involved checking and rechecking sites, as well as multiple visits to occupied territories, began to generate a large number of reports from 2001 onward. For the period 2001 to 2005, about 6,303 records were added to the database, of which 6,071 were GTA records. Of these, 3,520 (58%) originated from the authors, and 2,551 from other observers (see Table 1). Thus by the end of 2005, we had accumulated over 8,700 Ontario reports (database records). This represents fairly complete coverage for the GTA and reasonable coverage for the Hamilton area, but largely incomplete coverage for the remainder of Ontario.

Data Analysis

As the data were processed, we attempted to eliminate true duplicate reports (e.g., the same observation being reported in two local newsletters), but if there were significant differences in dates, observers, or degree of detail noted, then the reports were retained as separate database records. Thus in all cases in this paper, a "record" means *one database record*, and not necessarily one occurrence of a bird at a specific location. For example, a long-staying, wintering individual could have been seen by several different observers, on different dates, and hence generated multiple *database records*. Table 1 provides these raw numbers. Note that records in the "unknown region" column derive from the Peel-Halton or Kleinburg CBCs, both of which overlap region boundaries.

During subsequent analysis (see Tables 2 and 3), these records were reclassified (on an annual basis), as *occurrences,* with any record believed to relate to the same bird, pair, nest, or group of fledged young being counted as *one occurrence*. This may have had the effect of overweighting the importance of single birds seen once, as opposed to breeding attempts involving pairs or nests, but in view of the large number of database records, and other factors, it seemed the best way to proceed. The other factors include non-random reporting rates, and non-random distribution of individual observers, from some of whom we obtained large numbers of records. Casual reporting of records has also changed over time. For example, in the earlier years, when Northern Mockingbirds were quite rare in the GTA, we can be fairly sure that almost every observation which came to the attention of birders was reported in some local newsletter. But as the species became commoner, observers made less effort to see and report them.

Unfortunately, many birders do not report their sightings, particularly when birding outside their local area, or do so only erratically. This problem is certainly not unique to this study or this region, but should be kept in mind by the critical reader.

At the start of the study, it was thought that breeding or potential breeding occurrences might be more significant in accounting for the overall development of the range expansion, so an attempt was made to separate out these cases (see Table 3). Initially, records from the period 1 May to 31 August were arbitrarily classified as actual or potential breeding records, unless they were May records from known migration points along the Lake Ontario shoreline. However, as the study progressed we obtained numerous egg dates in late April, with the earliest being 14 April 2004, much earlier than had previously been reported from ONRS data (Poon and Smith 2005). Also, we found from our own observations that family groups of fledged young could often be identified by retained juvenal plumage up to 30 September, especially when associated with well-watched known breeding sites. If one or both adults were present, they were unlikely to have moved off the breeding territory and could be legitimately classified as confirmed breeding evidence. Hence our criteria may be a little wider than a strict interpretation of the Atlas breeding evidence criteria, but we feel they are based on extensive experience of the situation in the GTA. We also became adept at finding and identifying used nests while checking for potential breeding sites during the winter months, but we did not count any "breeding season occurrences" based on this evidence alone.

As for counting separate territories, we took a conservative approach, and only treated questionable cases as distinct when we obtained evidence such as simultaneous observations of either singing males or pairs, territorial interactions of birds along a shared boundary, or actually found the nests. Sometimes, aging of fledged young allowed us to determine whether they could have come from sequential nestings by the same pair, or whether different pairs must have been involved. Observers should be aware that densities can be quite high in some favoured sections of railways, but usually the established pairs are 200-300 m apart. However, occasionally one finds single males attempting to set up territories on the fringes of locations with established nesting pairs, and these singing males may be much more obvious (e.g., doing display flights) as compared to the more furtive breeding pair. Close observation may be needed to establish the exact situation. For the record, the closest occurrence of simultaneously active nests that we found during the study period was 73 m, at Downsview Park, *Toronto*, in 2002. This is exceptional in the

GTA context, and probably related to lack of potential nesting sites.

When reviewing Tables 1 to 3, one should keep in mind that numbers for the periods up to and including year 2000 represent observations reported in the local literature, or which we obtained from unpublished sources (mainly for the late 1980s and 1990s). These could be considered to be the "background" reporting rate. Whereas from 2001 onward, our own fieldwork, and to a small extent Atlas fieldwork carried out by others, has had the effect of greatly increasing the number of database records, especially in 2002, 2003 and 2004. For this period, part of the difference between Tables 1 and 2 is simply due to multiple visits to the same nests or territories. At the same time, it is clear from Table 2 (with the effect of multiple visits removed) that there has been a huge increase in numbers. Even with just five years' worth of records, we see numbers more than double those of the entire previous decade (1990s), especially for *Peel*, *Toronto* and *York*. The increase is less marked for *Halton*, and disappears in the case of *Durham*. Our interpretation of the *Durham* situation is that since the species is less common there than in the rest of the GTA, a higher proportion of all sightings actually get reported (and have been reported historically). This was particularly true for the 1960s, when both Speirs (1975) and Tozer and Richards (1974) helped ensure that local records were researched and published. *Durham* seems to have had a particularly strong local reporting history, with both the Oshawa Naturalists (later Durham Region Field Naturalists) and the Pickering Naturalists newsletters having a history of continuous publication, plus the Durham Region Bird Reports in the early 1990s. When one adds in the personal records of a long-time local observer like the late George A. Scott of Oshawa, the picture that emerges is that despite quite low absolute numbers in *Durham* (so far), we think that the majority of sightings have been and are being reported.

In the case of *Toronto*, records have been collected systematically since the early 1930s, first in the TOC Logbooks and since 1989 in the TOC Database. Hence, the substantial increase in number of occurrences in the mid 1990s is probably real, rather than an artifact of reporting.

In contrast, the southern parts of *Peel* and *Halton* regions have suffered from erratic publication of bird reports. There were four periods: the first from about 1977 to 1979, the second from about 1984 to August 1988, the third from June 1989 to February 1994, and the last from May 1995 to September 2000, when no bird reports were published in the *South Peel Naturalists' Club Bulletin*. With hindsight, it seems that the latter period may have marked an important stage in the expansion of Northern Mockingbirds in this area, and it is unfortunate that the local record is missing. It may also be noted in

Table 1: Northern Mockingbirds in the GTA: Database Records by Decade.*

	Halton	Peel	Toronto	York	Durham	Unknown	Total
1921-1930	-	-	4	-	3	-	7
1931-1940	-	1	27	1	-	-	29
1941-1950	-	-	7	1	3	-	11
1951-1960	4	8	17	1	11	-	41
1961-1970	29	9	21	7	55	1	122
1971-1980	21	18	19	22	125	3	208
1981-1990	37	30	47	45	102	8	269
1991-2000	196	214	377	109	125	16	1037
Subtotal	287	280	519	186	424	28	1724
2001-2005	493	880	2390	2017	284	7	6071
Total	780	1160	2909	2203	708	35	7795

Table 2: Northern Mockingbirds in the GTA: Occurrences by Decade.*

	Halton	Peel	Toronto	York	Durham	Unknown	Total
1921-1930	-	-	1	-	1	-	2
1931-1940	-	1	10	1	-	-	12
1941-1950	-	-	7	1	2	-	10
1951-1960	4	5	8	1	4	-	22
1961-1970	13	6	16	6	17	1	59
1971-1980	15	6	17	14	35	3	90
1981-1990	34	19	43	25	53	10	184
1991-2000	124	119	204	79	79	21	626
Subtotal	190	156	306	127	191	35	1005
2001-2005	236	441	806	466	107	21	2077
Total	426	597	1112	593	298	56	3082

Table 3: Northern Mockingbirds in the GTA: Breeding Territories by Decade.*

	Halton	Peel	Toronto	York	Durham	Unknown	Total
1921-1930	-	-	-	-	-	-	0
1931-1940	-	1	2	1	-	-	4
1941-1950	-	-	3	-	-	-	3
1951-1960	2	3	2	-	2	-	9
1961-1970	5	1	3	1	5	-	15
1971-1980	4	3	1	4	11	-	23
1981-1990	5	9	6	9	22	-	51
1991-2000	43	63	81	35	25	-	247
Subtotal	59	80	98	50	65	0	352
2001-2005	178	359	598	382	74	-	1591
Total	237	439	696	432	139	0	1943

* See text for definitions.

Table 4a: Confirmed Breeding by Northern Mockingbirds in the GTA 1936-1994.

Year	Date	Location		Observer	Notes	ONRS
1936	Summer	Black Creek near Jane Street	MT	Reg James	Nest, 4 eggs	
1938	11 Jun	Hwy 7 & Concession 3	YO	J.A. Brodie	Nest, 4 young	75991
1957	16 Jul	Cherrywood	DU	Don Perks	Nest, 4 eggs; unhatched	75992 75958
1958	Early Jul	Gerrow's Farm - Nest 1	MT	Frank Lovesy	Nest, 2 young	75994
1958	28 Jul	Gerrow's Farm - Nest 2	MT	Jim Baillie	Nest, 4 eggs	75993
1958	Summer	Kingsway	MT	R.W. Trowern	Nest, 4 young	
1958	Unknown	Clarkson	PL	R.W.Trowern	Nest, 4 young	
1962	9 Jul	22 Swiftdale Place	MT	The Campbells	Nest, 1 egg and 3 fledged young	75995 75996
1966	4 Jun	Campbellville	HL	Cyril Peake	Nest, 5 eggs	75897
1967	25 May	Kenwood Avenue - Pair 1	HL	Mark Jennings Wayne King	Nest, 4 eggs	75898
1967	17 Jun	Kenwood Avenue - Pair 1	HL	Mark Jennings Wayne King	Nest, 4 eggs	75900 75901
1967	3 Jun	Kenwood Avenue - Pair 2	HL	Mark Jennings Wayne King	Nest, 3 eggs	75899 75903
1967	10 Jul	Kenwood Avenue - Pair 1 or 2	HL	Mark Jennings	Nest, 3 eggs	75902
1968	24 May	Kenwood Avenue	HL	Mark Jennings	Nest, 4 eggs	75904
1972	26 Jun	Barnes Property - Nest 1	PL	Gerry Bennett	Nest, 4 eggs	75967
1972	13 Jul	Barnes Property - Nest 2	PL	Gerry Bennett	Nest, 4 eggs	75966
1974	19 Jun	Oshawa Sewage Plant	DU	Jim Richards	Nest, 3 eggs	75959 75960
1974	5 Aug	Mississauga & Rebecca St.	HL	Don Perks	1 fledged young	
1979	17 Jul	2 km N of Mitchell's Corners	DU	James Kamstra	Nest, 5 eggs	75880
1981	12 Aug	34 Crawford Drive, Ajax	DU	Robert Nisbet	Nest collected	
1985	26 Jun	Hydro & Rangeview Road	PL	Kathleen MacNamara Ralph Speak	Nest, 3 eggs and 1 young	
1987	28 Jun	Cawthra at Lakeshore Road	PL	Kathleen MacNamara	Adult on nest	
1989	23 May	Hydro & Rangeview Road	PL	Beth Jefferson Bob Yukich	Nest, 3 eggs	
1990	26 Jun	Pickering Nuclear Plant	DU	Brian & Karen Henshaw	Nest, 3 eggs	
1992	9 Aug	A.E.Crooks Park	PL	Alfred Adamo	3 fledged young	
1992	18 Oct	Dixie Road & the Queensway	PL	Luc Fazio	1 fledged young	
1992	Unknown	Burloak Rd at Bronte Creek Provincial Park gate	HL	S.R. Gage	3 or 4 fledged young seen	
1993	31 May	Erindale Campus	PL	Luc Fazio	3 fledged young	
1993	4 Jun	Burloak Rd at Bronte Creek Provincial Park gate	HL	S.R. Gage	Nest, 4 eggs and 3 fledged young	75905
1993	12 Jun	Woodbridge Transformer	YO	Bill Edmunds	1 fledged young	
1993	June	Brock Landfill Site	DU	Robert Nisbet	Nest depredated	
1994	22 Sep	Lakefront Promenade Park	PL	Robert Laker	2 fledged young	
1994	10 Oct	Corner Marsh	DU	Brian Henshaw	1 fledged young	

Table 4b: Confirmed Breeding by Northern Mockingbirds in the GTA 1995-2000.

Year	Date	Location		Observer	Notes	ONRS
1995	Jun	Hwy 27 & Hwy 7	YO	Simon Baker	Fledged young	
1995	23 Jul	Sherway Drive	MT	Ken Cook, Sandy Capell	Young seen	
1995	18 Sep	Lakefront Promenade Park	PL	Robert Laker	2 fledged young	
1996	6 Jul	Dixie Road & Dundas Street	PL	Stan Bajurny	Nest, 4 eggs	
1996	12 Aug	Markham & Sheppard	MT	David Shilman	Nest, 3 young	75983
1997	May	Vickers Road	MT	Sandra Hawkins	Nest, 4 eggs	
1997	10 Jun	Markham & Sheppard	MT	David Shilman	Nest, 3 fledged	75984
1997	20 Jun	Farmhouse Court	PL	Bill McIlveen	Nest, 5 eggs	
1997	Jun	Etobicoke Creek & West Mall	MT	Sandra Hawkins	Nest, 3 eggs	
1997	7 Jul	Humber Bay Park West	MT	George & Jean Fairfield	1 fledged young	
1997	4 Aug	Bronte Creek Prov. Park	HL	Gavin Edmonstone	1 fledged young	
1997	10 Aug	Corner Marsh	DU	David Worthington	1 fledged young	
1998	24 May	Burloak Rd at Bronte Creek Provincial Park gate	HL	S.R. Gage	Nest, 3 eggs and 2 fledged young	75906
1998	24 May	Vickers Road	MT	Sandra Hawkins	Nest, 4 young	
1998	24 May	Col. Sam Smith Park - Nest 1	MT	Glenn Coady	Nest, 1 egg 1 yng	
1998	7 Jun	Col. Sam Smith Park - Nest 2	MT	Roy Smith	Nest, 4 eggs	
1998	1-31 Aug	10590 Pine Valley Drive	YO	G.Witherspoon	Fledged young	
1999	2 May	Col. Sam Smith Park	MT	Sandra Hawkins	Nest, 4 eggs	
1999	19 Jun	York U Keele Campus	MT	Graham Coles	Nest, 4 young	75985
1999	21 Jun	Claireville Conservation Area	PL	Tom Cosburn	Nest, 4 eggs	75968
1999	26 Jun	Downsview Park	MT	Dan Bone	Ad carrying food	
1999	2 Jul	Vanderhoof Ave., Leaside	MT	George & Jean Fairfield	Fledged young	
1999	22 Jul	Mockingbird Alley	MT	Sandra Hawkins	Nest, 2 young	
1999	23 Jul	Markham & Sheppard	MT	David Shilman	2 fledged young	
1999	19 Aug	Humber Bay Park East	MT	Jean Iron, Winnie Poon	1 fledged young	
1999	Summer	6256 Kings Road, Sandhill	PL	Anonymous	Nest, fledged yng	
2000	21 May	York U Keele Campus - Pair 1	MT	Graham Coles	Nest, 4 young	120242
2000	9 Jun	Dixon's Union Cemetery	PL	Ruth Delaney	Fledged young	
2000	10 Jun	York U Keele Campus - Pair 2	MT	Graham Coles	Nest, 3 young	120243
2000	19 Jun	Tremco, Wicksteed Avenue	MT	Margaret Catto	Nest with young	121766
2000	22 Jun	Parkview Golf Course	YO	Rick Lauzon	1 fledged young	
2000	20 Jul	Lakefront Promenade Park	PL	Robert Laker	1 fledged young	
2000	22 Jul	Lambton Park Prairie	MT	Bob Yukich	1 fledged young	
2000	30 Jul	G. Ross Lord Park	MT	Colleen Prentice Heather Mackey	1 fledged young	
2000	23 Aug	Neyagawa Boulevard	HL	Mike Boyd	2 fledged young	
2000	4 Sep	CNE Dufferin Gate	MT	Patrick Stepien-Scanlon	3 fledged young	
2000	23 Sep	Col. Sam Smith Park	MT	Glenn Coady	Total 19 ad & yng	
2000	Unknown	Diversion Channel & 8th Line	HL	Fred Urie	6 fledged young	

Table 5: Northern Mockingbird Breeding Territories in the GTA 2001-2005.

		Halton	Peel	Toronto	York	Durham	GTA Total
2001	Possible	3	9	14	12	2	**40**
	Probable	3	3	5	3	2	**16**
	Confirmed	0	3	15	14	3	**35**
	Total	**6**	**15**	**34**	**29**	**7**	**91**
2002	Possible	14	19	54	21	4	**112**
	Probable	5	8	20	19	0	**52**
	Confirmed	15	33	58	24	11	**141**
	Total	**34**	**60**	**132**	**64**	**15**	**305**
2003	Possible	19	23	46	22	12	**122**
	Probable	8	23	34	21	3	**89**
	Confirmed	24	45	69	61	10	**209**
	Total	**51**	**91**	**149**	**104**	**25**	**420**
2004	Possible	15	19	44	18	4	**100**
	Probable	8	20	35	19	4	**86**
	Confirmed	25	53	60	54	8	**200**
	Total	**48**	**92**	**139**	**91**	**16**	**386**
2005	Possible	6	33	39	25	2	**105**
	Probable	7	14	44	23	0	**88**
	Confirmed	27	49	65	48	7	**196**
	Total	**40**	**96**	**148**	**96**	**9**	**389**

passing that there have been no bird reports in the SPNC Bulletin since March 2001 (as of April 2004).

Fortunately, we can find some coverage for the first two missing periods in *The Wood Duck*, since it has a continuous record of publication of bird reports, and the "Hamilton Study Area" extends as far east as Port Credit, *Peel*. But from about 1991 onward, *The Wood Duck* stopped reporting individual sightings of mockingbirds (as opposed to those involving relatively large numbers), and this too must have had an impact on the numbers reported from *Halton* and *Peel*.

In view of these factors, we have not attempted any overly quantitative analysis of the data. However, the numbers can speak for themselves. Whichever way one looks at the data in Tables 1 to 3, and the CBC data illustrated by Figures 4 to 9, one can see that there has been a large increase in both wintering numbers (assuming one accepts that the CBC results are a valid proxy for actual wintering numbers), and occupied breeding season territories (Table 3). Further support for this latter conclusion is provided by the results of the second Ontario Breeding Bird Atlas (2001-2005). Comparing the preliminary map (Figure 3) with the previous Atlas map (Figure 2), one can see how extensively the breeding distribution has been consolidated. As of 2005, breeding had

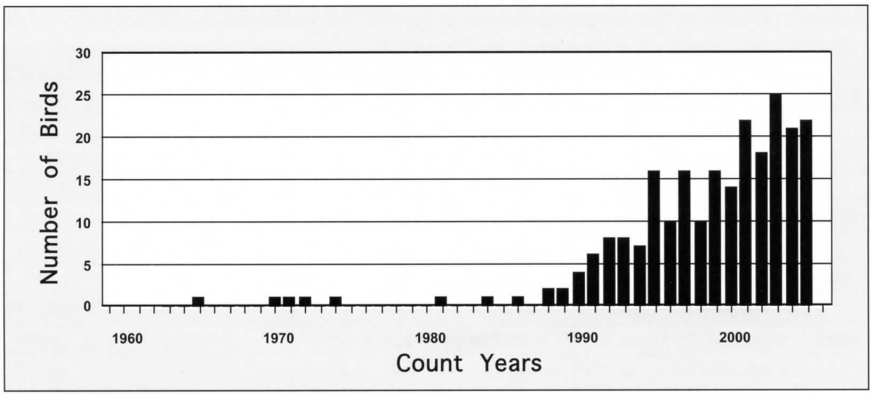

Figure 4: Northern Mockingbirds on the Peel-Halton CBC 1963-2005.

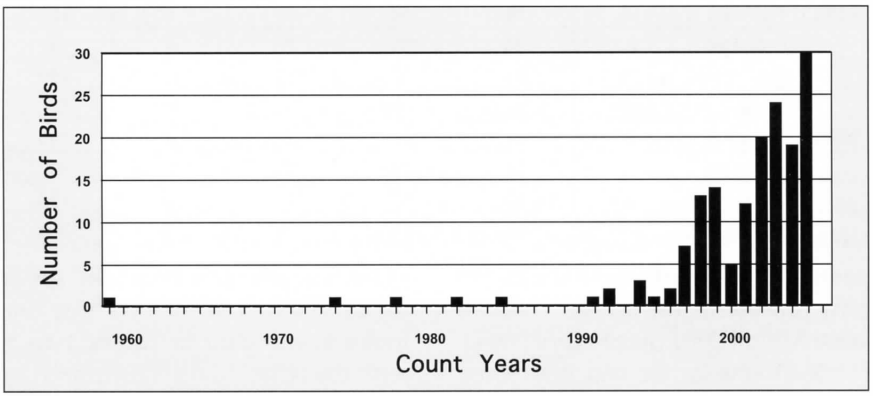

Figure 5: Northern Mockingbirds on the Toronto CBC 1925-2005.

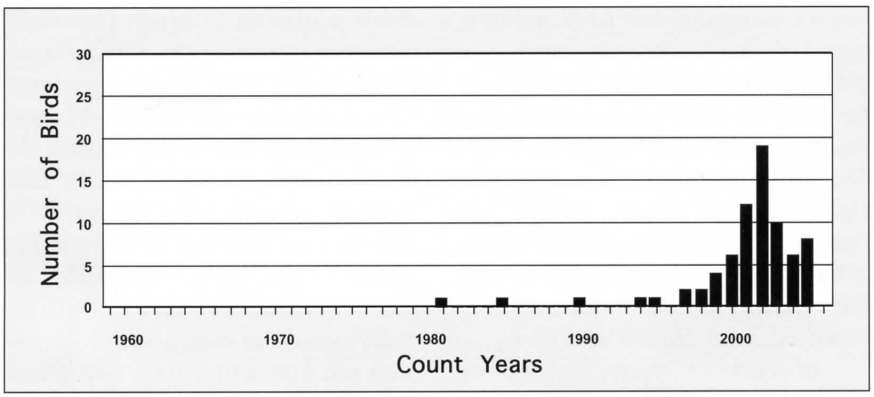

Figure 6: Northern Mockingbirds on the Kleinburg CBC 1981-2005.

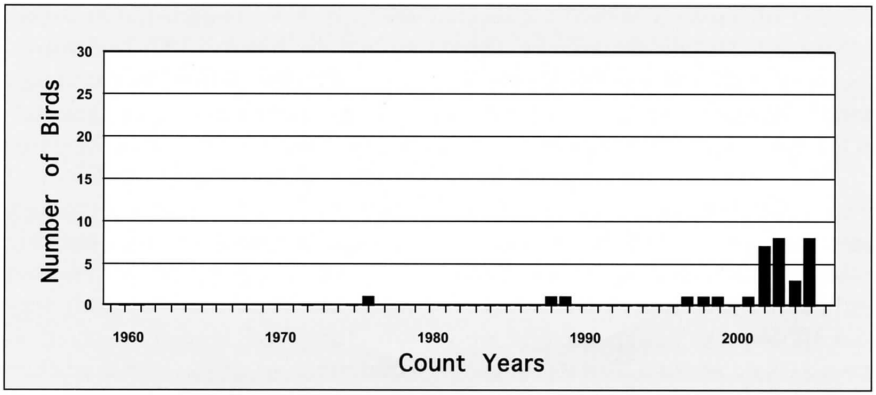

Figure 7: Northern Mockingbirds on the Richmond Hill CBC 1955-2005.

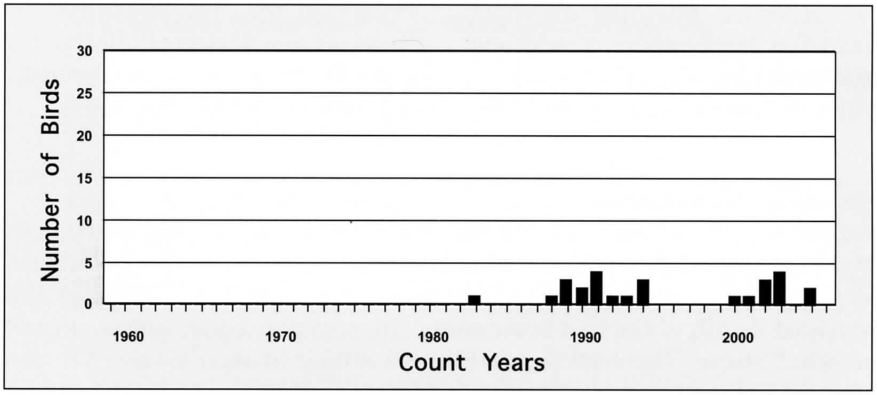

Figure 8: Northern Mockingbirds on the Pickering CBC 1948-2005.

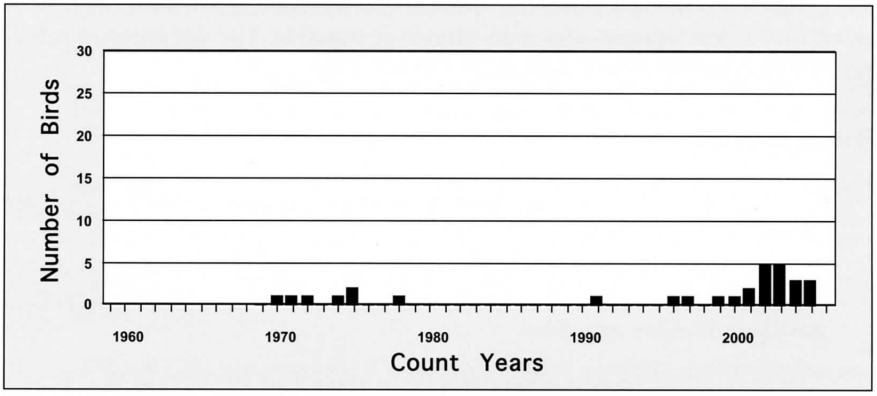

Figure 9: Northern Mockingbirds on the Oshawa CBC 1955-2005.

been confirmed in virtually every urbanized 10-km square in the southern half of the GTA, compared with just one or two squares in the same area 20 years earlier.

Not only has the distribution consolidated, but absolute numbers have increased as well. We intend to examine the breeding distribution and habitat selection in more detail in a subsequent paper, because we have data on about 620 nests for the 2001-2005 period. This compares with a grand total of just 43 nests (71 recorded breeding attempts, including those where a nest was not found) for all previous recorded history in the GTA! These breeding attempts have been listed in Tables 4a and 4b, but for 2001 and subsequent years the numbers are simply too large to be discussed individually (see Table 5). However, the earlier ones show that the instances of confirmed breeding were seemingly random, the result of pairs meeting up by chance, as might be expected when the population was still very low. They also tended to occur in rural areas, at or beyond the urban fringe as it was then, but this may have been an artifact of reporting. Prior to the investigations of Hawkins and Hawkins (1998), it is quite likely that nobody was looking for them in industrial areas!

History by GTA Region

For the benefit of future researchers, and to provide the background details of the range expansion, we have listed the first ten or so records of Northern Mockingbird in each of the five regions making up the GTA. We have also provided details of the first few nesting attempts per region, unless already included above. These records, while interesting in their own right, also allow readers to assess for themselves the extent of regional or observer bias which may have affected the quantity and distribution of the earlier records. For cross-reference purposes in relation to Atlas work, we have also provided the 10-km square reference wherever possible. The squares are referenced according to North American Datum 1983.

Halton Region

1954: On 17 May, George Wilson saw a Northern Mockingbird at Oakville. No other details are available (North 1954). [17PJ00 or 17PJ01].

1954: On 29 October, "A.W.S." *fide* Richard M. Saunders reported a mockingbird at Terra Cotta (TOC Record Book #2). The observer represented by these initials is believed to have been Saunders' wife, Anne.

1957: One mockingbird was seen at Burlington (exact location not provided) by W. E. Benner on 25 May. This was reported as "first of the year" (North 1957).

1959: On 29 November, a mockingbird was seen by Jim L. Baillie at Oakville, but the exact location was not given (TOC Record Book #3). [17PJ00 or 17PJ01].

1963: On 1 December, a mockingbird was reported by Donald R. Gunn at the Third Line south of Lakeshore, Bronte. Other observers were George W. North and R. Westmore (SPNC Bird Report 1963; North 1964a). This mockingbird overwintered, being last recorded on 27 March 1964 (North 1964b). [17PJ00].

1966: A mockingbird nest with five eggs was found by Cyril Peake on 4 June at Campbellville. The nest was in a 1.4 m tall spruce and the clutch was collected, but no other details are available (ONRS #75897). This was the first mockingbird nesting record for *Halton.*

1966: On 21 November, a mockingbird was seen in a garden at Coronation Park, Oakville, about 0.5 km east of the Third Line. The observers were Barry Jones and W. Victor Crich (Toronto Birdfinding Bulletin 3, 1966). This bird over-wintered and stayed to the end of February 1967 (TFN Bulletin 266). [17PJ00].

1966: On 26 November, Harold MacPherson reported two mockingbirds at the Pig & Whistle Inn at the foot of Burloak Road, Bronte (North 1966). [17PJ00].

1967: A mockingbird was seen at the west side of Coronation Park, Bronte, by J. Lamey on 24 March (Toronto Birdfinding Bulletin 3). It is not known if this was the same bird that was reported above on 21 November 1966. [17PJ00].

1967: In May, Mark Jennings found that mockingbirds were nesting at the south end of Kenwood Avenue, Burlington, where there was an open area with "oldfield" habitat. Pair #1 had a nest with four eggs on 25 May, in an apple tree. The nest was found to be partially depredated on 28 May with only one egg left (ONRS #75898). Subsequently, the pair had a second nest with four eggs on 17 June. It was reported as destroyed on 22 June (ONRS #75900). This nest also was observed separately by Wayne King (ONRS #75901). Pair #2 had a nest with three eggs, in a scarlet thorn, on 3 June. It also was depredated with only two eggs left on 15 June. But, one young was hatched and seen on 18 June. On 21 June, the nest was found empty, presumably depredated (ONRS #75899). Wayne King, who visited the nest on 20 June, last saw one egg and one young in the nest. He reported the nest as "destroyed" on 21 June (ONRS #75903). On 10 July, a new nest with three eggs was found which could have belonged to either pair. There were two young in the nest on 21 July, but it was empty on 29 July, the two young presumably having fledged (ONRS #75902). These two pairs of mockingbirds provided the second and third nesting records for *Halton.* It should be noted that references to these nests in *The Wood Duck* (North 1967) have dates which are inconsistent with the dates on the ONRS cards. [17PJ00].

From 1968 to 2000, there were three more nesting records in *Halton*: 1968 at Burlington (Mark Jennings); and 1993 and 1998 at Burloak Road near Bronte Creek Provincial Park (S. R. Gage, ONRS #75905 and # 75906). In addition, there were five other breeding records: 1974 (Don Perks), 1992 (S. R. Gage), and 1997 (Gavin Edmonstone), all at Bronte; and two in 2000: at Neyagawa Boulevard, Oakville (Mike K. Boyd), and at Wedgewood Diversion and Eighth Line, Oakville (Fred J. Urie).

The Peel-Halton CBC started in 1963 (Curry 2006), and first reported a mockingbird in 1965. Because this circle overlaps the region boundary, some of the earlier records cannot now be allocated precisely (but see Table 1 and Figure 4).

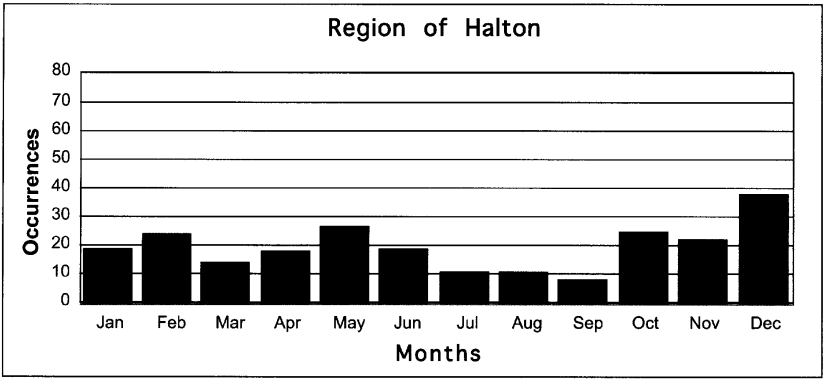

Figure 10: Occurrences of Northern Mockingbird by Month 1954-2000.

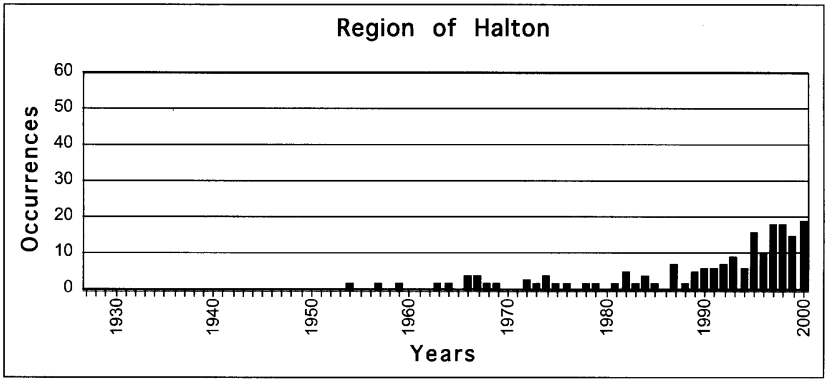

Figure 11: Occurrences of Northern Mockingbird by Year 1954-2000.

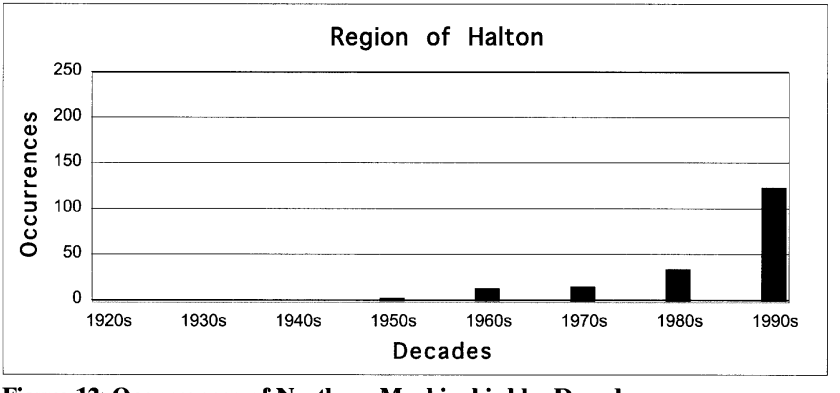

Figure 12: Occurrences of Northern Mockingbird by Decade.

Peel Region

1934: The first record for *Peel* was a sighting at Lorne Park, which refers to that part of Mississauga south of the QEW and west of the Credit River. This was the third record for the GTA. James L. Baillie, in a note recording the occurrences of Northern Mockingbird in Ontario, wrote: "Alan Helmsley and Eddie Wilson assure me that they saw a mockingbird there on 13 July 1934 and, since they are careful observers, I am inclined to credit the observation. Both know the likely-to-be-confused species" (ROM Species File). [17PJ12].

1955: While coming home from work at 0030h on 1 June, Don Perks heard and found a mockingbird imitating various species, including Eastern Phoebe (*Sayornis phoebe*) and Great Crested Flycatcher (*Myiarchus crinitus*), near his home at 1141 Woodeden Drive, Lorne Park. The mockingbird flew into his backyard the next morning, and was last seen on 2 June (Donald E. Perks, pers. comm.). [17PJ12].

1957: One bird was seen briefly on the afternoon of 19 November at Windy Oaks Drive, Port Credit, by Mrs. K. Symons and Donald R. Gunn; but "unfortunately it moved on that night" (SPNC Field Notes No. 9; TOC Record Book #2). [17PJ12].

1958: A mockingbird nest with four young was found by R. W. Trowern that summer in the Clarkson area. There were no details on date, exact location or the nesting outcome. This was the first nesting record for *Peel* (TOC Record Book #3). [17PJ11?].

1959: Don Perks, while bicycling home from work on 22 May, saw a Northern Mockingbird fly across the road in front of the former "Small Arms Plant" on Lakeshore Road west of Dixie Road, Mississauga (Donald E. Perks, pers. comm.). [17PJ12].

1960: One was seen at Port Credit on 1 February (Donald E. Perks, TOC Record Book #3).

1961: On 9 May, another mockingbird was found by Don Perks behind the Lorne Park Secondary School, Lorne Park. It flew west along the hydro line toward Clarkson (Donald E. Perks, pers. comm.). [17PJ12].

1963: On 27 October, Mrs. Mary Perks saw a mockingbird near Tecumseh Drive, Lorne Park. On 3 November, it was relocated farther west along the CNR tracks at Tecumseh Drive (SPNC Bird Report 1963; Donald E. Perks, pers. comm.). [17PJ12].

1969: An over-wintering mockingbird was seen regularly at Cooksville, Mississauga, from 1 November 1969 to 31 January 1970 (Anonymous, SPNC Newsletter 10: 13). The bird may have stayed until 16 March 1970 (J.E. "Red" Mason, TOC Record Book #4). [17PJ12].

1969: On 7 December, a mockingbird was observed by W. V. Crich at the Claireville Conservation Area, and it or another was seen again on 28 January 1970 by J. E. "Red" Mason (TOC Record Book #4). This site has a long history of subsequent use by mockingbirds, with winter records from many intervening years and some breeding season records, including confirmed breeding in 1999 (Tom Cosburn, ONRS #75968). A key feature of the site is a long hedgerow of multiflora rose mixed with some highbush cranberry (*Viburnum* sp.), and a wintering bird was present as recently as 13 March 2005 (RBHS,WP, TOC Database). [17PJ04].

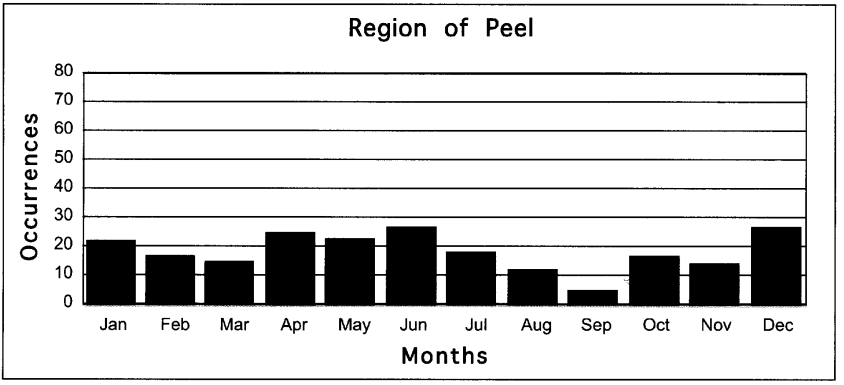

Figure 13: Occurrences of Northern Mockingbird by Month 1934-2000.

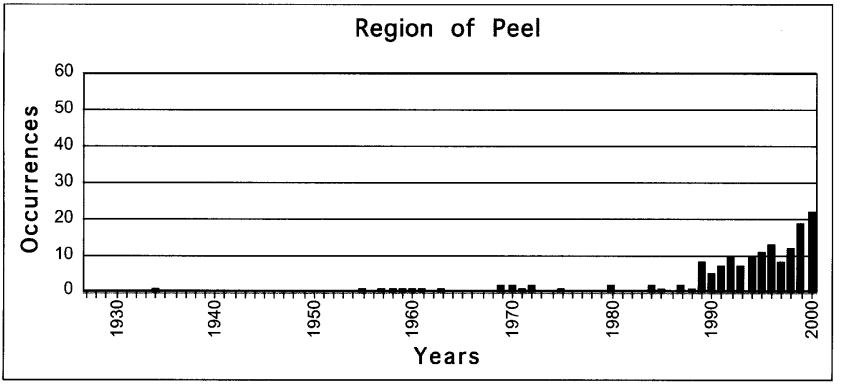

Figure 14: Occurrences of Northern Mockingbird by Year 1934-2000.

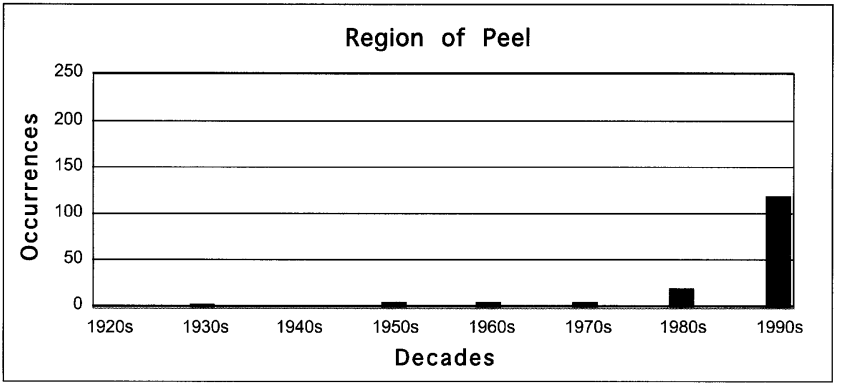

Figure 15: Occurrences of Northern Mockingbird by Decade.

1971: On 30 January and 13 February, a mockingbird was reported at Lorne Park; these two reports probably relate to the same bird (Anonymous, SPNC Newsletter 7). A third report from Lorne Park on 14 March by David West may also refer to the same individual (North 1971). [17PJ12].

The second nesting record in *Peel* occurred in 1972 when Gerry Bennett and Arne Dawe found a pair on the property of Don Barnes, west of Palgrave, on the Fifth Line of Albion Township (TOC Record Book #4). On 26 June, Bennett found a new, empty nest in a small ornamental Austrian pine. It had three eggs on 2 July and four eggs on 4 July. However, on 9 July, the nest was empty, presumed depredated by a Red Squirrel (*Tamiasciurus hudsonicus* ; ONRS #75967). The pair then re-nested nearby in a small maple, with four eggs observed on 13 July. Four young hatched but one disappeared, and three fledged around 24 August (Gerry Bennett, ONRS #75966). [17NJ86].

The third nesting record for *Peel* occurred at Hydro Road and Rangeview Road, Mississauga (originally reported as Lakeview Generating Station) on 26 June 1985. Ralph Speak and Kathleen MacNamara reported two adults seen at a nest with three eggs and one young (Parker and Coady 1986). The last recorded sighting was on 6 September when one bird was noted by MacNamara. However, this confirmed nesting record was for some reason not reported to the first Ontario Breeding Bird Atlas (OBBA, 1981-1985). [17PJ12].

One other record, a sighting at A. E. Crooks Park on 18 May 1984 by William C. Mansell (Parker et al. 1985), which might have qualified as "possible" breeding evidence, was also not recorded in the first OBBA. [17PJ12].

The fourth nesting record for *Peel* also came from Kathleen MacNamara who found a pair of Northern Mockingbirds and nest at Cawthra Road and Lakeshore Road East, Mississauga, on 28 June 1987 (Jaramillo 1990). [17PJ12].

Subsequently, a few of the earlier sighting locations became established as regular sites for the Northern Mockingbird in *Peel.* Of special note are the Claireville Conservation Area (mentioned above), with records from about 10 of the 30 years following 1969; Hydro Road and Rangeview Road with records from 7 of the 20 years since 1984: and Rattray Marsh with more than nine years of wintering records from 1987. Additional sites with multiple reports during the 1990s included the Lakefront Promenade Park (mostly breeding season records) and #2118 Dickson Road in Mississauga (mostly fall and winter records).

City of Toronto

1927: The first Northern Mockingbird recorded in the City of Toronto (second for the GTA) occurred on 20 November. It was seen by J. Murray Speirs in his garden at Wolfrey Avenue (his boyhood home), and the bird stayed to 1 December (Speirs 1931, 1985). Apparently, this was the 297th species to be added to the Toronto List (J. L. Baillie, Journal #22). [17PJ33].

1927: Speirs (1931) recorded that "In December of the same year [1927] a bird which was taken to be a mockingbird was noticed on several occasions at their feeding board in North Toronto by Mr. Jared McCutcheon and his mother. I did not see this bird."

1935: On 8 November, James H. Fleming saw a mockingbird at his home at 267 Rusholme Road. It was already "showing the effects of city smoke." The bird was seen again on 25 November, after a heavy frost, and evidently overwintered in the area, since it was noted

again on 1 January 1936, when it accepted some currant-loaf put out for it on the surface of a frozen bird-bath. It was not seen again until 12 February, but on 13 February it was caught in a severe easterly blizzard. At 1430h, Fleming captured the bird using a trap baited with lettuce leaf (!) and brought it into his conservatory. But at 1700h, it suddenly fell to the floor and died. The bird was collected (ROM specimen #52178) in good condition and was found to have eaten *Solanum* (nightshade) berries; it was recorded as an adult female (Fleming 1936; TOC Record Book #1), and listed as the second record for Toronto (Speirs 1985). [17PJ23].

1936: According to a small note in the ROM Species File, evidently written by James L. Baillie, a nest with four eggs was found in a big hawthorn at "Black Creek near Jane" by Reg James. The date was not recorded, but Norm Martin recalled being told about this nest some years later. He suggested that the likely location would have been somewhere south of Eglinton, since James lived in the St. Clair/Oakwood Avenue area, did not own a car at that time, and used to explore the area south to the lakeshore (Norm Martin, pers. comm., 2001). Hence it was probably in the area of what is now Smythe Park or Alliance Avenue. This was the first nesting record for the City of Toronto and the GTA, if one accepts the record based on the somewhat sparse details. Unfortunately, there is no mention of this nest in Jim Baillie's journals for the summer of 1936. However, one note of interest from the journal of 11 July 1936 states that "Wednesday, Thursday & Friday established all time heat records for Toronto (104.5; 105; 104.9 degrees respectively" (J. L. Baillie, Journal #22). [17PJ23?].

1936: One was seen at Sunnyside on 31 October, and noted as Baillie's first sighting for the year (J. L. Baillie Journal #22). [17PJ23].

1937: On 8 February, Jim Baillie received a report of a mockingbird in the garden of Sydney H. Jones at 2 Moore Avenue. On the same day, the bird was also seen feeding on climbing bittersweet in the garden of Dr. J. N. McKinley of 94 Inglewood Drive (Dr. J. N. McKinley, Mrs. O. S. Mitchell). Mrs. O. S. Mitchell, who again saw the bird on 18 February, said it had fed at the feeder of 2 Moore Avenue since the last October. During its stay the mockingbird was heard imitating a European Starling (*Sturnus vulgaris*), a Gray Catbird (*Dumetella carolinensis*) and a small dog (Richard M. Saunders, TOC Record Book #1). It also was heard singing for the first time on 14 March by Jim Baillie. In his journal of 19 March 1937, Jim Baillie wrote "The remarkably open, snowless and mild winter we have just experienced accounted for some unusual records of birds wintering about the city which do not normally winter here" (J. L. Baillie Journal #23). This mockingbird was last seen on 27 May, and the record was cited as the latest spring date for Toronto in J. M. Speirs' thesis. There is a photograph of the bird taken by C. Molony in the Toronto Ornithological Club Archives, dated 21 February 1937. [17PJ23].

1937: One was seen at York Downs Golf Course (now Earl Bales Park) on 20 February. The observers were Andrew H. Lawrie, Frank Banfield, David M. Scott and Doug S. Miller (The Chat, Newsletter #1). The York Downs Golf Course was situated between Sheppard and Wilson, Bathurst and Dufferin. In the 1930s, the area consisted mainly of open fields where Le Conte's Sparrows (*Ammodramus leconteii*) and Henslow's Sparrows (*A. henslowii*) were found. [17PJ24].

1937: A mockingbird was watched for 10 minutes at 41 Hatherly Road on 14 November by C. E. Hope (TOC Record Book #1). This location is quite close to the east side of Prospect Cemetery, which acquired a history of wintering records after 1962. [17PJ23].

1939: On 21 September, Richard M. Saunders saw a Northern Mockingbird at the Ashbridges Bay Marsh (R. M. Saunders Bird Journal Vol. 1; TOC Record Book #1). [17PJ33].

1940: A mockingbird was seen on 30 October at 200 Glencairn Avenue by J. McArthur and N. McDonald (TFN Bulletin 18,). [17PJ24].

1940: In October (no date given), Richard M. Saunders saw a Northern Mockingbird at the Scarborough Bluffs (R. M. Saunders Bird Journal Vol. 1; TOC Record Book #1). [17PJ44?].

1941: G. Crosby reported a mockingbird on 2 August at Fisherman's Island, which in those days was a sandbar connected with what today would be the foot of Leslie Street (TOC Record Book #1). [17PJ33].

From 1936, it was not until 22 years later, in the summer of 1958, that the second nesting for the City of Toronto was recorded. In early July, Frank Lovesy found a nest at Gerrow's Farm on Midland Avenue, north of Finch Avenue. One nestling was taken from the nest when 5-6 days old and was kept in captivity until it died on 7 January 1959. A second nestling which was found one day after fledging on 14 July also died in captivity on 18 July 1958. This young was collected for the ROM: juvenal female #149308 (ONRS #75994). On 28 July 1958, Jim Baillie located a second nest with four eggs from the same pair. The nest was well hidden near the end of the lowest limb of a big Norway spruce, eight feet above the ground. Adults carrying food to small young were last observed on 9 August 1958, but the nesting outcome was not recorded (ONRS # 75993). [17PJ35].

The third nesting record also occurred in the summer of 1958. R. W. Trowern reported a nest with 4 young at Kingsway, but no details were provided (TOC Record Book #3), and no additional information concerning this nest has been traced.

The fourth recorded nesting came from the Campbells residing at 22 Swiftdale Place, Don Mills. They informed Jim Baillie of a mockingbird nest in the ravine behind their house, found on 9 July 1962. In those days, the ravine was a dairy farm with rolling open fields and scattered hawthorn bushes, a small stream and no tall trees (Sandra Yen, pers. comm.). The nest was three feet high in a seven-foot tall hawthorn bush. One egg was in the nest and the adults were seen with three fledged young (ONRS #75995, 75996). [17PJ34].

After 1962, there was a period without any nesting or breeding records of mockingbirds until 1995, when nests began to be recorded annually.

According to the first Ontario Breeding Bird Atlas (1981-1985), there were only two "possible" breeding records from Toronto (Atlas Region 12). One was from the Leslie Street Spit on 24 May 1984 by Alvaro Jaramillo and Karl Konze (Parker et al. 1985). The other record came from 10-km square 17PJ14, details unknown (Unusual Species Report Form [USRF]). However, there was a record of one mockingbird at Humber Marsh #4 on 3 August 1985 by Beth Jefferson (Parker and Coady 1986) which was not included in the first Atlas, perhaps due to questionable habitat, or the somewhat late date. Another record not included involved one seen in the Don Valley at Eglinton Avenue on 15 May 1984 by Bruce Parker (Parker et al. 1985).

There are many sites within the City of Toronto that have multiple or more-or-less continuous annual records of Northern Mockingbird. Some breeding and wintering sites that were found during the 1900s have remained mostly active to the present day. Examples are the Colonel Samuel Smith Park, Greenwood Park, Humber Arboretum, Humber Bay Park, Lambton

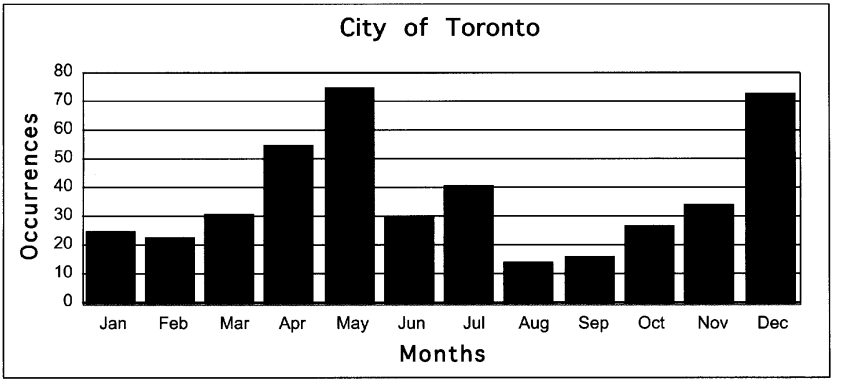

Figure 16: Occurrences of Northern Mockingbird by Month 1927-2000.

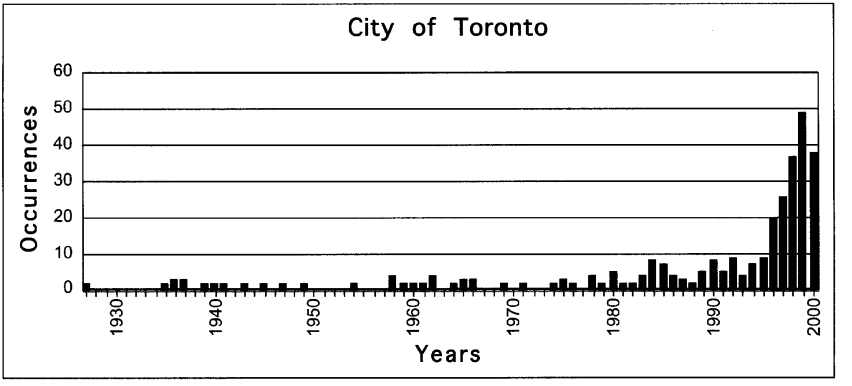

Figure 17: Occurrences of Northern Mockingbird by Year 1927-2000.

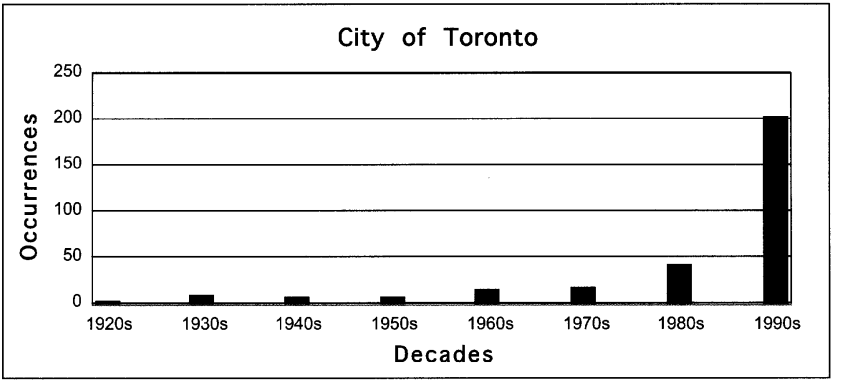

Figure 18: Occurrences of Northern Mockingbird by Decade.

Woods, and Prospect Cemetery. Of particular interest is Downsview Park [17PJ24] which supported as many as eight breeding territories in 2002, following its first confirmed breeding record in 1999.

Two well-watched migration points along the Lake Ontario lakeshore, the Toronto Islands and the Leslie Street Spit [both 17PJ33], have yielded multiple records of presumed migrant mockingbirds in May. To date, however, there has been no solid evidence of breeding at either of these sites, unlike the situation at Humber Bay Park [17PJ23] and Colonel Sam Smith Park [17PJ22], which are also lakefront peninsula-like parks. These two sites have a history of breeding records from about 1997 onward.

The Toronto CBC started in 1925, based on the "old" 30-mile circle (Currie 1990), but counts covering the standard 15-mile circle were apparently not submitted to Audubon until 1942. The first mockingbird was recorded on the 1959 count, being the 138th species in 35 years of counts.

York Region

1938: The first occurrence of the Northern Mockingbird in *York* was also its first and *only* nesting record prior to 2001. On 11 June, J. A. Brodie found a nest with four young at his father's farm at Dollar, a hamlet at Highway 7 and Leslie Street. The nest was in a clump of lilacs near the house at the "Corner of Highway 7 and Concession 3, Markham Township, near Langstaff" (Devitt 1960; ONRS #75991). This was stated to be the first nesting for the Toronto area, but no additional information was provided (TFN Bulletin 2). [17PJ35].

1942: A Northern Mockingbird was seen at Gormley on 19 October (A. Smith, TFN Bulletin 32). No other details were recorded. [17PJ26].

1958: In a "List of Birds Seen in 1958", there is a record of a mockingbird seen on 25 March within a 15-mile radius of Richmond Hill (Langstaff 1959). However, we believe that this report actually refers to a record of a wintering bird at 141 Churchill Avenue, Willowdale, *Toronto*, and as such does not represent a *York* record.

1961: On 8 April, a mockingbird was seen near the Markham Water Tower by W. Victor Crich (TOC Record Book #3), and then again in the same month by Donald R. Gunn and Joan Gunn [SPNC Bulletin 3(8)]. At that time, the water tower was on Water Street, NW of Highway 7 and Highway 48. It was removed in 1970 when a new water tower was built at Wootten Way, north of Highway 7 and west of Ninth Line (York Region Water and Wastewater, pers. comm., 2003). [17PJ35].

1962: On 2 December, Ken Chambers saw a mockingbird in his garden at 121 Arnold Avenue, Thornhill (RHNC Bulletin 69: 6-7). The bird probably overwintered there as it was seen again on 1 January 1963 (RHNC Bulletin 70: 7). Since then, the house has been replaced by a large 3-storey home (pers. obs., 2001). [17PJ25].

1965: One was seen again at 121 Arnold Avenue, Thornhill, during the last week of October 1965 (Ken Chambers, RHNC Bulletin 96: 8). [17PJ25].

1967: J. Murray Speirs reported a mockingbird at Concession 10, Markham, about 1 mile north of Steeles Avenue East, on 24 December (TOC Record Book #4). [17PJ45].

1970: Dave Fidler and Dr. Henry Barnett observed a singing male at Kingcross on 22 June. The bird was on the west side of the Seventh Concession of King Township (Jane Street)

about 3/4 mile north of the Fifteenth Sideroad (D. Fidler, Dr. Henry Barnett, fide Ontario Rare Bird Breeding Program). [17PJ16].

1971: A mockingbird was reported on 17 October just east of Leslie Street and north of Steeles Avenue (Donald E. Burton, pers comm.). [17PJ35].

1973: A mockingbird was seen at Richmond Hill from 25-26 May (J. Stevens, TOC Record Book #4). [17PJ25?].

1975: On 26 May, a mockingbird appeared at Woodbridge, exact location unknown (Arne Dawe, TOC Record Book #4). But in the following year, 1976, there was another sighting by Arne Dawe, this time at Coles Avenue, Woodbridge. This bird overwintered, staying from 25 October 1976 to 14 March 1977 (TOC Record Book #5). [17PJ14].

In the following years, there were a number of records from farther north in *York* that are worth mentioning:

Aurora: One mockingbird was noted feeding on multiflora rose hips on 18 December 1976 in the Murray Drive vicinity by Declan Troy. This was the first Northern Mockingbird recorded on the Richmond Hill CBC since it started in 1955 (Anonymous 1977). Another record from the same area of Aurora, where this bird must have wintered, occurred on 24 April 1977 (O. E. Devitt Journal #21 [ROM SC85], RHNC data card). That same year, one was seen on 26 December at 2 Child Drive by Donald E. Burton (TOC Record Book #5). Another sighting occurred at Murray Drive on 23 December 1979 (Donald E. Burton, pers comm.); it was last seen on 20 January 1980 by Harry Kerr (TFN Bulletin 330). [17PJ27].

Kelly Lake: A mockingbird was reported by O. E. Devitt and Mary Devitt on 10 July 1977 (O. E. Devitt). The exact location was not recorded, but it is interesting that Dr. Henry Barnett reported a territorial male in the Kelly Lake area in summer 2002. [17PJ16].

First Atlas Period (1981-1985): One of the only two mockingbird records in *York* which appeared in the first Ontario Breeding Bird Atlas was found dead (crushed) on Regional Road 11 on 17 June 1985. It was about 1 km east of the eastern edge of Nobleton. This was recorded as a "possible" breeding record for Atlas Region 45 (Geoff Carpentier, USRF). [17PJ06]. A few days later, another was seen east of Aurora on the St. Johns Sideroad, west of Concession 7, on 22 June 1985 (Tim Dyson, USRF). [17PJ37].

Other Northern Mockingbird records which, with hindsight, might have qualified for inclusion in the first Atlas were: one at Woodbridge on 21 April 1981 by "TH" (Tom Hanrahan?) (TFN Bulletin 341), [17PJ14]; one at Arnold Crescent, Richmond Hill on 23 August 1981 (Gerry Bennett, TOC Bird Sightings Summary 1979-1989), [17PJ25]; one on Ninth Line south of Stouffville on 8 May 1982 (Phyllis MacKay, TOC Bird Sightings Summaries 1975-1981), [17PJ46]; and one at Major MacKenzie and Highway 27 on 17 May 1984 (Joan Love, TOC Database), [17PJ05].

In the 1990s, sites such as Royal Orchard Park in Thornhill [17PJ25], the Kortright Conservation Area [17PJ15], Purpleville [17PJ15], the southern part of Kleinburg [17PJ15], and later 34 Shady Lane in Thornhill [17PJ25] were often frequented by mockingbirds, especially during the winter. It is interesting that nearly all reports came from south of the Oak Ridges Moraine, with only three from the north end of the region. These were: one at Willow Beach on the south shore of Lake Simcoe, seen on the Sutton CBC on 1 January 1995 (WHNC Newsletter, January 1995; fide Paul Harpley), [17PK20]; and one at a feeder on Huntley Drive, Filey Beach (east of Willow Beach) in December 1995 (exact date unknown). It also was seen

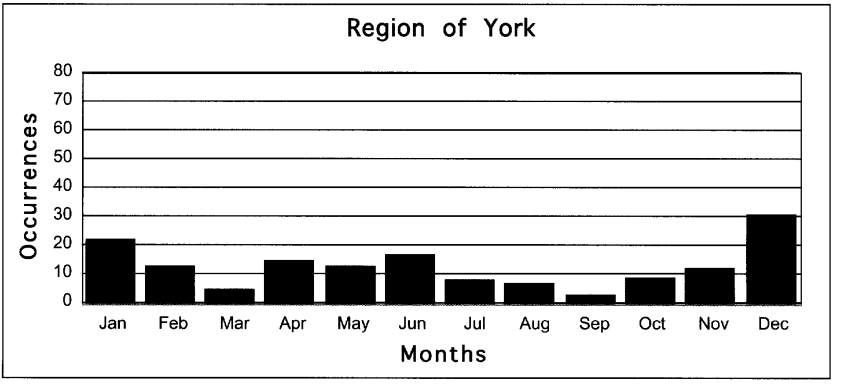

Figure 19: Occurrences of Northern Mockingbird by Month 1938-2000.

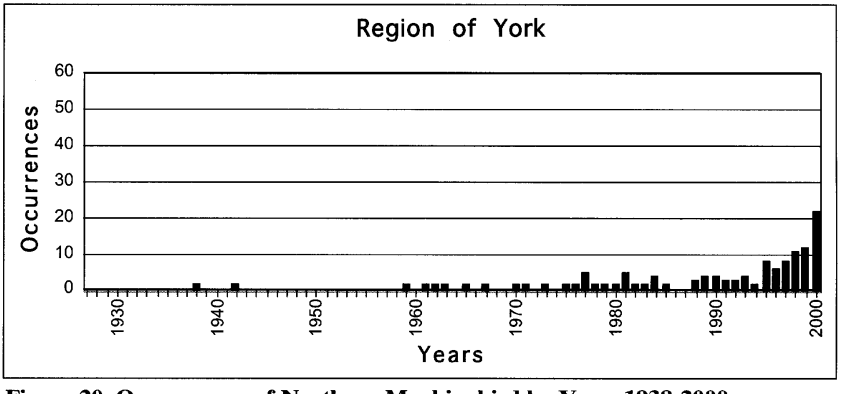

Figure 20: Occurrences of Northern Mockingbird by Years 1938-2000.

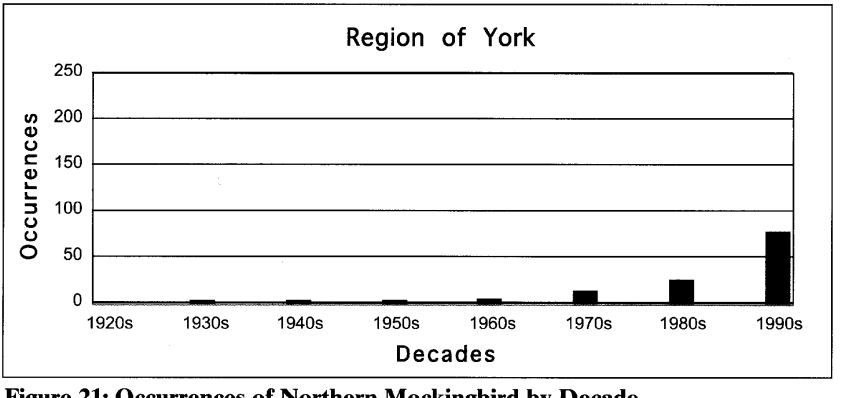

Figure 21: Occurrences of Northern Mockingbird by Decade.

on the Sutton CBC and stayed around for about a week after the count (Paul Harpley, Jack Miller, TOC Database) [17PK20]. The third was at Pefferlaw on 24 May 1998 (Kathy Kelkan, WHNC Newsletter, September 1998), [17PK40].

With the gradual increase in sightings, a few breeding records also were obtained, e.g., a pair with one fledged young at Woodbridge Hydro Transformer on 12 June 1993 [Bill Edmunds, WHNC Newsletter 14(1)]; and an adult with fledged young (number uncertain) at Highway 7 and Highway 27, west of Woodbridge in mid June 1995 (exact date unavailable) (Simon Baker, fide Gerry Bennett, TOC Database), [both in 17PJ14]. In 1998, a pair was seen at 10590 Pine Valley Drive near Purpleville on 13 July (Gerry Bennett, TOC Database), and breeding was confirmed on 1 August. Two adults and two fledged young were seen in "a coniferous grove" throughout the month of August (G. Witherspoon, fide Gerry Bennett, TOC Database), [17PJ15]. In 2000, a fledged young was found on 22 June at the NW corner of the Parkview Golf Course, Markham (Rick Lauzon, TOC Database), [17PJ45].

Eventually, atlassing in 2001 provided the Region's second through sixth *nesting* records, with two from Richmond Hill (Joyce McKinnon, Winnie Poon), one from Thornhill (Winnie Poon), and two from Concord (Glenn Coady, Leslie Johnston), as well as another nine confirmed *breeding* records (Ian Cannell, Theo Hofmann, Joan Love, Winnie Poon, and Roy Smith). Such a sudden increase in the number of confirmed breeding records suggests that mockingbirds had actually become established at several sites in *York* a few years earlier, but had remained largely undetected and certainly under-reported.

The Richmond Hill CBC started in 1955, but counts were not reported to Audubon for 1962-1971 and 1977-1980. These gaps had no impact on the numbers reported, since only one mockingbird was recorded on this count prior to 1988. The Kleinburg CBC circle includes parts of three regions, with 60% in *Peel*, 39% in *York* and 1% in the extreme NW corner of *Toronto*. This overlap accounts for some of the difficulty in allocating a few records to their correct region, and hence some of the "Unknown" records in Tables 1 and 2.

Durham Region

1921: The first record of a Northern Mockingbird in the GTA occurred at Bowmanville, *Durham*, in October 1921. M. G. Gould saw one on the morning of the 20th, again on 22 and 23 October, then not until 12 November, when it was recorded that "the temperature was below freezing, but the bird seemed in high spirits." It was seen by many observers up to 20 November, and it was noted that it fed regularly on fallen pears (Gould 1922). Based on this record, Allin (1940) described the species as "accidental" in Darlington Township. With reference to the second Ontario Breeding Bird Atlas, the Bowmanville square also had confirmed breeding records of Northern Mockingbird in 2002 and 2003. [17PJ86].

1941: Harry Dowhaluk in a letter to Jim Baillie dated 19 January 1942 mentioned that a mockingbird had been seen at Oshawa on 7 September (ROM Species File).

1944: Miss Naomi H. Horrocks wrote to Anne Merrill (fide Jim Baillie) that a mockingbird was seen again that day (23 February) at her home in Newcastle. This bird overwintered in 1943-1944, and was last recorded on 25 April 1944 (ROM Species File).

1955: Richard M. Saunders saw a mockingbird at Naomi LeVay's, Lynde Shores Conservation Area (then known as Eastbourne Marsh) on 20 August. It was seen moving west with a group of migrants including Bobolinks (*Dolichonyx oryzivorus*), swallows, blackbirds and some others. Saunders speculated in his journal that "it had been blown northward

by the recent Hurricane Diane which travelled up into New England. ... Theoretically this cannot be proven. All that one can say is that after Hurricane Hazel last fall several mockingbirds were seen in the Toronto area." (R. M. Saunders, Bird Journal #10: Mar 1, 1954 – Dec 31, 1955, pp. 409–413; TOC Record Book #2). [17PJ65].

1957: During the third week of June, Tom Wilson saw a mockingbird on the lawn of the Oshawa Pumping Station (G. A. Scott unpublished notes). [17PJ76].

1957: The Rev. T. A. M. Barnett first saw a mockingbird at Cherrywood, Pickering Township, on 7 July (Speirs 1975), reported as Third Concession of Pickering (TOC Record Book #2). It was seen a week later on 14 July by Jim Baillie, Dr. Barnett, Charlie Long and Don Gunn. On 16 July, Don Perks and Don Gunn found a nest with three eggs in a small apple tree (DEP in litt. 2004), location given as Lot 34. Concession 3, Pickering Township (Speirs 1975). This was the first nesting record for *Durham*, the third for the GTA and the tenth nesting record for Ontario. Richard Saunders in his Journal of 18 July gave a good account of his observations of the nest that now contained four eggs. The nest was also photographed in colour on 19 July. It was last checked on 5 August and found to be empty, and at the time it was assumed that "the young have successfully fledged (we hope)" (Anonymous, SPNC 1957). However, a subsequent re-assessment in 1982 found that there was no record of a second adult having been seen nor of the eggs having hatched; hence, the nesting outcome was regarded as "unsuccessful". Jim Baillie speculated that a lone female may have built a nest and deposited infertile eggs. Also, it is possible that one bird of the pair had died (Anonymous 1982). [17PJ45].

1960: George A. Scott observed a singing male mockingbird at Bonniebrae Point, Oshawa, 29-31 May, with the location given as "Bonniebrae Lodge" (Speirs 1975). On 30 May, K. and O. Sands also reported one at Bonniebrae Point, which was probably the same bird (Tozer and Richards 1974). [17PJ75].

1962: On 26 November, J. Satterley saw a mockingbird at 605 Dundas Street East, Whitby, the house of P. A. Chubb, which had a large multiflora rose hedge in the next door yard (Speirs 1975). The bird wintered there, remaining until 16 April 1963. Sometimes it was seen at the nearby Ontario Ladies College. Subsequently, the Chubb residence became known to locals as a mockingbird wintering site (Tozer and Richards 1974), with reports in both 1963-1964 (Speirs 1975) and 1968-1969 (George A. Scott, unpublished notes; Speirs 1975). [17PJ66].

1963: Gerry Bennett reported a mockingbird at Shoal Point Beach, Pickering, during the Toronto Ornithological Club's Fall Field Day event on 8 September (Speirs 1975). [17PJ65].

1964: One was seen at Pickering on 6 February by Alf Bunker (TOC Record Book #3).

1965: Another wintering mockingbird was seen at 85 Grandview Avenue South, Oshawa, on 1 January, and reported by R. and A. Foster. It stayed to 28 February 1965 (Tozer and Richards 1974). [17PJ76].

From 1921-2000, *Durham* recorded a total of six mockingbird nests. The second nest record came from the Oshawa Sewage Plant in 1974. George A. Scott first saw one there on 5 May and found a pair present on 19 May. On 19 June, Jim Richards investigated the area and found a nest with three eggs in a cedar hedge. However, the nest had been abandoned by 22 June, with one egg cracked and another punctured. The nest and eggs were then collected by Richards for the ROM (ONRS #75959 and 75960). This was the first known nesting for Ontario County, as

it was then (Tozer and Richards 1974). Regular checking by George Scott found the site to be occupied through the winter into spring 1975 (GAS, unpublished notes). The pair was seen again in 1975 (The Naturalist 1975), but nesting was not recorded. The last sighting occurred on 8 May 1975 (GAS, unpublished notes). However, it is worth mentioning that the Oshawa Sewage Plant is one site with a long-established multiflora rose hedge, and has remained as an active mockingbird site with records in 1989 (Bain and Henshaw 1990), 2003 (TOC Database), and confirmed breeding there in 2004 (RBHS and WP, unpublished). [17PJ76].

The third mockingbird nest for *Durham* was found about 2 km north of Mitchell's Corners, Oshawa. Todd Norris first noticed a mockingbird in the area in early July 1979. On 17 July, James Kamstra found a nest with five eggs in a single hawthorn bush by the road, near the junction of Langmaid Road and Concession 6 (J. Kamstra, pers. comm.). The eggs hatched on about 26 July and large young were last seen on 2 August. Photographs of both adults and young were taken by Kamstra and Bruno Kern (Kamstra 1980, ONRS #75880). [17PJ77].

The remaining three nesting records up to 2000 were reported from: 34 Crawford Drive, Ajax [17PJ65] in 1981 (Anonymous 1982); Pickering Nuclear Plant, Pickering [17PJ55] in 1990 (Bain and Henshaw 1991); and Brock Road Landfill, Pickering [17PJ55] in 1993 (Bain and Henshaw 1994). There were also two additional confirmed breeding records from Corner Marsh, Pickering: one fledged young seen by Brian Henshaw in 1994 [The Naturalist 40(8)], and one seen carrying food in 1997 (David Worthington, TOC Database), [17PJ55].

Although *Durham* was the first region in the GTA to register a Northern Mockingbird, it had a total of only 191 recorded occurrences during the last century, many fewer than Toronto with 307 occurrences. There were no records from *Durham* in the 1930's (Table 1) in spite of the record hot summer of 1936 when the first GTA nesting occurred in *Toronto*. Richard Saunders' speculations on hurricane-induced vagrancy seem less plausible today, since with hindsight the situation might be better explained by the resumed expansion of the mockingbird in the states of New Jersey and New York during the mid 1950s (Bull 1964). The per-decade occurrence numbers in *Durham* in the 1960s increased sharply to 17, as compared to 4 in the 1950s (Table 2), and were accompanied by a corresponding rise in the total recorded breeding territories (Table 3). In fact, the Decade Occurrence counts of 35 (1970s) and 53 (1980s) were highest among the GTA regions for those years. Furthermore, the only "confirmed" breeding record in the GTA in the first Ontario Breeding Bird Atlas (1981-1985) occurred in Ajax in 1981, plus another "possible" breeding record from Pickering Township in 1985 (Figure 2).

The Oshawa CBC has been operating continuously since 1955 (Tozer 1993), and recorded its first mockingbird on the 1970 count (Tozer and Richards 1974). The record high count was five birds in 2002 and 2003. The Pickering CBC recorded its first mockingbird in 1983. Its record high count was four birds in 1991 and 2003. The Pickering CBC started in 1948 but counts were apparently missed between 1995 and 1999.

Status in the GTA: 2001-2005

With the start of the second Ontario Breeding Bird Atlas (OBBA2), and our own intensive surveys in the 2001-2005 period, the numbers recorded show a massive increase from those preceding, even compared to the 1990s. Table 5 provides the numbers of breeding season territories recorded during this period, using the possible, probable and confirmed breeding evidence categories defined for atlas purposes (Ontario Breeding Bird Atlas 2001). Allowance should be made for the fact that the study was just

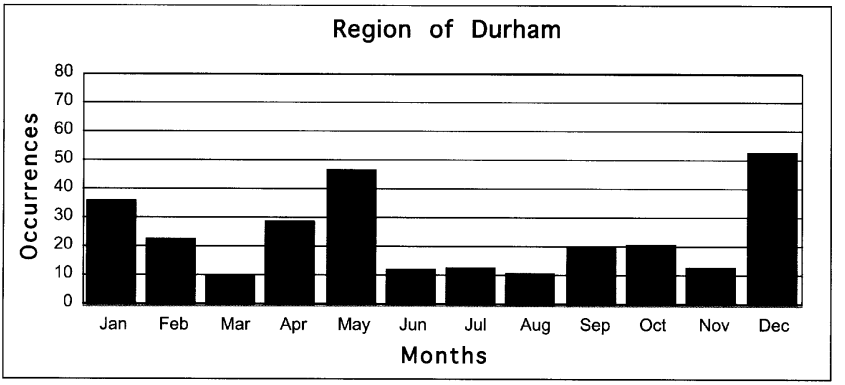

Figure 22: Occurrences of Northern Mockingbird by Month 1921-2000.

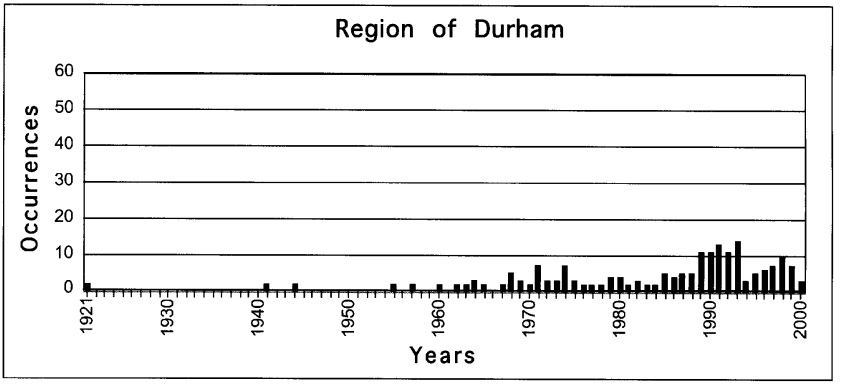

Figure 23: Occurrences of Northern Mockingbird by Year 1921-2000.

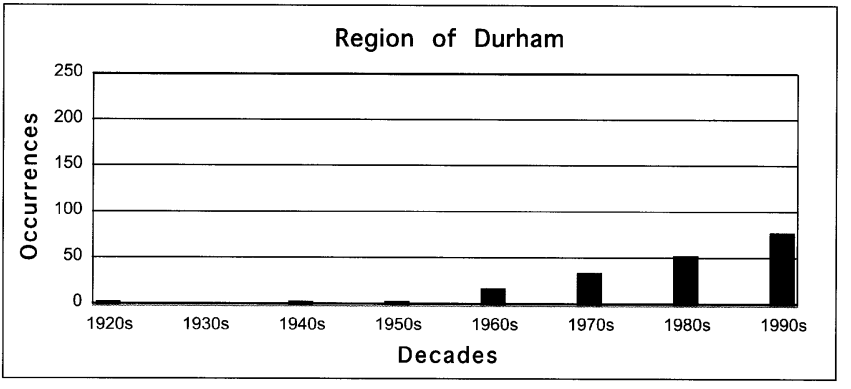

Figure 24: Occurrences of Northern Mockingbird by Decade.

getting started in 2001, and the sites were still not fully known in 2002, so numbers were low in those years. Survey effort peaked in 2003, which by chance coincided with a high population year, and effort dropped off slightly in 2004 and 2005. Thus, the numbers for the 2003-2005 period provide our best estimate of the current breeding population in the GTA, which amounts to about 400 occupied breeding territories, with confirmed breeding in about 200 of them, and probable breeding in another 90 or so. Since it is not difficult to confirm breeding for this species, it is likely that many of those classified as "probable" on the basis of singing males staying long enough to qualify as "territorial", or sightings of pairs but no subsequent breeding evidence, did not actually nest successfully. Lack of visits and/or difficult access to some industrial sites would have reduced breeding confirmations somewhat, but not by a large number, while on the other hand, there were always some sites unknown to us during the nesting season, and only found in the subsequent fall or winter periods. Hence, we can propose a rough estimate of 640 adults during the breeding season, made up of 200 confirmed pairs, an estimated 40 additional pairs, and about 160 single birds from the remaining territories. Any over-counting of single males, due to movements between different sites, would probably be balanced by those missed entirely during the surveys.

In terms of occupied range, as of 2005, the Northern Mockingbird occupied about 2400 square kilometres in the southern part of the GTA, ranging inland from the north shore of Lake Ontario for up to 30 km or so at Brampton, *Peel,* and Richmond Hill, *York*, but only about 12 km inland from Oakville, *Halton,* and only 5 km or less in the eastern part of *Durham.* The contiguous breeding range largely coincides with the urbanized areas and only a handful of outlying territories were found on or north of the Oak Ridges Moraine. During fieldwork for the second atlas, only two cases of confirmed breeding well north of the established range were found in the GTA; these concerned nestings at Blue Mountain Road, Saintfield, *Durham* [17PJ59] in 2002 (Margaret Wilson et al., OBBA2, pers. comm.) and near Albion Hills, *Peel* [17PJ96] in 2003 and again in 2004 (Roger Taylor et al., OBBA2). These cases are reminiscent of the situation prior to the main expansion, involving isolated incidents which, at least in the Saintfield example, were not repeated in subsequent years.

Within the continuous breeding range, the distribution of territories was by no means uniform. Although we are not presenting the data here, our investigations show that over half (about 53%) of the breeding territories found during the study period were located in industrial areas. This may come as a surprise to those more familiar with

mockingbirds in the southern United States, where scrubland, second growth, parkland and suburban developments provide typical habitat (Derrickson and Breitwisch 1992). GTA mockingbirds also show a strong preference for linear landscape features such as railways (Hawkins and Hawkins 1998), and to a lesser extent hydro corridors, as found during our surveys. Some of the most densely occupied 10-km squares in terms of numbers of breeding territories are those with large industrial zones, e.g., 17PJ03 (located west of Pearson International Airport), and 17PJ12/17PJ13 (Mississauga/Etobicoke). The former has large areas of fairly recent, low density industrial and warehouse development, while the latter two contain older industrial areas as well as multiple railway and hydro corridors. The maximum number of breeding territories found in a single 10-km square (47 in 17PJ14 in 2005), was perhaps influenced by additional search effort in that square, but 17PJ13 with 35 territories in 2005, and 17PJ25 with 34 territories in 2003, also show similar patterns, in relation to industrial areas and linear features.

Clearly an increase of this magnitude, just 20 years after the first Ontario atlas, could not have happened overnight. The fact that we were able to find so many indicates that previously there must have been substantial under-reporting. We ourselves were surprised by the numbers that we discovered, once we had developed our own concept of "suitable habitat" in the GTA context, and started to survey the urban industrial areas systematically. Very few birders typically devote any time or effort to these areas; hence, we can readily explain a common misperception of suitable habitat in the GTA. On the other hand, there are sizeable tracts of apparently suitable habitat which are either unoccupied by mockingbirds, or where occurrences are extremely localized. In those areas, unless one knew of a specific territory, a casual searcher might not find any and become discouraged. Yet in other areas they may reach surprisingly high densities, particularly along favoured sections of railways. However, as yet we have no good explanation for the fact that many urban parks, cemeteries and suburban areas which would be considered suitable habitat elsewhere are apparently unused (or rarely occupied) by GTA mockingbirds.

As a bird of scrubland, edge and successional habitat, the Northern Mockingbird has to be somewhat opportunistic in its choice of breeding habitat. In urban areas, particularly, breeding territories may suffer from one season to the next in terms of habitat loss and destruction, e.g., by clearing and redevelopment of old industrial sites, cutting of scrub as part of maintenance operations, etc. Conversely, new habitat is being created at the fringes of expanding

industrial zones, and sometimes in older areas as well, where lines of small spruce may be planted for screening along railways, around parking lots and in other similar situations (Poon and Smith 2005). However, as the landscaping in these areas matures, and the trees grow taller, they seem to become less desirable as nesting territories and may be abandoned again. Hence, there is considerable turnover of territories from year-to-year, which we have not yet analyzed in any detail. Nevertheless, some territories may persist for many years. A small number have sufficient food resources, including berry-bearing trees, shrubs and vines such as multiflora rose (*Rosa multiflora*), juniper (*Juniperus* sp.), hawthorn (*Crateagus* sp.), nightshade (*Solanum* sp.), climbing bittersweet (*Celastrus* sp.), Japanese barberry (*Berberis thunbergii*), buckthorn (*Rhamnus* sp.), sumac (*Rhus* sp.), Russian olive (*Elaeagnus angustifolia*), and sea buckthorn (*Hippophae rhamnoides*), to support overwintering, and these territories can support truly *resident* mockingbirds.

Direct evidence for migration by GTA mockingbirds is hard to come by, but it has been known since at least the 1960s that "there is an apparent spring movement of mockingbirds in southern Ontario" (Tozer and Richards 1974). The monthly occurrence patterns prior to 2000 tend to support this (see Figures 10 to 24), with a pronounced spring peak in *Toronto* and *Durham*, and a less defined peak in *Halton* and *Peel*. The spring peak is even more pronounced in Northumberland County, just east of the GTA (Goodwin and Furino, online). Within the GTA, the number of observations from known migration points along the north shore of Lake Ontario also suggests that small numbers of spring migrants do occur. For example, we compiled eight spring reports of Northern Mockingbird from the Leslie Street Spit and 37 from the Toronto Islands, both locations where it has never been known to breed. Reports of possible migrants from these lakeshore sites have averaged 1.8 per year over the last 25 years (1980-2005), which is not many considering that these locations are heavily birded during the spring migration. However, it has bred at other Toronto lakeshore parkland sites such as Humber Bay Park (since 1997, but perhaps not annually) and Colonel Sam Smith Park (since 1998). It is possible that the latter two sites have a slightly milder microclimate in early spring, whereas the other two, which are more-or-less surrounded by the waters of Lake Ontario, might be a little colder and more exposed. This could influence a migrant to move on inland, as opposed to attempting to set up a territory. Food resources in early spring could also be significant, and might explain why there are many more winter records from Humber Bay Park (a site which has

multiflora rose, climbing bittersweet and sea buckthorn), compared to the other three sites which have very few fruiting shrubs.

One might look to banding data to provide evidence for migration, but during the period 1955 to 2004 only about 232 Northern Mockingbirds were banded in Canada (190 in Ontario), and as of 2005, no recoveries had been reported from these Canadian bandings (Canadian Wildlife Service data). About half the Ontario birds (100) were banded by Long Point Bird Observatory, as might be expected given its role as the preeminent banding station in the province. The numbers banded were low, averaging 1-3 per year from 1975-1980 and 2-5 during the 1990s, but show a marginally increasing trend. Excluding six banded as nestlings, the majority (62) were spring or summer birds (April through July), with 38 from the fall period (August through November). Of these, 20 were aged as hatching year, hence their occurrence on Long Point could be attributed to postjuvenile dispersal, rather than true migration. Only eight were trapped during the late fall period (October and November), and even half of these (four) were aged as hatching year. This is the period during which genuine migrants might be expected, following the postbreeding molt in late August and September. A more detailed analysis would need to include observation records, and should take account of years when nestings were known to have taken place on or near Long Point.

For a species like the Northern Mockingbird, which is only banded in very small numbers, it may be unwise to draw any conclusions based on banding data alone. These data are subject to many possible biases, including weather, effort, and catchability variables, especially when dealing with small samples. Also, there is no evidence as yet that GTA mockingbirds pass through the Long Point area, if in fact some do migrate. Perhaps the most we can say at this stage is that the Long Point banding data do not provide strong support for a distinct fall migration by Ontario mockingbirds.

Observation records of fall migrants are also very scarce in the GTA, but in addition to Saunders' 20 August 1955 record from *Durham*, there are at least four unequivocal reports of fall migrants from High Park, with dates between 12 and 22 September. Most of these were seen incidentally at the High Park Hawk Watch, which has operated annually since 1993. High Park is a large urban park occupying 166 ha (399 ac) in western *Toronto*, about one km from the Lake Ontario shore, and provides a good example of apparently suitable habitat which so far has never had a breeding record. There are, of course, additional records of spring and fall migrants from major migration points along the north shore of

Lake Erie, such as Long Point, *Norfolk,* Rondeau Provincial Park, *Chatham-Kent,* and Point Pelee, *Essex,* but we have not yet researched these in any detail.

It has been well-known since the pioneering studies of Laskey (1935, 1936) that Northern Mockingbirds often maintain and defend winter feeding territories, separate from their breeding season territories. We also have observed that most GTA *nesting* territories seem to be vacated during the winter months. Although this is somewhat dependent on the severity of the winter, we can say that of about 881 territories defined in the database as occupied at some time during the study period, 559 have breeding season records only, and about 120 have winter records only. The remaining 202 have records in both seasons, although some have only occasional winter records. These numbers suggest that many birds withdraw from their breeding territories to specific winter territories, making local movements of up to a few kilometres, rather than undertaking full-scale migration. A colour-banding or radio-telemetry study would be needed to confirm this.

We suspect, based on other published studies, e.g., Laskey (1936), that the males are more likely to stay on or near the breeding territory, and based on a few casual observations, we think they may even come back occasionally to visit the breeding territory on fine days during the winter.

During the study period, we accounted for between 90 and 166 mockingbirds annually during the winter periods (December to February), with actual numbers as follows: 2001-2002 (90); 2002-2003 (133); 2003-2004 (144); 2004-2005 (110); and 2005-2006 (166). These are minimum numbers, derived by taking a conservative approach when eliminating potential double-counting. Note that the numbers may differ slightly from previous progress reports in the *TOC Newsletter*, due to records received late, and/or re-classification of sites/territories. The numbers found are of course related to effort, and to the severity of the weather, since they are much harder to find in very cold or windy conditions, and may not even respond to a tape in those circumstances. However, the relatively low number in 2001-2002 was due to incomplete knowledge of the sites at the start of the study, while reduced effort in January 2005 would have depressed that season's totals. And because our winter surveys were largely restricted to weekends, they may have been impacted in some seasons if by chance conditions were unsuitable on several weekends in a row. Very cold conditions on the day (average temperature -11° C) almost certainly affected the Toronto CBC numbers in 2004. Another point to keep in mind is that we considered one record during the winter period was enough to count a site as "occu-

pied". This may not be true if some December records should really be considered as late fall records, involving birds which may have moved out of the GTA for the coldest period during January and February. It should also be noted, when interpreting the CBC graphs (Figures 4 to 9), that additional effort in looking for mockingbirds was supplied by the authors on the 2002 and 2003 Toronto CBCs, on the Richmond Hill CBC in 2002, 2003 and 2005, and on the Kleinburg CBC in 2002 and 2003.

These wintering numbers only account for about 25% of the breeding season population, and it seems quite unlikely that the remaining 75% would have been missed both by our surveys and all the other active observers in the GTA. So, despite the paucity of direct observations of migrants, we have to conclude that about 75% of the breeding adults migrate out of the GTA for the winter. The actual number of birds involved would be higher still, when all the surviving juveniles are added. It would be interesting to know how far they go, because they must move farther than the Niagara peninsula. While substantial numbers are recorded on the Hamilton, St. Catharines and Niagara Falls CBCs, they probably include birds local to those areas. Also, the numbers on these counts have actually declined in recent years, when one would have expected the opposite if they were being augmented by GTA birds. Both casual observations and CBC numbers show that mockingbirds are still very scarce in southwestern Ontario, so they cannot be there, and of course there are extremely few reported wintering north of the GTA. The only other possibility is that the "missing" birds disperse into suburban backyards and ravines, where they somehow manage to avoid being seen and reported by birders each winter. It seems unlikely, but migration is not well understood for this species (Derrickson and Breitwisch 1992), so we raise the question as a challenge for GTA birders!

It has been stated that the -7° C average minimum January isotherm marks the "typical" limit for wintering mockingbirds in North America (Root 1988). On this basis, Root's map actually excluded all of southern Ontario from the regular winter range. But clearly there are substantial numbers wintering here, especially in the Niagara peninsula where they have been established since the 1960s. Also, there have been numerous published anecdotal reports of mockingbirds surviving much lower temperatures for considerable periods. For example, one at Calgary, Alberta, survived temperatures as low as -31° C on some nights between early December 1958 and 26 January 1959 (Salt and Salt 1976). In Ontario, one wintered at Thunder Bay, *Thunder Bay*, from November 2001 to at least February 2002 (Nicholas G. Escott, fide ONT-

Table 6: Winter Temperatures in the GTA: 2001-2006. *

	December		January		February	
Winter	Average Minimum °C	Extreme Low °C	Average Minimum °C	Extreme Low °C	Average Minimum °C	Extreme Low °C
2000-2001	-11.3	-18.0	-7.5	-19.9	-6.5	-14.4
2001-2002	-1.7	-8.3	-3.7	-11.6	-5.5	-14.5
2002-2003	-5.7	-16.5	-12.3	-22.9	-11.5	-21.3
2003-2004	-3.5	-10.8	-13.5	-24.3	-8.0	-19.2
2004-2005	-6.7	-24.3	-10.9	-24.2	-8.2	-16.4
2005-2006	-6.2	-15.2	-3.4	-13.1	-7.2	-14.5

* Data from Lester B. Pearson International Airport (Environment Canada).

BIRDS), and must have endured much lower temperatures than are regularly experienced in the GTA.

Reference to Table 6 shows that in four of the last five winters, the average January minimum temperature for Pearson International Airport was below the -7° C figure proposed by Root (1988). The winter of 2001-2002 stands out as exceptionally mild, but unfortunately, our winter surveys were just getting started, so the numbers recorded in that season are misleadingly low. However, the purpose of Table 6 is to show that GTA mockingbirds can, and regularly do, survive lower temperatures than was previously believed. For example, in January 2005 there was a long cold spell lasting about 18 days between the 14th and 31st, when the average daily temperature never rose above -8.7° C, and actually fell as low as -24.2° C on the 21st (Environment Canada, online). During that period, the maximum temperature recorded was +1.1° C (on the 14th). Yet on the preceding day (the 13th), the maximum reached was an incredible +17.6° C! Of course, we do not yet know how many GTA mockingbirds actually survive the *entire* winter and to what extent their numbers are being replenished by spring migrants. But to date we have not had any reports of birds being found dead due to cold weather, and our winter surveys seem to indicate that many of them survive.

An alternative hypothesis would be that much of the migration (if it occurs) takes place very early, e.g., in late February or early March, at a time when most GTA birders are noting their first spring arrivals of Red-winged Blackbirds (*Agelaius phoeniceus*) and American Robins (*Turdus migratorius*). If so, and the birds slip back into Ontario largely undetected, then those seen in May (when most "migrants" have historically been recorded) represent either the tail end of migration, or failed

breeders from farther south now moving on to try and establish a new territory. Whatever the explanation, we think that mockingbirds dispersing through the GTA tend to follow linear features such as railways and hydro corridors. Many nesting territories are associated with these features, and in some 10-km squares, the concentration of sites in association with these features is quite remarkable. Detailed analysis will require another paper, and we intend to investigate this further, in relation to habitat selection in general.

Some authors have suggested that provision of feeders and feeding stations may have assisted winter survival, but we have found that, *in general*, wintering mockingbirds in the GTA rarely make use of bird feeders. Instead, they seem to rely largely on "natural" foods. There are exceptions, of course, where individual birds have discovered feeders, or individual feeder operators have put out special foods for them such as raisins, chopped grapes or chopped apples, but these tend to be unusual cases in the GTA. However, there are a few reports of GTA mockingbirds taking suet, and even a few seeds, at some feeders. We have also observed a few instances of birds foraging in and around dumpsters and taking waste food scraps in the manner of European Starlings. If this is learned behaviour which enhances winter survival, we might expect to see more of it in the years to come.

No discussion of the current status would be complete without some reference to climate change. It is now widely recognized that climate change is having wide-ranging, sometimes significant impacts on many different organisms and ecosystems (e.g., Murphy-Klassen et al. 2005, Malcolm et al. 2006). Various authors have noted that the 1990s were the warmest decade, and the 1900s the warmest century—in the last 1000 years. In North America, 7 of the 10 warmest years during the last century occurred in the 1990s, while 1998 was the warmest year on record (Price 2004). However, 2005 was actually the warmest year in the Northern Hemisphere since records began in the 1860s, and the second warmest globally (Brinkley 2006). It seems possible that global warming may have assisted the northward spread of mockingbirds during the last 100 years, and particularly during the last 15 years in the GTA. Indeed, this was one of the species for which future range expansion in southern Ontario was predicted, based on climatic modelling (Price 2004).

Although it is tempting to think that global warming may have assisted the range expansion shown by mockingbirds in North America over the last century, more detailed scrutiny suggests that a rise in mean temperatures of just 1 or 2° C over this period cannot of itself explain the observed distributional changes. Northern Mockingbirds

occupy a wide latitudinal range, extending from the Caribbean to Canada, and presumably have done so since the last glaciation. Furthermore, the records show that they have been able to survive southern Ontario winters in significant numbers since at least the 1960s. Hence, we do not think that a slow-acting process like global warming could have had such a profound effect on numbers in the GTA as we have seen in the last 15 years. So although it may be a contributing factor, we think it is probably not the most important factor in explaining the observed changes.

At the same time, the rapid pace of urbanization in the southern part of the GTA has continued throughout the 1900s, and may have increased since the mid 1980s, particularly in northern Mississauga and Brampton (*Peel*) and in the southern tier municipalities of Vaughan, Richmond Hill and Markham (*York*). This has opened up large amounts of "new" potential habitat which was previously farmland. However, the scattered breeding records since 1936 show that mockingbirds have been able to nest successfully in the GTA for at least 70 years, and that, at least occasionally, rural areas and farms have provided suitable habitat. Thus, habitat change due to urbanization cannot be the only explanation for the rapid increase since the mid 1990s, especially since some of the older industrial zones which are now known to be occupied have been present since the 1920s, if not earlier.

It has been suggested that large increases in suburbia have resulted in concomitant increases in winter food supply and shelter, in the form of landscape plantings of berry-bearing trees and shrubs, and small, thick evergreens such as juniper, spruce and cedar, which provide sheltered roosting sites. These factors could have assisted the northward spread of Northern Mockingbirds by enhancing winter survival. As long ago as the 1960s, various authors had noted that wintering mockingbirds were often associated with multiflora rose, e.g., in the southern part of New York State (Bull 1964), and in *Durham* (Tozer and Richards 1974). Yaki (1969) made particular reference to this in relation to wintering mockingbirds in the Niagara area, and we too have noted during our surveys that multiflora rosehips are a preferred winter food item whenever available.

Stiles (1982) suggested that the energy value provided by multiflora fruits may have "tipped the balance" in favour of successful overwintering in the northeastern United States, and hence encouraged the northward spread of mockingbirds in this region. His well-argued paper looked into the history of multiflora rose in this region (widely introduced and used for conservation plantings since the 1930s), as well as the energy value of the fruit. He also analyzed

Christmas Count data from 12 states and 5 provinces, ranging from Maryland and Delaware north to Ontario, Quebec and Nova Scotia, thus covering the area from 38° N to 48° N and from 60° W to 84° W. The CBC data clearly document the increasing numbers wintering in this region during the 1947-1980 period.

Although the presence of multiflora rose is one of the best predictors of finding a wintering mockingbird in the GTA (pers. obs.), there are many winter territories in our study areas which do not appear to have any. Of course, we may have overlooked it here and there, but thus far, we have only recorded it in about 12% of the winter territories identified. It is interesting that David et al. (1990) also reported that multiflora rose was largely absent in Quebec at that time, yet mockingbirds had been expanding and colonizing areas along the St. Lawrence Valley since the first confirmed breeding in that province in 1960. It was suggested that Quebec mockingbirds probably were largely migratory, in view of the small wintering numbers and severe winter conditions there. In fact, most recent studies of Northern Mockingbird along the northern limits of its range have considered it to be partially or largely migratory, e.g., in North Dakota (Igl and Martin 2002), while small numbers of migrants have been known from New England coastal sites since the early 1900s (e.g., Wright 1921, Bull 1964). There even have been four records of vagrants to the Western Palearctic (Doughty 1988, Anonymous 2005), including one which showed up at Arguineguin, Gran Canaria in the Canary Islands in November 2004, and remained there until January 2006 (Anonymous 2006). These records suggest that at least some individuals are involved in substantial migration, and hence at risk of long-distance displacement.

Conclusion

Observations from the GTA indicate that Northern Mockingbirds have been increasing in this area since the 1920s. Prior to the 1990s, the increase and spread was slow and erratic, but during the last 15 years, there has been a rapid and substantial increase in both breeding and wintering numbers, and in the occupied breeding range. As a result, we would describe its status in the GTA, as of 2005, as: *uncommon and localized breeder, with up to 75% of the population summering migrants and the remainder permanent residents.* The numbers are large enough that it cannot be called rare, but still low enough that the casual birder may not find one during a day's birding, unless known sites are visited.

Publication of any paper of this type inevitably leads to additional records being reported. We would welcome any published or unpublished records from within the GTA or the rest of Ontario that may have

been overlooked or remain unknown to us. In particular, historical records from areas in central and northern Ontario would help complete the picture province-wide. Any additional reports will of course be acknowledged if used in a subsequent paper.

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Many people have helped us over the last five years or so while this study has been in progress. Here we would like to recognize this assistance in tracking down details of mockingbird sightings and locations throughout the GTA (and sometimes beyond).

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Notes

Northern Shrike Preys on Pine Grosbeak

Barry Kinch

In early February 2006, I observed a Northern Shrike (*Lanius excubitor*) attack and kill a Pine Grosbeak (*Pinicola enucleator*) at our feeder in Kenabeek, northwest of New Liskeard, Timiskaming District, Ontario. After killing the grosbeak, the shrike did not appear able to fly away carrying the whole bird. It proceeded to pluck some of the grosbeak's feathers and remove the head, part of which it ate. Then, the shrike flew off carrying the grosbeak carcass. I watched this process for about 15 minutes. A few years ago, I observed another successful Northern Shrike attack on a Pine Grosbeak, but in that case the shrike flew away immediately, carrying the grosbeak, although with some difficulty.

Discussion

The Northern Shrike utilizes a "wide range of prey from small insects to mammals and birds its own size and larger" (Cade and Atkinson 2002). Especially in winter, it preys primarily on small birds and mammals. However, a long list of birds reported as winter prey by Cade and Atkinson (2002) included such larger species as Mourning Dove (*Zenaida macroura*), Blue Jay (*Cyanocitta cristata*), Gray Jay (*Perisoreus canadensis*), American Robin (*Turdus migratorius*), and Evening Grosbeak (*Coccothraustes vespertinus*).

These shrikes can carry prey in flight that is equal to or greater than their own body weight, which averages 64 g in winter (Cade and Atkinson 2002). Prey up to about 25 g are carried in the bill during flight, but larger prey are shifted from the bill to the feet as the shrike takes off and then carried tucked under the tail in raptor fashion (Cade and Atkinson 2002).

White (1963) reported a Northern Shrike killing a Pine Grosbeak in Alaska. The shrike attacked the grosbeak as it hovered picking at berries on a shrub, bit it in the head region, and knocked it to the ground. According to White, the shrike then picked up the grosbeak in its feet and flew to a tree about 23 m away. A Pine Grosbeak averages 56 g in weight (Sibley 2000), and although lighter than a Northern Shrike, it would likely be a heavy load to carry.

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Kenneth F. Abraham: Distinguished Ornithologist

Jean Iron

This note is based on remarks by Jean Iron at the presentation of the Distinguished Ornithologist Award to Ken Abraham at the OFO Annual Convention in Ottawa on 30 September 2006.

It is a privilege to tell you about the accomplishments of Ken Abraham, the 2006 and ninth recipient of OFO's Distinguished Ornithologist Award. Ken is a leading research scientist respected worldwide for his knowledge of waterfowl and shorebirds, particularly Canada Geese, Cackling Geese, Snow Geese, Ross's Geese, Brant, and Marbled Godwits. Ken's interest in birds started when he was a youngster growing up in rural southern Minnesota, an area rich in marshes, creeks and willow scrub. Wandering about on his own,

Figure 1: Ken Abraham (right) receives the Distinguished Ornithologist Award, presented by Jean Iron at the OFO Annual Convention in Ottawa on 30 September 2006. Photo by *Ron Pittaway*.

he was fascinated by nesting Yellow Warblers and chased by Red-winged Blackbirds, but he didn't know much about birds until someone gave him a Golden Guide and an old pair of army binoculars. He now had the tools needed to find birds and identify them. Ken's mother was from Saskatchewan, so every summer, the family went there on vacation and Ken was attracted to the prairie potholes full of waterfowl. Later, a ninth grade biology teacher influenced the course of his life by forming a nature and birding club. Travelling in the old school station wagon, the teacher and students regularly visited woods, prairies and marshes, including camping at Minnesota's Itasca Park at the headwaters of the Mississippi River, where they saw Great Blue Herons at rookeries and waterbirds. Finally, in second year premeds at Luther College in Iowa, Ken took an ecology and field biology course, and while studying spring waterfowl migration, realized he didn't want to be a doctor. The switch to bird ecology, a subject he was much happier pursuing, formed the basis of his formal training in ornithology and his future career.

Ken did his doctorate in 1980 at Queen's University in Kingston on the ecology and evolutionary biology of the Snow Goose in northern Manitoba. This led to a job as District Biologist at Moosonee with the Ontario Ministry of Natural Resources (OMNR) where Ken was responsible for an immense area of the Hudson Bay Lowland and northern coast. Ken lived in Moosonee with his wife Diana and children from 1982 to 1987. Their son, Eddy, was born on 11 April 1983 at the Moose Factory Hospital just when the geese started their return, and their daughter, Katherine, was born there as well on 11 June 1985 when the geese are hatching, and has forever had to bear her father's absence on her birthday. Currently, Ken is the Waterfowl and Wetlands Research Scientist with the OMNR at the main office in Peterborough. Every spring and summer, he returns to the Hudson Bay Lowland to continue long-term studies of waterfowl, shorebirds, wetlands, vegetation and climate change.

For 26 years, Ken has been active in the study and conservation of Ontario's waterbirds and wetlands. He has published over 60 papers in peer-reviewed journals such as the *Auk*, *Condor*, *Wilson Bulletin* and *Canadian Field-Naturalist*, plus over 15 articles in popular journals and 10 technical papers, for a total of over 85 publications.

Ken is a keen birder who has been an OFO member since 1989. He regularly provides information to OFO, and is a consultant to the editors of *Ontario Birds* and *OFO News*. He has written nine authoritative articles in OFO publications. His first was "Ross's Gull: New to Ontario" in the December 1984 issue of *Ontario Birds*, where he described finding Ontario's first Ross's Gull in May 1983 at

Moosonee. His most popular article, gaining international interest, was "Cackling Goose, NOT new to Ontario" in the February 2005 issue of *OFO News*. Ken spoke about "Ontario Geese" at the 1998 OFO Annual Convention in Burlington. Recognized as an authority on goose identification, he provides expert opinion on photographs and specimens, and answers internet queries on birding listservs.

Ken was very active in the first Ontario Breeding Bird Atlas from 1981 to 1985 as an atlasser, Coordinator of Moosonee Region 43, a reviewer of species accounts, and author of the Bufflehead species account. He supported and organized birders atlassing in northern Ontario. During the second Breeding Bird Atlas, 2001-2005, and ongoing, Ken participated on the Technical Committee, the Publication Committee and the Point Count Committee. He is writing several species accounts and is scientific editor of the waterfowl section. In his position at the OMNR, he facilitated atlas field work in remote northern Ontario, getting observers in by plane and helicopter, and arranging camps and accommodation. He was again Coordinator of Moosonee Region 43, sharing the duties this time with Don Sutherland.

Ken is the Ontario government's representative on committees overseeing the management and conservation of waterfowl and shorebirds. Currently he is on 16 provincial and national committees, and eight international committees such as the Mississippi Flyway Council and Arctic Goose Joint Venture, international groups facilitating management and research of North American waterfowl, and the Marbled Godwit Continental Working Group. Ken's diverse interest in birds is reflected in his membership on the Ontario Shorebird Conservation Plan committee and participation in Ontario Landbird Conservation planning committees.

He is active in conservation and research organizations such as Bird Studies Canada (BSC), where he has been a director and member of the Executive Committee, Chair of the National Science Advisory Council, and Chair of Long Point Bird Observatory.

Ken belongs to nature and ornithological organizations and clubs including the American Ornithologists' Union, the Society of Canadian Ornithologists, the Waterbird Society, the Brodie Club in Toronto and the Brereton Field Naturalists Club in Barrie where he lives.

Ken is an associate faculty member at the University of Toronto and adjunct faculty member at Trent University and City University of New York, where many graduate and undergrad students have benefited from his mentorship and encouragement. After several years of gathering general information, he initiated a more intensive study of Marbled Godwits

on Akimiski Island in James Bay in 2006 because so little is known about this breeding population.

Every spring and summer Ken returns to Polar Bear Provincial Park, the Hudson Bay Lowland and Akimiski Island to conduct fieldwork on Canada Geese, Snow Geese, waterfowl, shorebirds, climate change and vegetation. Around camp and at the staff house in Moosonee, he demonstrates by example, working long hours in the field, entering data late into the evening, and completing his share of chores. When Ken is in camp, there is always an atmosphere of work and fun. With a glint in his eye, he tells a story-a-day about close encounters with Polar Bears in the field and around the camp.

Ken Abraham is a worthy recipient of OFO's 2006 Distinguished Ornithologist Award for his outstanding and authoritative contributions to the scientific study of birds in Ontario and Canada, for being a resource to OFO and the Ontario birding community, and for his research, which has resulted in many publications and significant increase in new knowledge of birds.

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Nikon

Photo Quiz

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December 2006 Quiz

Glenn Coady

This time we are presented with a plump, ground-dwelling bird with a short, stout bill and short legs. It is probably safe to assume that birders of all experience levels would instinctively associate this bird's chicken-like appearance with it belonging to one of the species of upland game birds in the order Galliformes.

There are ten species from this order on the Ontario bird checklist, nine from the family Phasianidae (partridges, pheasants, grouse and turkeys), namely Gray Partridge, Ring-necked Pheasant, Ruffed Grouse, Spruce Grouse, Willow Ptarmigan, Rock Ptarmigan, Sharp-tailed Grouse, Greater Prairie-Chicken and Wild Turkey; and one from the family Odontophoridae (New World quail), the Northern Bobwhite.

We can quickly eliminate the Northern Bobwhite from consideration since our quiz bird has a fairly non-descript head pattern and both sexes of the Northern Bobwhite show a striking head pattern, with a strong contrast provided by a very noticeably paler supercilium and throat that lack any streaking.

Similarly, just about anyone who has ever eaten Thanksgiving dinner would not be inclined to mistake our quiz bird for a Wild Turkey. It is simply a much bigger and more uniformly darker plumaged bird with a much longer neck than this quiz bird.

A Ring-necked Pheasant of either sex should show an extremely long tail, but we are unable to see the tail on this bird. Nonetheless, it lacks the bright red facial skin and wide white neck-ring of a male pheasant as well as the general pale buff ground colour and the combination of long neck and relatively small head which impart a "pin-headed" appearance to the female pheasant.

Our quiz bird does not show the obvious rufous flank barring nor the generally gray ventral coloration of either sex of the introduced Gray Partridge. It certainly also lacks the orange face and chestnut brown belly patch of a male Gray Partridge.

Thus we have ruled out three of the nine species of Ontario birds from the family Phasianidae: one species from the sub-family Meleagridinae (Wild Turkey); and two from the sub-family Phasianinae (Ring-necked Pheasant and Gray Partridge). Our quiz bird is therefore one of the six Ontario grouse species belonging to the sub-family Tetraoninae.

The grouse most easily eliminated are the Willow Ptarmigan and

Rock Ptarmigan. Adults of both ptarmigan species are extensively white in the non-breeding season, quite unlike our quiz bird. Male Willow Ptarmigan in the breeding season show a solidly rufous head and neck and have extensively unmarked white bellies and undertail. Male Rock Ptarmigan in the breeding season have a head, neck and back that are a variegated mixture of black, brown and white barring. They also retain an extensively white belly and undertail in the breeding season. Additionally, adult ptarmigan in all seasons also usually show some of their white flight feathers on the folded wing, but this is not useful for our quiz bird photograph as we are unable to see the flight feathers. Juveniles of both Ontario ptarmigan species are more uniformly dark than this bird.

Likewise, the Spruce Grouse is not a good fit either. Adult male Spruce Grouse have black throats and breasts with large white spots on the belly and very distinctive comet-shaped streaking on the flanks, completely unlike our quiz bird. Female Spruce Grouse have breasts that are extensively linearly barred with black, gold and white, inconsistent with the scalloped breast pattern seen on this bird. They also show extensive pointed white spots on their flanks. Both sexes of Spruce Grouse also show small whitish lines on the head running laterally back from both above and below the eye, which are not apparent on this bird.

Although our bird has a short crested appearance slightly similar to a Ruffed Grouse, that species is easily ruled out by the lack of very long and bold dark barring on the flanks. Ruffed Grouse also do not have a scalloped breast pattern like this bird. Our quiz bird is also simply not a good colour match for either the gray or rufous morphs of the Ruffed Grouse.

Having ruled out all the other Ontario Galliformes, we have thus narrowed the possibility down to one of the two Ontario species of the genus *Tympanuchus*, the Sharp-tailed Grouse and the Greater Prairie-Chicken.

Quite apart from the fact that it has been extirpated from Ontario for over forty years, we can easily exclude the Greater Prairie-Chicken. It would show a completely and evenly barred body all over, a pale throat, and elongated neck pinnae should be visible.

Our quiz bird is, therefore, a **Sharp-tailed Grouse**, and although we are unable to see its pale, centrally-pointed tail in this photograph, we are able to see many of the key field marks that reliably identify it: a slight crest, a scalloped breast pattern, large white spots in the black and gold wing coverts, and perhaps easiest to discern, a pale belly and flanks with obvious dark chevrons.

I photographed this adult female Sharp-tailed Grouse at the Gore Bay airport lek on Manitoulin Island on 23 April 2006. My thanks to Steve Hall and the many other Friends of Misery Bay for the dedication they put forward in sharing their knowledge of this lek, to the benefit of so many Ontario birders.

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