

**COSEWIC**  
**Rapid Review of Classification**

on the

**Mountain Plover**  
*Charadrius montanus*

in Canada

**ENDANGERED**  
**2021**

**COSEWIC**  
Committee on the Status  
of Endangered Wildlife  
in Canada



**COSEPAC**  
Comité sur la situation  
des espèces en péril  
au Canada

The Rapid Review of Classification process is used by COSEWIC for Wildlife Species that have not changed status since the previous COSEWIC assessment. Readily available information from the previous status report or status appraisal summary, recovery documents, recovery teams, jurisdictions, conservation data centres, and species experts was initially reviewed by the relevant Species Specialist Subcommittees before being reviewed by COSEWIC. The following is a summary of the relevant information.

COSEWIC Rapid Review of Classification are working documents used in assigning the status of wildlife species suspected of being at risk in Canada. This document may be cited as follows:

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Production note:

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## COSEWIC Assessment Summary

### Assessment Summary – November 2021

**Common name**

Mountain Plover

**Scientific name**

*Charadrius montanus*

**Status**

Endangered

**Reason for designation**

This shorebird of shortgrass prairies reaches the northern limits of its breeding distribution in extreme southern Alberta and Saskatchewan. It has become exceedingly rare in Canada, with no observations since 2012, although small numbers may persist in areas with little survey effort. Historically, the population is believed to have declined primarily as a result of habitat loss from agricultural intensification and fire suppression. Temperature extremes and changes to habitat related to climate change are also of concern. Immigration from outside Canada is unlikely, because the nearest potential source population in Montana is also small and declining.

**Occurrence**

Alberta, Saskatchewan

**Status history**

Designated Endangered in April 1987. Status re-examined and confirmed in November 2000, November 2009, and December 2021.



## COSEWIC Rapid Review of Classification

### PREFACE

Since the previous status report (COSEWIC 2009), there has been little evidence of Mountain Plover occurrence in Canada. No formal surveys have been conducted for the species, but it is highly sought after by birders, so there has likely been some search effort in accessible portions of the historical Canadian range. eBird (2021), an online database of sightings that has gained widespread use by birders, shows only one sighting in Canada since the previous status report, barely north of the United States border near Onefour, Alberta in 2012. No other recent observations have been reported in Alberta (Court pers. comm. 2020; Gutsell pers. comm. 2020; Knapton pers. comm. 2020), and in Saskatchewan, the first four years of the provincial breeding bird atlas have not yet yielded any reports of Mountain Plover.

A Recovery Strategy exists for the species, but neither it nor the previous status report includes a formal threat assessment (Environment Canada 2006; COSEWIC 2009). The South of the Divide Action Plan (Environment and Climate Change Canada 2016) details ongoing and recommended conservation actions targeting this and other prairie species in southwestern Saskatchewan, mainly following from their respective recovery plans. Mountain Plover is not listed under the United States *Endangered Species Act*, but is nevertheless a focus of habitat conservation and management efforts in that country (Shaffer *et al.* 2019), because of its long-term declines, restricted distribution, and status as an indicator species (Dinsmore *et al.* 2010).

#### **Status History:**

Designated Endangered in April 1987. Status re-examined and confirmed in November 2000, November 2009, and December 2021.

#### **Updated Map:**

Not required, as no change in distribution is known; see previous assessment (COSEWIC 2009).

## TECHNICAL SUMMARY

*Charadrius montanus*

Mountain Plover

Pluvier montagnard

Range of occurrence in Canada (province/territory/ocean): Alberta, Saskatchewan

### Demographic Information

Generation time (usually average age of parents in the population)	Approximately 4 years, based on IUCN estimate (Bird <i>et al.</i> 2020).
Is there an [observed, inferred, or projected] continuing decline in number of mature individuals?	Unknown; insufficient search effort to determine whether population size has changed, although likely too few individuals to estimate.
Estimated percent of continuing decline in total number of mature individuals within [5 years or 2 generations, whichever is longer up to a maximum of 100 years]	Unknown; insufficient search effort to determine whether population size has changed.
[Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over the last [10 years, or 3 generations, whichever is longer up to a maximum of 100 years].	Unknown; insufficient search effort to determine whether population size has changed.
[Projected or suspected] percent [reduction or increase] in total number of mature individuals over the next [10 years, or 3 generations, whichever is longer up to a maximum of 100 years].	Unknown; population size too small for meaningful or reliable predictions to be made.
[Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over any period [10 years, or 3 generations, whichever is longer up to a maximum of 100 years], including both the past and the future.	Unknown; population size too small for meaningful or reliable predictions to be made.
Are the causes of the decline clearly understood?	Yes, long-term loss of shortgrass prairie in Canada (COSEWIC 2009) and United States.
Have the causes of the decline ceased?	No, shortgrass prairie remains under threat (Wilsey <i>et al.</i> 2019)
Are the causes of the decline clearly reversible?	Yes, possible via management practices, such as conservation grazing (Shaffer <i>et al.</i> 2019), if also applied to source population in United States.
Are there extreme fluctuations in number of mature individuals?	No

### Extent and Occupancy information

Estimated extent of occurrence (EOO)	0-3030 km <sup>2</sup> ; upper limit based on minimum convex polygon around known occurrences as of COSEWIC (2009), but species has been reported only once in Canada since then, so current EOO is almost certainly much smaller.
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Index of area of occupancy (IAO), reported as 2x2 km grid value.	0-24 km <sup>2</sup> ; upper limit based on 2x2 km grid over sites with breeding records reported in COSEWIC (2009)
Is the population “severely fragmented” i.e., is >50% of its total area of occupancy in habitat patches that are (a) smaller than would be required to support a viable population, and (b) separated from other habitat patches by a distance larger than the species can be expected to disperse?	a. No b. No
Number of “locations”* (use plausible range to reflect uncertainty if appropriate)	Unknown, but almost certainly <5 given the small population size.
Is there an [observed, inferred, or projected] continuing decline in extent of occurrence?	Unknown; insufficient recent observations to revise estimate.
Is there an [observed, inferred, or projected] continuing decline in index of area of occupancy?	Unknown; insufficient recent observations to revise estimate.
Is there an [observed, inferred, or projected] continuing decline in number of subpopulations?	n/a (only one population).
Is there an [observed, inferred, or projected] continuing decline in number of “locations”**?	Unknown
Is there an [observed, inferred, or projected] continuing decline in [area, extent and/or quality of] habitat?	Yes, observed continuing declines in extent and quality of shortgrass prairie, especially via conversion of pastureland to cropland (Wilsey <i>et al.</i> 2019)
Are there extreme fluctuations in number of subpopulations?	No
Are there extreme fluctuations in number of “locations”**?	No
Are there extreme fluctuations in extent of occurrence?	No
Are there extreme fluctuations in index of area of occupancy?	No

#### Number of Mature individuals (in each subpopulation)

Subpopulations	N Mature Individuals (give plausible ranges)
Total (one subpopulation)	Range of 0-11 recorded in any one year; upper limit based on COSEWIC (2009), but likely closer to the lower limit given only one record of a mature individual in Canada since then, in 2012.

#### Quantitative Analysis

Is the probability of extinction in the wild at least [20% within 20 years or 5 generations whichever is longer up to a maximum of 100 years, or 10% within 100 years]?	Unknown; analysis not conducted.
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\* See Definitions and Abbreviations on [COSEWIC website](#) and [IUCN](#) for more information on this term.

### Threats and Limiting Factors

Was a threats calculator completed for this species?	No, threats were previously only listed in Environment Canada (2006) and COSEWIC (2009)
Key threats identified in the previous status report (COSEWIC 2009; with impact inferred here from the wording of that text) can be classified as: <ul style="list-style-type: none"> <li>IUCN 2 (Agriculture and aquaculture): habitat loss and degradation to annual &amp; perennial non-timber crops (2.1) and livestock farming and ranching (2.3) (High)</li> <li>IUCN 7 (Natural system modifications): habitat loss to fire &amp; fire suppression (7.1) and other ecosystem modifications [loss of native herbivores] (7.3) (High)</li> <li>IUCN 11 (Climate change and severe weather): mortality and habitat loss from temperature extremes (11.3) (Medium-Low)</li> <li>IUCN 9 (Pollution): mortality from agricultural effluents (9.3) (Unknown)</li> </ul>	
What additional limiting factors are relevant? Strong dependence on short vegetation and bare ground, maintained by native herbivorous mammals or farming and ranching activities that replicate their effects (COSEWIC 2009)	

### Rescue Effect (natural immigration from outside Canada)

Status of outside population(s) most likely to provide immigrants to Canada.	Rare and declining; nearest outside population (in Montana) is disjunct from main range (Wyoming and farther south), has had no detections on Breeding Bird Survey routes since 1996 (Sauer <i>et al.</i> 2017), and no breeding individuals reported to Montana Natural Heritage Program since 2015 (down from >100 per year prior to 2009; Montana Natural Heritage Program 2020), although an adult was observed with two recently fledged young at Snake Butte Prairie Dog Complex in 2021, approximately 75 km south of the Canada border (eBird 2021).
Is immigration known or possible?	Yes, Montana is likely the main source of Canada's birds (Environment Canada 2006).
Would immigrants be adapted to survive in Canada?	Yes, species is known to have bred in Canada.
Is there sufficient habitat for immigrants in Canada?	Yes.
Are conditions deteriorating in Canada?+	Yes, habitat subject to multiple threats (COSEWIC 2009).
Are conditions for the source (i.e., outside) population deteriorating?+	No, habitat conditions thought to be stable (U.S. Fish and Wildlife Service 2011).
Is the Canadian population considered to be a sink?+	Unknown.
Is rescue from outside populations likely?	No, habitat is available in Canada, but its quality is deteriorating, and the source population is small and declining (Sauer <i>et al.</i> 2017).

+ See [Table 3](#) (Guidelines for modifying status assessment based on rescue effect).

### Occurrence Data Sensitivity

Are occurrence data of this species sensitive?	No
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### Status History

COSEWIC: Designated Endangered in April 1987. Status re-examined and confirmed in November 2000, November 2009, and December 2021.

### Status and Reasons for Designation:

<b>Status:</b> Endangered	<b>Alpha-numeric codes:</b> D1
<b>Reasons for designation:</b> This shorebird of shortgrass prairies reaches the northern limits of its breeding distribution in extreme southern Alberta and Saskatchewan. It has become exceedingly rare in Canada, with no observations since 2012, although small numbers may persist in areas with little survey effort. Historically, the population is believed to have declined primarily as a result of habitat loss from agricultural intensification and fire suppression. Temperature extremes and changes to habitat related to climate change are also of concern. Immigration from outside Canada is unlikely, because the nearest potential source population in Montana is also small and declining.	

### Applicability of Criteria

<b>Criterion A (Decline in Total Number of Mature Individuals):</b> Not applicable. Insufficient data to reliably infer, project, or suspect population trends.
<b>Criterion B (Small Distribution Range and Decline or Fluctuation):</b> May meet Endangered, B1ab(iii) and B2ab(iii). Maximum EOO of 3030 km <sup>2</sup> and IAO of 24 km <sup>2</sup> are below thresholds, but while number of locations is unknown but likely fewer than five, it is unclear whether ongoing decline in habitat availability is influencing current status, given that the population is already at or near zero.
<b>Criterion C (Small and Declining Number of Mature Individuals):</b> Not applicable. Number of mature individuals (0-11) is below the threshold for Endangered. However, data are insufficient to observe, project, or infer a continuing decline in number of mature individuals.
<b>Criterion D (Very Small or Restricted Population):</b> Meets Endangered, D1. Number of mature individuals estimated to be 0-11.
<b>Criterion E (Quantitative Analysis):</b> Analysis not conducted.



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## **WRITER OF RAPID REVIEW OF CLASSIFICATION**

Andrew G. Horn



### COSEWIC HISTORY

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. Species designated at meetings of the full committee are added to the list. On June 5, 2003, the *Species at Risk Act* (SARA) was proclaimed. SARA establishes COSEWIC as an advisory body ensuring that species will continue to be assessed under a rigorous and independent scientific process.

### COSEWIC MANDATE

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the national status of wild species, subspecies, varieties, or other designatable units that are considered to be at risk in Canada. Designations are made on native species for the following taxonomic groups: mammals, birds, reptiles, amphibians, fishes, arthropods, molluscs, vascular plants, mosses, and lichens.

### COSEWIC MEMBERSHIP

COSEWIC comprises members from each provincial and territorial government wildlife agency, four federal entities (Canadian Wildlife Service, Parks Canada Agency, Department of Fisheries and Oceans, and the Federal Biodiversity Information Partnership, chaired by the Canadian Museum of Nature), three non-government science members and the co-chairs of the species specialist subcommittees and the Aboriginal Traditional Knowledge subcommittee. The Committee meets to consider status reports on candidate species.

### DEFINITIONS (2021)

Wildlife Species	A species, subspecies, variety, or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and is either native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.
Extinct (X)	A wildlife species that no longer exists.
Extirpated (XT)	A wildlife species no longer existing in the wild in Canada, but occurring elsewhere.
Endangered (E)	A wildlife species facing imminent extirpation or extinction.
Threatened (T)	A wildlife species likely to become endangered if limiting factors are not reversed.
Special Concern (SC)*	A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.
Not at Risk (NAR)**	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient (DD)***	A category that applies when the available information is insufficient (a) to resolve a species' eligibility for assessment or (b) to permit an assessment of the species' risk of extinction.

\* Formerly described as "Vulnerable" from 1990 to 1999, or "Rare" prior to 1990.  
 \*\* Formerly described as "Not In Any Category", or "No Designation Required."  
 \*\*\* Formerly described as "Indeterminate" from 1994 to 1999 or "ISIBD" (insufficient scientific information on which to base a designation) prior to 1994. Definition of the (DD) category revised in 2006.

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