COMMITTEE ON THE
STATUS OF ENDANGERED
WILDLIFE IN CANADA

OTTAWA, ONT. K1A 0H3
(819) 997-4991

COMITÉ SUR LE STATUT
DES ESPÈCES MENACÉES
DE DISPARITION AU
CANADA

OTTAWA (ONT.) K1A 0H3
(819) 997-4991

UPDATED STATUS REPORT ON THE EASTERN BLUEBIRD *SIALIA SIALIS* IN CANADA

BY

WILLIAM F. READ

AND

ROBERT ALVO

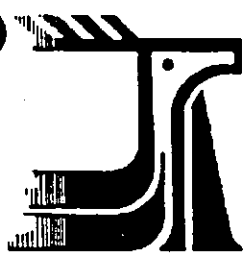
STATUS ASSIGNED IN 1996
NOT AT RISK

REASON: POPULATION HAS INCREASED SUBSTANTIALLY IN THE PAST DECADE AS A RESULT OF A SUCCESSFUL NEST BOX PROGRAM THAT SHOULD BE MAINTAINED.

OCCURRENCE: ALBERTA, MANITOBA, NEW BRUNSWICK, NOVA SCOTIA, ONTARIO , PRINCE EDWARD ISLAND, QUEBEC, AND SASKATCHEWAN

COSEWIC - A committee of representatives from federal, provincial and private agencies which assigns national status to species at risk in Canada.

CSEMDC - Un comité de représentants d'organismes fédéraux, provinciaux et privés qui attribue un statut national aux espèces canadiennes en péril.



COMMITTEE ON THE
STATUS OF ENDANGERED
WILDLIFE IN CANADA

OTTAWA, ONT. K1A 0H3
(819) 997-4991

COMITÉ SUR LE STATUT
DES ESPÈCES MENACÉES
DE DISPARITION AU
CANADA

OTTAWA (ONTARIO) K1A 0H3
(819) 997-4991

JUNE 1994

NOTES

1. This report is a working document used by COSEWIC in assigning status according to criteria listed below. It is released in its original form in the interest of making scientific information available to the public.

2. Reports are the property of COSEWIC and the author. They may not be presented as the work of any other person or agency. Anyone wishing to quote or cite information contained in status reports may do so provided that both the author and COSEWIC are credited. Reports may be cited as in the following example:

   Bredin, E.J. 1989. Status report on the Northern Prairie Skink, Eumeces septentrionalis, in Canada. Committee on the Status of Endangered Wildlife in Canada. 48 pp.

3. Additional copies of this report may be obtained at nominal cost from The Canadian Nature Federation, 1 Nicholas Street., Suite 520, Ottawa, Ontario, K1N 7B7 or from the Co-ordinator, COSEWIC Secretariat, c/o Canadian Wildlife Service, Environment Canada, Ottawa, Ontario., K1A 0H3.

DEFINITIONS

SPECIES:	"Species" means an indigenous species, subspecies, variety or geographically defined population of wild fauna and flora.
VULNERABLE: (V)	A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events.
THREATENED: (T)	A species likely to become endangered if limiting factors are not reversed.
ENDANGERED: (E)	A species facing imminent extirpation or extinction.
EXTIRPATED: (XT)	A species no longer existing in the wild in Canada, but occurring elsewhere.
EXTINCT: (X)	A species that no longer exists.
NOT AT RISK: (NAR)	A species that has been evaluated and found to be not at risk.
INDETERMINATE: (I)	A species for which there is insufficient scientific information to support status designation.

COSEWIC - A committee of representatives from federal, provincial and private agencies which assigns national status to species at risk in Canada.

CSEMDC - Un comité de représentants d'organismes fédéraux, provinciaux et privés qui attribue un statut national aux espèces canadiennes en péril.

UPDATED STATUS REPORT ON THE EASTERN BLUEBIRD *SIALIA SIALIS* IN CANADA

BY

WILLIAM F. READ
165 GREEN VALLEY DRIVE, NO. 2
KITCHENER, ONTARIO
N2P 1K3

AND

ROBERT ALVO
58, RUE DES PARULINES
HULL, QUEBEC
J9A 1Z2

STATUS ASSIGNED IN 1996
NOT AT RISK

POPULATION SIZE AND TREND

What was known at the time of the initial COSEWIC report

The Eastern Bluebird (*Sialia sialis*) was assigned "vulnerable" status in Canada by COSEWIC in 1984 (Risley 1984). At that time it was known that:

- It had been considered a common nesting species across eastern North America in the 1800s (Risley 1984).
- In the 1980s, it was known to breed in Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, and Nova Scotia (Risley 1984).
- In the late 1950s, many people became concerned about its status and put up nestboxes to help it. It was "Blue Listed" in 1978, when it reached a population low in North America (Risley 1984).
- Its known Canadian population in 1980 was only about 383 pairs, while the actual population was thought to number fewer than 1,000 pairs. The population was thought to be stable or possibly increasing (Risley 1984).
- The major factors limiting the population appeared to be nest cavity competitors and severe weather in winter or spring (Risley 1984).
- It was felt essential to monitor the population annually for several years, because it was thought, based on previous disasters, that a severe winter could cause a 50 percent reduction in an already low population (Risley 1984).

North America

Breeding Bird Survey (BBS) data for North America (United States Fish and Wildlife Service (USFWS), unpublished data) indicate that the Eastern Bluebird declined in the 1970s, followed by an increase in the 1980s to similar levels to those observed in 1966 at the beginning of the BBS. Information received from across the Eastern Bluebird's North American range from discussions with local bluebird trail operators throughout North America indicated that the increase in numbers from 1981 to 1991 was related to, and probably associated with, a string of mild winters. On the other hand, the 1992 and 1993 breeding seasons both followed very harsh winters, and had below average productivity throughout eastern North America.

Canada

The Eastern Bluebird remains widespread throughout its Canadian breeding range. The number of known pairs in Canada was much higher in 1990 than in 1980 (Table 1). The general consensus among most people involved with this species is that this reflects a population increase. However, we caution the reader to keep in mind that increases in the number of birds observed may at least partly be a result of increased visibility of the species related to the shift in nesting that apparently occurred from the 1870s to the 1970s -- from tree cavities, to fence and telephone pole cavities, to nestboxes (Risley 1984).

Maritimes

In the Maritimes, only one or two pairs were reported each year at the time of Risley (1984), and only from New Brunswick. Only a few sightings were reported each year from Nova Scotia (Table 1). Recently, however, the breeding population in the Maritimes was estimated at "about 300 pairs", with under 300 in New Brunswick, under 30 in Nova Scotia, and under 5 in P.E.I. (Erskine 1992) -- the species was found nesting for the first time in P.E.I. only in 1989 (Erskine 1992), where it had been considered an "occasional" [visitor] (seen only 1-9 times per decade) (Curley et al. 1991).

> "The fortunes of this species have taken a turn for the better in the past five years or so [i.e. since 1984 or so] in this part of the country. I believe it is partially due to nestbox trails in New England, and the ability of the bird to adapt to forest clearcuts in our region. At any rate they are on the increase and re-occupying much of their former range, which in some cases has been vacant for 40 years or more." (Brian Dalzell, pers. comm., 1989).

Interestingly, this apparent population increase has occurred despite the fact that "although existing nestboxes are sometimes used, the few attempts to establish 'bluebird trails' of nestboxes in the Maritimes have met with no success" (Erkine 1992).

An even more recent assessment of the Maritime situation was given by David Christie (pers. comm.) in 1995:

> "The Eastern Bluebird is quite widespread, being found in all parts of New Brunswick and much of Nova Scotia and P.E.I. The increase mentioned in the Maritimes atlas [Erskine (1992)] has continued, yet the species apparently is still less numerous than it was in the 1940s and 1950s. Since the atlas, some bluebird nestbox trails have been

utilized to a small extent."

Quebec

The species has apparently been increasing in Quebec (Robert 1989). Data from the Étude des populations d'oiseaux du Québec (ÉPOQ) database indicate significant increases in all three indices used to measure Eastern Bluebirds during the period 1970 - 1991 in Quebec (Fragnier 1995). A statistically significant increase has also been shown by BBS data for the period 1966 - 1993 (USFWS, unpublished data). Again, these increases in observations do not necessarily signify a population increase. In the Saguenay Lac St-Jean region, for example, these increases may largely reflect a shift over the years from forest edge nesting, where the birds are relatively difficult to detect, to nestbox nesting, where they are easier to detect (Michel Savard, pers. comm.).

As of 1990 an estimated 273 pairs were breeding in Quebec, based on nestbox surveys (Daniel Asselin, Société Linnéénne du Québec, pers. comm.). Only 56 Quebec Nest Record Card nestings were reported in 1980 (Risley 1984) (Table 1). During the Quebec Breeding Bird Atlas, breeding was confirmed, probable or possible in 423 of the 2,464 squares of 10 x 10 km that were atlassed -- because several pairs often breed in one square, and because many potential squares were not searched, the actual number of pairs breeding in Quebec was likely substantially higher than the estimated 273 pairs cited above.

Ontario

Nestbox data for Ontario suggest that the known Eastern Bluebird population decreased in the 1970s, then increased in the 1980s, then decreased in 1992 and 1993, and probably increased slightly in 1994 (Bill Read, pers. comm.). It is likely these changing trends that resulted in a non-significant change as shown by BBS data over the period 1966 - 1993 for Ontario (% annual change = 1.1%, N = 49 routes) (USFWS, unpublished data), and for southern Ontario and southern Quebec (Erskine et al. 1992). Ontario Christmas Bird Counts, however, showed a significant increase in sightings between 1959 and 1988 (% annual change = 2.9%, N = 23 circles, $P<0.01$) (USFWS, unpublished data). Unfortunately, it is not clear whether this was indicative of a larger breeding population, whether mild weather throughout the fall delayed migration, or whether there were more people doing the counts. Also, the species is more readily detected now in winter because it has become common practise in many areas to supplement bird feeding trays with fruit for frugivorous birds such as bluebirds -- another practise, for bluebirds in particular, is to create winter dormitories by hollowing out logs. Since 1975, there has been a large increase in the number of breeding Eastern Bluebirds in the Long Point area, and the number of bluebirds seen in the area during migration also

seems to have increased over the same period (Jon McCracken, pers. comm.).

The Ontario Breeding Bird Atlas (Cadman et al., 1987) indicated that there were many more Eastern Bluebirds in the province than was thought previously. Abundance estimates from the Atlas gave 1,063 - 7,094 pairs for that province. The 1989 nestbox survey estimated 2027 pairs in nestboxes and another 33 pairs nesting in natural cavities for an estimated total of 2060 (Table 1). The total population was undoubtedly much higher because some areas were not surveyed (Read 1989). This is a substantial increase over the minimum 236 pairs known from Ontario at the time of Risley (1984).

Nestbox surveys showed a substantial increase in fledged young in the late 1980s in Ontario, from 4,950 in 1987 to 6,352 in 1988 to 8,260 in 1989 (McNicholl et al. 1994; Read 1988, 1989, 1990, 1991, 1992, 1993, 1994). The total number of fledged young observed in 1993 was the lowest since 1987 (Read 1988-1993), and this was possibly due to:

- unseasonably cold weather during the breeding season, which would have meant fewer fledged young flying south in the fall;
- higher than usual mortality among overwintering bluebirds;
- the great blizzard of 1993, which swept up through the southern United States and the east coast March 12-15, causing high mortality;
- lack of reporting by Ontario nestbox trail operators.

In summary, the species seems to be doing well in Ontario despite the poor 1992 and 1993 breeding seasons.

Manitoba

In the southeast corner of Manitoba, numbers seem to have increased over the past 18 years (Peter Taylor, pers. comm.). In the southwest corner, the numbers have been up over the last 7-8 years, but they had been down before then due to very cold winters in the southern wintering grounds in the U.S.

The species reaches the margin of its range in the Brandon area. At Miami, southwest of Winnipeg, the only bluebird species that breeds is the Eastern Bluebird. As one travels west, the Eastern Bluebird is gradually replaced by the Mountain Bluebird (S. currucoides), although Easterns are present in areas of sandy soil. Hybrid pairs are seen just about every year in Manitoba, from 0-3

per year (Ann Smith, pers. comm.).

In southwest Manitoba, nestbox trails have been established from the Sidney/Austin area (east-north-east of Brandon) west through Brandon to Hartney (southwest of Brandon). The low during this period was in 1978, when there were only 10 nestings (i.e. fewer than 10 pairs, because Eastern Bluebirds often renest); the high was in 1989, with 354 nestings. In 1993 the number dropped to 167 nestings. There have not been exactly the same number of boxes in the same places every year, and there are no data compilations for 5 of the years (Ann Smith, pers. comm.), but an upward trend still seems apparent for southwestern Manitoba.

An estimated 400 pairs now breed in Manitoba (Ann Smith, pers. comm.). Risley (1984) noted that "at least 50 pairs are reported each year in the province" (Table 1), suggesting that the known population has increased drastically since that time.

Saskatchewan

The Eastern Bluebird was fairly widespread in Saskatchewan in the early part of the century, but then declined substantially after World War II when European Starlings (Sturnus vulgaris) started becoming common and competing for cavity nest sites. It has apparently increased in the past 10-20 years, although it is not quite as widespread as it used to be. Starlings have apparently declined over the past 10-20 years, but not significantly according to BBS data. This apparent starling decline, plus a very active nestbox program initiated about 20 years ago, nay have helped the Eastern Bluebird (Al Smith, pers. comm.), although this is not clear from the available data. Today Eastern Bluebirds nest uncommonly and locally in the eastern Parklands, and occasionally north to the Saskatoon and Greenwater Lake districts (Smith, in prep.). Since 1966 the species has been confirmed breeding in 16 atlas squares, is probable in three others and possible in seven others (out of a total of 724 squares in the province (Smith, in prep.)). It is difficult to compare these figures to the "up to 40 pairs reported each year from bluebird nestbox trail operators and other observers" reported by Risley (1984).

Alberta

Salt and Salt (1976) listed the Eastern Bluebird as having been reported in Alberta, but with material evidence of their occurrence lacking. Previously considered an extralimital visitor to the province, the Eastern Bluebird is now a rare breeder, with one confirmed breeding record from the breeding bird atlas (Semenchuck 1992).

HABITAT

In eastern Canada, Eastern Bluebirds show a preference for burned forest and clear cut areas, and nestbox trails established in these areas quickly attract them. One naturalist in a burned area in the Rainy River District of Ontario reported that the Eastern Bluebird was the most common passerine. Half the nesting records from the Maritimes Atlas come from forest cut-overs (Brian Dalzell, pers. comm.). This habitat is plentiful in most of the species' range in eastern Canada.

In Ontario, Eastern Bluebirds prefer pastured areas in the limestone plains and glacial till moraines, from the Bruce Peninsula east to Kingston. These are areas of poor rocky soil and sparse vegetation, which are chiefly used for grazing. In Quebec the Eastern Bluebird uses similar habitat.

In Manitoba, Eastern Bluebirds breed in sandy areas such as spruce hills, where there is often low ground cover. As the population increases, they spread out to agricultural areas (Ann Smith, pers. comm.). In Saskatchewan there are more trees and potential nest sites than there were 100 years ago, so the habitat is better for Eastern Bluebirds (Dale Hjertaas).

In conclusion, although much suitable habitat exists for the Eastern Bluebird, the availability of nest sites (including nestboxes) may be a limiting factor over much of it. Another major limiting factor for this species is harsh winters. Their occurrence is essentially a matter of chance, and there is no reason to believe that their frequency will change. In contrast, the availability of nestboxes is purely a question of involvement by people -- as long as people continue to install and properly maintain nestboxes, there is every reason to believe that the species will continue to do well.

EVALUATION AND PROPOSED STATUS

The current known Canadian population of 3049 pairs is a remarkable improvement over the "known Canadian population of about 383 pairs" in 1980 (Risley 1984), and the actual breeding population is probably substantially higher than the number of known pairs in two of the provinces that together comprise a large majority of the population: Ontario and Quebec (Table 1). The species has recently been proven to breed in two additional provinces, P.E.I. and Alberta. We therefore recommend that this species be considered not at risk in Canada.

If current efforts to provide nestboxes continue, this will ensure that known populations can be monitored over the long term. Such monitoring is still required, despite this species' recent successes, because the Eastern Bluebird will always be vulnerable

to severe winters.

Unmonitored nestboxes, even only a few on one bluebird trail, are often detrimental to Eastern Bluebirds because they give House Sparrows (Passer domesticus) a foothold in the area, from which they can usurp well-maintained boxes. Therefore, every effort should be made to remove nestboxes from bluebird trails that will no longer be monitored and maintained, although continued monitoring and maintenance is preferable. Control of House Sparrows (i.e. removal of eggs, young and/or adults) will be necessary on some trails. Also detrimental to Eastern Bluebirds are nestboxes without adequate predator protection, which attract bluebirds to nest, but with little chance of success.

A major information gap is the number of Eastern Bluebirds breeding in cavities other than nestboxes. As long as this gap remains, not only will the population size continue to be underestimated, but any perceived trends based at least in part on data from areas with nestboxes will be suspect. The apparent population increase in Québec suggested by the ÉPOQ data may reflect the fact that once bluebird trails were established, birders may have visited sites with bluebird trails specifically to see this species. Even the increasing trend for North America suggested by BBS data may be suspect because it coincides with an increase in managed bluebird trails, which, rather than causing a population increase, may merely have served to make the bird more readily detected.

REFERENCES

Cadman, M.D., P.F.J. Eagles, and F.M. Helleiner. 1987. Atlas of the breeding birds of Ontario. University of Waterloo Press, Waterloo. 617 p.

Curley, R., G. Hogan, and S. Makepeace. 1991. Field checklist of birds: Prince Edward Island, Canada. 5th edition. 10 p.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Nimbus Publishing Limited and the Nova Scotia Museum. 270 p.

Erskine, A.J., B.T. Collins, E. Hayakawa, and C. Downes. 1992. The cooperative Breeding Bird Survey in Canada, 1989-91. Canadian Wildlife Service Progress Report # 199.

Fragnier, P. 1995. Merlebleu de l'Est (Eastern Bluebird). In Cyr, A. et J. Larivée. Atlas saisonnier des oiseaux du Québec. Sherbrooke, Presses de l'Université de Sherbrooke.

McNicholl, M.K., W.F. Read, and D.V. Weseloh. 1994. Bluebird nest-box trails in Ontario and their usefulness for bioeffects monitoring of agricultural chemicals. Canadian Wildlife Service Technical Report Series No. 202. Ontario Region.

Read, W.F. 1988. Ontario Eastern Bluebird Society Nestbox Survey -- 1988. 2 p.

Read, W.F. 1989. Ontario Eastern Bluebird Society Nestbox Survey -- 1989. 2 p.

Read, W.F. 1990. Ontario Eastern Bluebird Society Nestbox Survey -- 1990. 2 p.

Read, W.F. 1991. Ontario Eastern Bluebird Society Nestbox Survey -- 1991. 3 p.

Read, W.F. 1992. Ontario Eastern Bluebird Society Nestbox Survey -- 1992. 3 p.

Read, W.F. 1993. Ontario Eastern Bluebird Society Nestbox Survey -- 1993. 6 p.

Read, W.F. 1994. Ontario Eastern Bluebird Society Nestbox Survey -- 1994.

Risley, C.J. 1984. Status report on the Eastern Bluebird (Sialia sialis). Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 51 p.

Robert, M. 1989. Les oiseaux menacés du Québec. Association québécoise des groupes d'ornithologues et Service canadien de la faune. 109 p.

Salt and Salt. 1976. The birds of Alberta, with their ranges in Saskatchewan and Manitoba. Hurtig Publishers, Edmonton. 498 p.

Semenchuck, G.P. 1992. The atlas of breeding birds of Alberta. Federation of Alberta Naturalists, Edmonton. 391 p.

Smith, A. In prep. Atlas of Saskatchewan birds.

ACKNOWLEDGEMENTS

We thank the following people for providing information on the status of the Eastern Bluebird in their jurisdiction:

Newfoundland: Joe Brazil, Troy Wellicome.

P.E.I.: Rosemary Curley, Diane Griffin.

Nova Scotia: Brian Dalzell, F. Scott, Sherman Boates, David Nettleship.

New Brunswick: Peter Pearce, Pat Kehoe, Rod Cumberland, Bruce Johnson.

Quebec: Michel Savard, Daniel Asselin, Jean Gauthier, Yves Aubry, Jacques Larivée, Michel Huot, Pierre Laporte, Guy Jolicoeur, André Cyr.

Ontario: Ross James, Irene Bowman, George van Drunen, Paul Prevett, Mike Cadman, Richard Pratt, Doug McRae, George Peck, Mark Stabb.

Manitoba: Bob Nero, Ann Smith, H.W.R. Copland, Peter Taylor, Bob Jones, Jim Duncan.

Saskatchewan: Bob Ewart, Jeff Keith, Dale Hjertaas, Al Smith, Ronald R. Hooper, Stuart and Mary Houston.

Alberta: Roger Edwards, Bill Hall, L. Horstman.

BC: Bill Harper, Gary Kaiser, Syd Cannings.

NWT: Chris Shank, Bob Bromley.

Yukon: David Mossop.

Others who provided information were: Colleen Hyslop, Barry Hughson, Theresa Aniskowicz, Sarah Climenhaga, Erica Dunn, Tony Erskine, Jim Love, Greg Butcher, André Dion, Sadie Dorber, Louise Horstman, Michel Gosselin, Ronald Hooper, Jean Moore, Chandler Robbins, Peter Pearce, Myrna Pearman, Norm Shant, Leo Smith, Sam Droege, Greg Butcher, Terry Root, John Sauer, Joe Jehl.

Table 1. Number of known pairs of Eastern Bluebirds in Canada -- 1980 and current. See text for details.

Province	1980 [1]	Current
N.S.	0	30 [2]
N.B.	1	300 [2]
PEI	0	5 [2]
Quebec	56*	273* [3]
Ontario	236*	2060* [4]
Manitoba	50	400 [5]
Saskatchewan	40	15* [6]
Alberta	0	1 [7]
CANADA	383	3049 [8]

* The actual number of breeding pairs was/is probably substantially higher.

---

1. Risley 1984

2. Erskine 1992

3. Daniel Asselin, pers. comm.
4. Read 1989
5. Ann Smith, pers. comm.
6. Stuart and Mary Houston, pers. comm.
7. Myrna Pearman, pers. comm.
8. 300 was taken for the total for the three Atlantic provinces as per Erskine (1992), as opposed to the 335 suggested by the figures in the table.