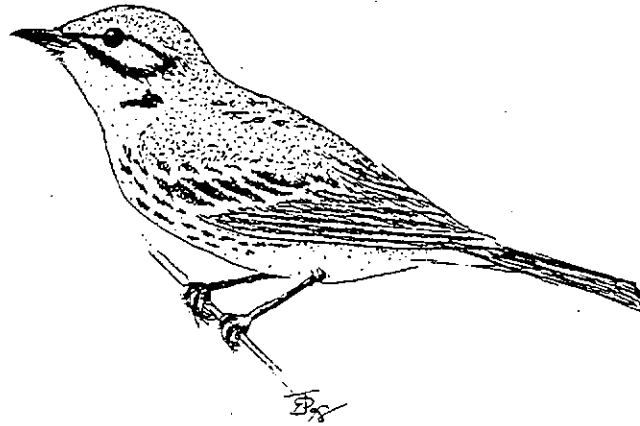


Update
COSEWIC STATUS REPORT

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ON

Prairie Warbler
(*Dendroica discolor*)




Ross D. James

Not at Risk
1999

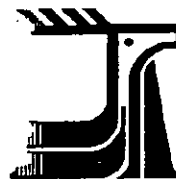
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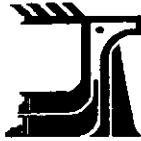
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Prairie Warbler

Reason for status: This species is relatively rare but the Canadian population has remained stable over the past ten years; it breeds in scattered areas of marginal and early successional habitat.
[Designated (rare) vulnerable in 1985 and delisted in 1999.]

Occurrence: Ontario

NOTES

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COSEWIC

A committee of representatives from federal, provincial and private agencies that assigns national status to species at risk in Canada and the chairs of the scientific species specialist groups

COSEPAC

Un comité de représentants d'organismes fédéraux, provinciaux et privés qui attribue un statut national aux espèces canadiennes en péril ainsi que des président(e)s des groupes des spécialistes scientifiques.

**Update
COSEWIC Status Report**

on

**Prairie Warbler
(*Dendroica discolor*)**

by

**Ross D. James
Gateways Centre
R.R. No. 3
Sunderland, Ontario
L0C 1H0**

**Funding provided by Canadian Wildlife Service
Environment Canada**

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Executive Summary

The Prairie Warbler was designated Vulnerable by COSEWIC in 1985. It was known to nest in Canada only in Ontario in several widely scattered locations. A population of at least 200 pairs south of the Canadian Shield had been almost eliminated, and the total population was estimated to be only about 500 pairs.

The overall North American population has shown a decline over the past three decades, but, at the same time, there has been some range expansion in the northern United States. It is a species adapted to seeking out early successional habitats. A change in range and numbers would be a normal occurrence.

A survey along the eastern edge of Georgian Bay, where the greatest numbers remain in Canada, tallied 345 singing males in 1997. A number of additional pairs are likely in areas not searched. There has probably been little change in numbers there in recent years, and the habitat availability would seem to be relatively stable.

Along the southern edge of the Canadian Shield, mainly in Peterborough and Frontenac Counties, there are probably about another 100 pairs scattered in available patches of habitat. In this area also there have likely been few changes in recent years in overall numbers. Some small groups have disappeared, but other patches of habitat have become available.

South of the Canadian Shield the Prairie Warbler has almost been eliminated by cottage development, pine planting and other dune stabilization activities in the sparsely vegetated sand dunes along the southeastern parts of Georgian Bay and Lake Huron, where it found appropriate habitat. However, the losses in these areas largely took place more than a decade ago.

The scrub oak-juniper habitat used by Prairie Warblers along the eastern edge of Georgian Bay, maintained by severe climate and poor soil conditions, is likely to provide for a relatively stable presence there, as long as cottage development is restricted. Periodic fires and slow succession are also likely to allow for scattered populations along the southern edge of the Canadian Shield. However, it is appropriate for COSEWIC to maintain a vulnerable status for this species whose total population remains at only about 500 pairs.

Résumé

La Paruline des prés a été désignée espèce « vulnérable » par le COSEPAC en 1985. C'est une espèce qui nichait au Canada, seulement en Ontario et dans plusieurs endroits très dispersés. Une population d'au moins 200 couples au sud du Bouclier canadien avait été presque totalement éliminée, et la population totale était estimée à seulement 500 couples.

La population globale de Parulines des prés en Amérique du Nord a connu une diminution au cours des trois dernières décennies, mais, dans la même période, l'aire de répartition a connu une certaine expansion dans le Nord des États-Unis. Il s'agit d'une espèce adaptée à rechercher des habitats se trouvant à la première étape de succession. Il serait donc normal de voir un changement dans l'aire de répartition et le nombre d'oiseaux de cette espèce.

En 1997 un relevé effectué le long de la côte Est de la baie Georgienne, endroit où l'on trouve le nombre le plus élevé de Parulines des prés au Canada, a dénombré 345 mâles chanteurs. Un certain nombre d'autres couples sont sûrement présents dans les aires non étudiées. Il y a probablement eu peu de changements dans le nombre d'individus là-bas ces dernières années, et la disponibilité de l'habitat semblerait être relativement stable.

Le long de la bordure Sud du Bouclier canadien, principalement dans les comtés de Peterborough et de Frontenac, il y a probablement environ 100 autres couples répartis dans des parcelles d'habitats disponibles. Là aussi, il semblerait y avoir eu peu de changements au cours des dernières années dans le nombre total d'oiseaux. Certains petits groupes ont disparu, mais d'autres parcelles d'habitat sont devenues disponibles.

Au sud du Bouclier canadien, la Paruline des prés a été presque éliminée par l'établissement de maisons de campagne, la plantation de pins et d'autres activités de stabilisation des dunes dans les dunes de sables pauvres en végétaux situées dans les parties du Sud-Est de la baie Georgienne et du lac Huron, où l'on trouve des habitats appropriés. Cependant, les pertes d'habitats dans ces aires ont eu lieu il y a plus de dix ans.

L'habitat de broussailles de chêne et de genévrier utilisé par la Paruline des prés le long de la bordure Est de la baie Georgienne, maintenu par des climats rigoureux et des mauvaises conditions de sol, offre probablement un habitat permettant une présence relativement stable aussi longtemps que la construction de maisons de campagnes est interdite. Des feux périodiques et une succession lente devraient également favoriser la dispersion des populations le long de la bordure Sud du Bouclier canadien. Toutefois, il est bon que le COSEPAC maintienne le statut d'espèce vulnérable pour la Paruline des

des prés puisque la population totale de celle-ci est estimée à seulement 500 couples.

Introduction

The Prairie Warbler was first considered by COSEWIC in 1985 (Lambert and Smith 1984). It breeds widely in the eastern United States, but is known to nest in Canada only in southern Ontario, where it is thinly scattered in only a few areas with limited available habitat.

The overall North American population was doing well. The total population in Canada in 1984, however, was estimated to be only about 500 pairs. There were known declines in several areas, mainly south of the Canadian Shield, where a population of at least 200 pairs at one time had dwindled to a very few. Populations on the Canadian Shield appeared relatively stable, although no data were available to establish any trends. Some loss of habitat was possible from cottage development and cowbird parasitism was high at more than 30%.

In view of its small, localized population and known declines in some areas, it was designated Rare, now Vulnerable by COSEWIC in 1985.

Population Size and Trend

Prairie Warblers are widespread over much of eastern North America and ranked G5 by the Nature Conservancy, indicating they are relatively secure overall. However, breeding bird survey results from 1966 to 1993 indicated a highly significant decline of 44%. That decline has apparently eased more recently as it was only 5.2% from 1984 to 1993 (Price *et al.* 1995).

At the same time there has been an expansion of the species range at the northern edges in adjacent states during this century and continuing in recent years (New York - Andrie and Carroll 1988, Ohio - Peterjohn and Rice 1991, and Pennsylvania - Brauning 1992). In all probability it reflects changing habitat conditions in different parts of the species range. As an early successional species, it is likely to shift populations noticeably over time.

The Prairie Warbler in Canada still nests only in southern Ontario, although the possibility exists that a few could nest in Quebec in the Gatineau area. The largest concentration is along the eastern shores of Georgian Bay in Muskoka and Parry Sound Districts. A survey conducted there in 1997 provided the first detailed data on population levels in this area (Sutherland 1998). A total of 420 sites were visited and 345 singing males were recorded at 174 sites (41% of sites).

The estimate for Muskoka provided by Lambert and Smith (1984) was about 160, which is close to the 164 recorded in the 1997 survey. The former estimate for Parry Sound District was less precise at 85 to 291 pairs, and this

survey revealed only 78, or at the very low end of the former estimate. It is encouraging to think, however, that the crude estimates from the previous opinion poll were very reasonable.

There are no doubt an additional few pairs to be found in the Muskoka/Parry Sound area. The 1997 survey concentrated near the shoreline, where the majority of the population is to be found, and did not visit northern Bosoleil Island where about an additional 12-15 pairs are known to nest. A few may also persist in adjacent northern Simcoe County (Austen *et al.* 1994). The former population there was estimated to be somewhat in excess of 150 pairs at one time, but had largely disappeared by the 1940's because of cottage development and the resultant habitat destruction (Devitt 1967).

Apart from the Georgian Bay area, the greatest numbers are found along the southern edge of the Canadian Shield in Peterborough and Frontenac Counties. However, in this area, they have never been as common as in Parry Sound and Muskoka, being only a relatively few widely scattered groups. In Peterborough County there were at least 20 pairs estimated, perhaps two to three times that (Lambert and Smith 1984). One group of 5 to 8 pairs on Long Lake has gone, but the overall population probably remains much the same today (D. Sutherland, pers comm.).

In Frontenac County, Lambert and Smith (1984) estimated 50 to 65 pairs, and Weir (1989) indicated that 65 pairs were found during the breeding bird atlas surveys (1981-1985). That may be a slightly conservative number because of the remote nature of the sites used by Prairie Warblers. However, the population is not likely to have experienced significant changes in recent years in that area.

There may once have been in excess of 50 pairs in the Pinery/Ipperwash area of southern Lake Huron in the early part of this century (Lambert and Smith 1984). Human disturbance and natural succession had reduced that to about 10 pairs by 1985, and it is essentially gone today (Lambert and Smith 1984).

In the Haldimand-Norfolk area birds were present from at least 1930 in the St. Williams area, but the highest count was only of 8 males. They had virtually abandoned the area by 1984, but one or two may still appear from time to time. Habitat availability and succession limit them there.

Isolated records have come from a variety of other sites in southern Ontario, but the only place they may have been persistent and in some numbers was on the Bruce Peninsula. No counts exist and no colonies are known there today.

South of the Canadian Shield declines have eliminated as many as 200 pairs in this century, but those losses occurred prior to the previous COSEWIC report (1984). Within the past decade there has probably not been any appreciable change in this species status in Ontario. Existing populations are in more remote areas, and less likely to be influenced by human activities. The species is rated S3 by the Natural Heritage Information Centre, and the Committee on the Status of Species at Risk in Ontario (COSSARO) has considered it Rare.

Habitat

Prairie Warblers occupy a variety of open country situations, where trees are few and scattered, but the ground is covered with scrubby vegetation (Nolan 1978). As such, they were probably relatively rare in North America in pre-European settlement times, largely restricted to naturally occurring sites such as rocky unforested cliffs and ridges, dry shrublands at forest/prairie margins, sparsely vegetated sand dunes, and open or early successional pinelands resulting from natural fires (Nolan 1978).

The species probably increased dramatically in North America, with the creation of human altered environments such as lumbered, grazed and burned forests, abandoned agricultural fields, unmowed apple orchards, strip mined lands, and Christmas tree farms or similar young pine plantations (Nolan 1978).

Early ornithological writings in Ontario suggested it was rare at best and probably only recently expanded into the province. However, they were probably just unaware of the remote and often isolated patches of habitat (Lambert and Smith 1984). Indeed, there were "almost unbelievable numbers" of Prairie Warblers recorded migrating toward Ontario in the islands in Lake Erie (Jones 1912) suggesting that there were large populations in Ontario for many years before its habitats were discovered (Nolan 1978).

In Ontario the Prairie Warbler has largely used natural habitats such as the dunes along southern Georgian Bay and Lake Huron, as well as sparsely treed areas of eastern Georgian Bay and the southern Canadian Shield areas. Fires may well have had an influence on the availability of habitat in some areas, particularly along the southern edge of the Shield (eg. see James 1996). Some birds have also occupied human created habitats such as the pine plantations in the St. Williams area, and more recently a few have occupied hydro rights-of-way (Weir 1989).

Prairie Warblers will continue to nest in the same area for years, probably centuries, as long as the habitat remains stable. What were probably long occupied interdunal sites at Wasaga Beach on southern Georgian Bay and the Pinery/Upperwash area on southern Lake Huron, were destroyed by cottage

development some time ago, the planting of pines that have now grown too tall to be used, other dune "stabilization" activities, and human disturbance. These were probably the main and largest concentrations of Prairie Warblers in Ontario south of the Canadian Shield. The St. Williams area populations were never known to be very large and a few may continue to persist if early successional habitat is provided in future.

The majority of the Canadian population now resides on the Canadian Shield. Along its southern edge, mainly in Peterborough and Frontenac counties, there are relatively small and scattered patches of habitat. Fires and natural succession will no doubt locally affect the populations, but they should be able to persist for a long time at the same relatively low numbers scattered in available habitat. Those using hydro rights-of-way may be rather abruptly impacted by herbicide spraying, but able to recolonize at low levels in the little habitat available.

The major habitat remaining for Prairie Warblers in Canada is found along the eastern Georgian Bay shores. That habitat is relatively stable, maintained by severe climatic conditions and scant soil among exposed bedrock. There may be some cottage development that could affect them, however, long term prospects remain good for a continued occupancy at about the present levels.

Evaluation and Proposed Status

The Prairie Warbler is a species that is adapted to finding and breeding in marginal scattered habitats (Nolan 1978). It was probably always a relatively rare species in Canada. Some increase may have occurred in post-settlement times, but the population south of the Canadian Shield has now been virtually eliminated with further human induced changes. Populations in the northern United States to the south of Ontario are continuing to expand. However, in Michigan, to the west of Ontario, it is probably much rarer and breeding bird atlas survey information resulted in a recommended status of threatened (Brewer *et al.* 1991).

The estimated total population in Ontario at the time of the previous report was about 500 pairs (Lambert and Smith 1984). With the decline and disappearance of two major populations and only a few hanging on in other places south of the Canadian Shield, plus the overall rarity of the species, and the unknown condition of the populations on the shield, there was a recommendation arising from the rare breeding bird program that the Prairie Warbler be considered threatened in Ontario (Austen *et al.* 1994).

However, given that we now have data for the size of the largest concentration in Canada and it appears likely to have remained stable in recent

years, that most losses occurred more than a decade ago, and that the remaining habitat is likely to remain relatively undisturbed, there seems to be little reason to consider it at risk, except that the Canadian population is small. With a total population of only about 500 pairs, some in small and scattered areas, it would be appropriate for COSEWIC to retain a Vulnerable designation. Periodic resurveys of the population will be necessary to monitor their status.

Acknowledgements

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Knowledgeable Persons

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Literature Cited

- Andrle, R.F. and J.R. Carroll, eds. 1988. The atlas of breeding birds in New York State. Cornell University Press, Ithaca.
- Austen, M.J.W., M.D. Cadman, and R.D. James. 1994. Ontario birds at risk: status and conservation needs. Federation of Ontario Naturalists, Toronto and Long Point Bird Observatory, Port Rowan.
- Brauning, D.W. 1992. Breeding birds in Pennsylvania. University of Pittsburgh Press, Pittsburgh.
- Brewer, R., G.A. McPeak, and R.J. Adams, Jr. 1991. The atlas of breeding birds of Michigan. Michigan State University Press, East Lansing.
- Devitt, O.E. 1967. The birds of Simcoe County. Brereton Field Naturalists, Barrie.
- James, R.D. 1996. Historical notes from northern Frontenac County. Ontario Birds 14:72-77.
- Jones, L. 1912. A study of the avifauna of the Lake Erie Islands. Wilson Bull. 24:6-18, 95-108, 142-153, 171-186.
- Lambert, A.B. and R.B.H. Smith. 1984. Status report on the Prairie Warbler, *Dendroica discolor*. COSEWIC, Ottawa.
- Nolan, V. Jr. 1978. The ecology and behavior of the Prairie Warbler *Dendroica discolor*. Ornithological Monographs 26.
- Peterjohn, B.G. and D.L. Rice. 1991. The Ohio breeding bird atlas. Ohio Dept. of Natural Resources. Columbus.
- Price, J., S. Droege, and A. Price. 1995. The summer atlas of North American birds. Academic Press, New York.
- Sutherland, D.A. 1998. Prairie Warbler survey in 1997. Ontario Natural Heritage Information Centre Newsletter 4(1):4-5.
- Weir, R.D. 1989. Birds of the Kingston Region. Kingston Field Naturalists, Kingston.

Biographical Summary of Author

Ross James is a Departmental Associate and former Curator of Ornithology at the Royal Ontario Museum in Toronto, Ontario. He studied the foraging behaviour of vireos in southern Ontario, and the ecological and behavioural relationships of Blue-headed and Yellow-throated Vireos for masters and doctoral research at the University of Toronto. He has also conducted bird population studies in boreal forest and southern woodlands and wetlands. He is interested in the status and distribution of birds in Ontario, authoring an Annotated checklist of Ontario Birds, and coauthoring two volumes on the Breeding Birds of Ontario. He was a committee member for and a contributor to the Atlas of Breeding Birds of Ontario, and a coauthor of Ontario Birds at Risk. He is an author of two accounts for the Birds of North America, and has published more than 80 papers on birds. He spent more than a decade as chair and cochair of the Birds Subcommittee of COSEWIC. In this capacity he was familiar with previous status reports and the status of this species.



MANDATE

COSEWIC determines the national status of wild species, subspecies, varieties and nationally significant populations that are considered to be at risk in Canada. Designations are made on all native species for the following groups: fish, amphibians, reptiles, birds, mammals, molluscs, lepidoptera, vascular plants, mosses and lichens.

MEMBERSHIP

COSEWIC is comprised of representatives from each provincial and territorial government wildlife agency, four federal agencies (Canadian Wildlife Service, Parks Canada, Fisheries and Oceans, Canadian Museum of Nature), three national conservation organizations (Canadian Nature Federation, Canadian Wildlife Federation, and World Wildlife Fund Canada) and the chairs of the scientific species specialist groups. The Committee meets annually in April to consider status reports on candidate species.

DEFINITIONS

Species	- Any indigenous species, subspecies, variety or geographically defined population of wild fauna and flora.
Extinct (X)	- A species that no longer exists.
Extirpated (XT)	- A species no longer existing in the wild in Canada, but occurring elsewhere.
Endangered (E)	- A species facing imminent extirpation or extinction.
Threatened (T)	- A species likely to become endangered if limiting factors are not reversed.
Vulnerable (V)	- A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events.
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.



The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) was created in 1977 as a result of a recommendation at the Federal-Provincial Wildlife Conference held in 1976. It arose from the need for a single, official, scientifically sound, national listing of wildlife species at risk. In 1978, COSEWIC designated its first species and produced its first list of Canadian species at risk. COSEWIC meets annually in April each year. Species designated at this meeting are added to the list.



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