



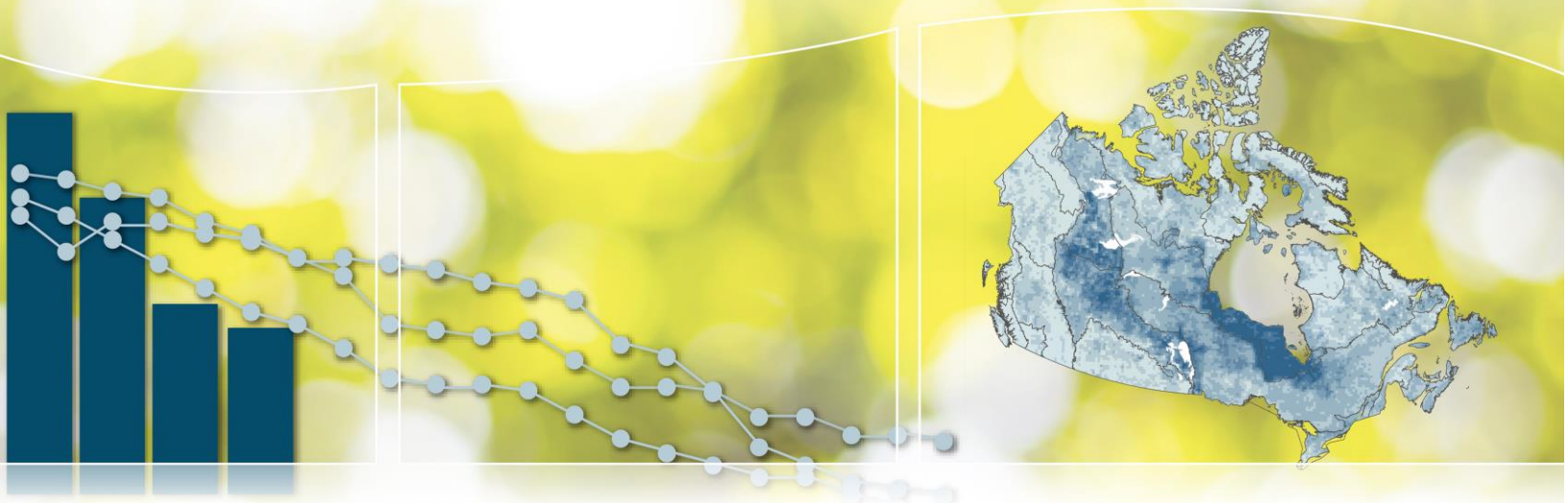
Environment and
Climate Change Canada

Environnement et
Changement climatique Canada



Canadian Environmental Sustainability Indicators

Changes in the status of wildlife species at risk



Suggested citation for this document: Environment and Climate Change Canada (2019) Canadian Environmental Sustainability Indicators: Changes in the status of wildlife species at risk. Consulted on *Month day, year*.

Available at: www.canada.ca/en/environment-climate-change/services/environmental-indicators/changes-status-wildlife-species-risk.html

Cat. No.: En4-144/83-2019E-PDF
ISBN: 978-0-660-28878-9

Unless otherwise specified, you may not reproduce materials in this publication, in whole or in part, for the purposes of commercial redistribution without prior written permission from Environment and Climate Change Canada's copyright administrator. To obtain permission to reproduce Government of Canada materials for commercial purposes, apply for Crown Copyright Clearance by contacting:

Environment and Climate Change Canada
Public Inquiries Centre
12th floor, Fontaine Building
200 Sacré-Coeur boul.
Gatineau, QC K1A 0H3
Telephone: 1-800-668-6767 (in Canada only) or 819-938-3860
Fax: 819-938-3318
Email: ec.enviroinfo.ec@canada.ca

Photos: © Thinkstockphotos.ca; © Environment and Climate Change Canada

© Her Majesty the Queen in Right of Canada, represented by the Minister of Environment and Climate Change, 2019

Aussi disponible en français

Canadian Environmental Sustainability Indicators

Changes in the status of wildlife species at risk

February 2019

Table of Contents

Changes in the status of wildlife species at risk.....	5
Key results	5
About the indicator	6
What the indicator measures	6
Why this indicator is important	6
Related indicators.....	7
Data sources and methods	7
Data sources	7
Methods	8
Recent changes	9
Caveats and limitations.....	9
Resources	10
References.....	10
Annex	11
Annex A. Data tables for the figures presented in this document	11

List of Figures

Figure 1. Changes in risk of disappearance of wildlife species from Canada, April 2018.....	5
---	---

List of Tables

Table 1. Number of species by status category, Canada, April 2018	7
Table 2. Relationship between change status and indicator category	9
Table A.1. Data for Figure 1. Changes in risk of disappearance of wildlife species from Canada, April 2018.....	11
Table A.2. Supplementary data for Figure 1. Recent changes in the status of wildlife species at risk ^[A]	12

Changes in the status of wildlife species at risk

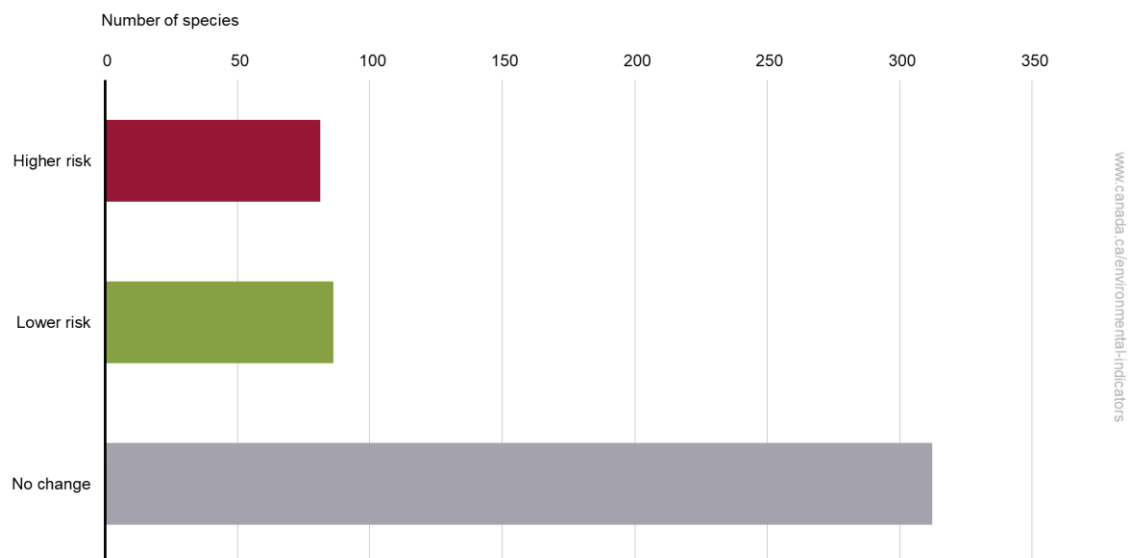
Wildlife species are essential to the integrity of ecosystems. However, some wildlife species are at risk of disappearing from Canada. Wildlife species that are thought to be at risk are periodically assessed. Changes in status over time may help determine whether conditions for these wildlife species are improving.

Key results

Of the 479 wildlife species that have been reassessed and for which sufficient data are available to determine if there has been a change in status:

- 81 wildlife species (17%) are now in a higher risk category
- 86 wildlife species (18%) are now in a lower risk category
- 312 wildlife species (65%) show no change in status

Figure 1. Changes in risk of disappearance of wildlife species from Canada, April 2018



[Data for Figure 1](#)

Note: In this analysis, wildlife species refers to a species, subspecies or a genetically or geographically distinct population. Wildlife species disappearance may refer to extinction or extirpation (an extirpated species no longer occurs in the wild in Canada).

Source: Committee on the Status of Endangered Wildlife in Canada, April 2018.

To prevent the disappearance of wildlife species at risk from Canada, monitoring and sometimes conservation actions are required. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses wildlife species that may be at risk and places them in a risk category. If conservation actions are effective, the risk level will decrease over time. Nonetheless, depending on the life cycle of the species and the condition of its habitat, recovery may take many decades. In addition, some wildlife species are naturally rare in Canada, and these species are expected to remain at some level of risk.

Changes in risk level can be a result of improved information rather than actual changes in the condition of the wildlife species. This is more likely to occur for wildlife species that have improved in status than for wildlife species that have declined.¹

Most wildlife species remain in the same category when they are reassessed. The changes that are observed most often occur between neighbouring categories.

There was very little change in categories when looking at endangered status (a wildlife species facing imminent extirpation or extinction). Of the 15 wildlife species in the endangered status category in the previous assessment that were recently reassessed (November 2017 and April 2018):

- the majority (12 wildlife species or 80%) remained in the endangered status category
- 3 wildlife species changed to a lower risk category and were no longer categorized as endangered

In addition, 4 wildlife species that were from a lower risk category in the previous assessment were designated endangered in their most recent assessment.

About the indicator

What the indicator measures

The Changes in the status of wildlife species at risk indicator reports on changes in wildlife species designations for wildlife species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The committee is composed of independent experts who determine the national status of Canadian wildlife species, subspecies, varieties or other designatable units that are suspected of being at risk of extinction or extirpation.

Why this indicator is important

Recognition that a wildlife species is at risk of extinction or extirpation can focus management action. Successful management should reduce the risk of species loss. The conservation of wildlife species at risk is a key component of the [Canadian Biodiversity Strategy](#), which aims to conserve biological diversity in Canada.² The conservation of such wildlife species is also the goal of the [Species at Risk Act](#), which provides legal protection to prevent the extinction of wildlife species and secure the necessary actions for their recovery.

Ecosystems are composed of a variety of animals, plants and other organisms, each of which performs a specialized role. This diversity of life supports vital ecological processes and provides a wide range of resources known as [ecological goods and services](#), such as oxygen production and water purification. The loss of species has detrimental impacts on ecosystems and the goods and services they provide.

This indicator is used to assess progress towards the [2016–2019 Federal Sustainable Development Strategy](#)'s target "By 2020, species that are secure remain secure, and populations of species at risk listed under federal law exhibit trends that are consistent with recovery strategies and management plans." It also contributes towards reporting on Target 2 of the [2020 Biodiversity target for Canada](#): "By 2020, species that are secure remain secure, and populations of species at risk listed under federal law exhibit trends that are consistent with recovery strategies and management plans."

¹ Moore A, Cyr A, Findlay S (2016) Do changes in COSEWIC status reflect changes in species' biological status. Report to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 10pp.

² Government of Canada (2014) [Protection of species at risk: federal, provincial and territorial accord](#). Retrieved on September 12, 2018.

Related indicators

The [Species at risk population trends](#) indicator tracks trends for wildlife species at risk that are listed under the Species at Risk Act. Not all species designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) are listed under the Species at Risk Act.

The [Status of wild species](#) indicator reports on extinction risks across a broad set of species. The ranking system used in that indicator is not the same as the one used here.



Healthy wildlife populations

This indicator supports the measurement of progress towards the following [2016–2019 Federal Sustainable Development Strategy](#) long-term goal: All species have healthy and viable populations.

Data sources and methods

Data sources

Data are from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) database on wildlife species at risk. Individual wildlife species status reports are available in the [Species at Risk Public Registry](#).

More information

The committee meets twice a year to consider wildlife species reports, assess wildlife species' risk of extinction or extirpation, and designate a status category. The COSEWIC Secretariat maintains a database of the assessment results, which were summarized for this indicator. Documents related to wildlife species of interest can be found on the Species at Risk Public Registry. In general, wildlife species are reassessed every 10 years. The date of reassessment therefore varies widely within the dataset.

Wildlife species are assigned to one of 7 [status categories](#): Extinct, Extirpated, Endangered, Threatened, Special Concern, Not at Risk or Data Deficient. As of April 2018, a total of 1045 wildlife species had been assigned a status.

Table 1. Number of species by status category, Canada, April 2018

Status	Number of species
Extinct	18
Extirpated	22
Endangered	338
Threatened	183
Special Concern	228
Not at Risk	197
Data Deficient	59
Total	1 045

Wildlife species are also assigned a [status change](#) based on their previous status. The Changes in the status of wildlife species at risk indicator uses the set of wildlife species that have been reassessed by COSEWIC and have not been designated as Data Deficient in either of the last 2 assessments (479 species).

Methods

The indicator is a tabulation of status changes between the 2 most recent assessments for each species.

More information

Wildlife species assessment

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is a committee of independent experts that [assesses](#) wildlife species that may be at risk of disappearing from Canada.

The assessment process is divided into 3 sequential steps:

1. selection of wildlife species requiring assessment to create the prioritized [Candidate Wildlife Species List](#)
2. compilation of available data, knowledge and information to produce status reports
3. assessment of a wildlife species' risk of extinction or extirpation and corresponding designation (status category)

In general, wildlife species are reassessed every 10 years. If information received suggests that a species should be reassessed sooner, COSEWIC may do so.

Indicator calculation

In its assessments, COSEWIC notes a [status change](#). Wildlife species that have been assessed only once are given the change status of New. For reassessed wildlife species, there are 6 possible change status categories: No change, In a higher risk category, In a lower risk category, No longer at risk, Changed, and Reassigned. The change status for reassessed species is based on the 2 most recent assessments.

The indicator includes wildlife species that have been reassessed and for which it is possible to assess the change in risk. Therefore, of the 1045 wildlife species with an assigned status, the indicator excludes 566 species:

- wildlife species that have been assessed only once and have a change status designation of New (455 species)
- wildlife species that are Data Deficient in either assessment and have a change status designation of Changed (21 species)
- wildlife species with a status change designation of Reassigned (86 species), which is used in cases where the unit being assessed has changed based on new information, for example a species that is split into subspecies or geographical units
- wildlife species that are Data Deficient in both recent assessments, which are assigned a change status designation of No change by COSEWIC (4 species)

Table 2. Relationship between change status and indicator category

Committee on the Status of Endangered Wildlife in Canada change status	Definition	Changes in wildlife species' disappearance risk category
New	Wildlife species examined for the first time	Excluded from the indicator
Changed	Wildlife species moved to the Data Deficient category from a risk category or to a risk category from the Data Deficient category	Excluded from the indicator
No change	Wildlife species stays in the same category after reassessment	No change ^[A]
In a higher risk category	Wildlife species placed in a higher risk category after reassessment	Higher risk
In a lower risk category	Wildlife species placed in a lower risk category after reassessment	Lower risk
No longer at risk	Wildlife species moved to the Not at Risk category from a risk category	Lower risk
Reassigned	Wildlife species that has been assigned to a different designatable unit	Excluded from the indicator

Note: ^[A] Wildlife species that are Data Deficient on both dates when an assessment was made are excluded from the indicator.

Recent changes

A previous breakdown of movements from one category to another has not been included. Such a detailed view highlights changes that could be due to improved information rather than actual changes in the condition of the wildlife species.

Caveats and limitations

Wildlife species may take a long time to recover, and some wildlife species are naturally rare in Canada. A change in status may occur only after significant biological change has been detected. For these reasons, relatively few wildlife species should be expected to show changes in risk level when reassessed. Nonetheless, if management efforts are successful, we should expect to see more improvements than declines over time.

More information

Changes in risk level can be a result of improved information rather than actual changes in the condition of the wildlife species. Many wildlife species that show decreased risk are reclassified due to new information, rather than biological change. Changes in knowledge often involve the detection of additional populations, with the result that wildlife species are less at risk of extinction than previously believed. Changes due to new knowledge can happen quickly, while biological increases need time.

Some wildlife species may change risk level due to changes in the interpretation of the assessment criteria.

Wildlife species that are naturally rare may be considered to be at risk because they are more vulnerable to threats. The lack of change for these wildlife species should not be considered a conservation failure.

Knowledge of which wildlife species may be at risk is far from complete, and only a portion of those suspected to be at risk can be assessed. The Committee on the Status of Endangered Wildlife in Canada prioritizes assessments based on expert opinion. Early efforts focused mainly on vertebrates and plants, which are also the better-known wildlife species. As a result, these wildlife species are over-represented among those that have been reassessed. Similarly, more knowledge has been gathered on wildlife species in southern Canada and in terrestrial habitats.

Wildlife species that are at risk can take a long time to recover, especially if they are long-lived and slow to reproduce. Also, in some cases, recovery depends on improvements to habitat which may take many decades.

Resources

References

Government of Canada (2018) [Committee on the Status of Endangered Wildlife in Canada](#). Retrieved on September 12, 2018.

Government of Canada (2018) [Species at Risk Public Registry](#). Retrieved on September 12, 2018.

International Union for Conservation of Nature (2018) [The IUCN Red List of Threatened Species](#). Retrieved on September 12, 2018.

Moore A, Cyr A, Findlay S (2016) Do changes in COSEWIC status reflect changes in species' biological status. Report to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 10pp.

National General Status Working Group (2015) [Wild Species Reports](#). Retrieved on September 12, 2018.

Annex

Annex A. Data tables for the figures presented in this document

Table A.1. Data for Figure 1. Changes in risk of disappearance of wildlife species from Canada, April 2018

Wildlife species group	Higher risk (number of species)	No change (number of species)	Lower risk (number of species)
Amphibians	3	13	1
Arthropods	4	18	2
Birds	13	53	14
Fishes (freshwater)	11	45	10
Fishes (marine)	5	9	6
Lichens	1	6	2
Mammals (marine)	5	21	3
Mammals (terrestrial)	4	26	7
Molluscs	2	17	6
Mosses	0	11	3
Reptiles	7	23	4
Vascular plants	26	70	28
Total	81	312	86

Note: In this analysis, wildlife species refers to a species, subspecies or a genetically or geographically distinct population. Wildlife species disappearance may refer to extinction or extirpation (an extirpated species no longer occurs in the wild in Canada).

Source: Committee on the Status of Endangered Wildlife in Canada, April 2018.

Table A.2. Supplementary data for Figure 1. Recent changes in the status of wildlife species at risk^[A]

	Extinct, latest assessment (number of species)	Extirpated, latest assessment (number of species)	Endangered, latest assessment (number of species)	Threatened, latest assessment (number of species)	Special concern, latest assessment (number of species)	Not at risk, latest assessment (number of species)	Total, previous assessment (number of species)
Extinct, previous assessment	12	0	0	0	0	0	12
Extirpated, previous assessment	0	18	0	0	0	0	18
Endangered, previous assessment	0	0	181	2	1	0	184
Threatened, previous assessment	0	0	3	99	2	0	104
Special concern, previous assessment	0	0	1	0	120	1	122
Not at risk, previous assessment	0	0	0	0	0	39	39
Total, latest assessment	12	18	185	101	123	40	479

Note: ^[A] This detailed view highlights changes that could be due to improved information rather than actual changes in the condition of the wildlife species. The assessments are from various years up to April 2018.

Source: Committee on the Status of Endangered Wildlife in Canada, April 2018.

Additional information can be obtained at:

Environment and Climate Change Canada

Public Inquiries Centre

12th Floor, Fontaine Building

200 Sacré-Coeur boul.

Gatineau, QC K1A 0H3

Telephone: 1-800-668-6767 (in Canada only) or 819-938-3860

Fax: 819-938-3318

Email: ec.enviroinfo.ec@canada.ca