



INDICATOR: Changes in status of Species at Risk

Strategic Direction: Enhanced Resilience

Target: 11. By 2030, the conservation

Theme: State of Ecosystems and Species

Previous versions:

- [Changes in status of Species at Risk - 2015](#)
- [Changes in status of Species at Risk - 2021](#)

Background Information

Protecting and promoting recovery of species at risk from extinction is a critical component of biodiversity conservation (Favaro et al. 2014). Species in Ontario are threatened for a variety of reasons, including habitat loss, disease, habitat fragmentation, invasive species, climate change, anthropogenic factors, etc. The Endangered Species Act, 2007 (ESA) legally recognizes the Committee on the Status of Species at Risk in Ontario (COSSARO) as the group responsible for classifying species at risk in Ontario. Before the ESA came into force, COSSARO existed as a committee that made policy recommendations to the Ministry of Natural Resources. However, the law gave the group legal recognition and specific responsibilities including maintaining criteria for assessing and classifying species; maintaining and prioritizing a list of species that should be assessed and classified (or reclassified) in the future; assessing, reviewing, and classifying species; and submitting reports regarding classification of species, and providing advice to the Minister of the Environment, Conservation and Parks.

COSSARO uses the best available scientific information, including community knowledge and Aboriginal Traditional Knowledge, to determine whether a plant or animal should be listed as at risk. The committee classifies at-risk species into one of four categories, based on the degree of risk it faces. Species may also be categorized as extinct, data deficient or not at risk (Table 1).

Table 1. Categories of Species at Risk in Ontario.

Status	Definition
Extirpated	Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario
Endangered	Lives in the wild in Ontario but is facing imminent extinction or extirpation.
Threatened	Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.
Special Concern	Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.



Species added to the Species at Risk in Ontario List as endangered, threatened or extirpated are automatically protected from being killed, harassed, captured, or harmed. Recovery strategies, for endangered or threatened species, and management plans, for species of special concern, are also prepared. Recovery strategies provide science-based protection and recovery recommendations, while management plans provide information regarding the biology of the species and advice on the approaches for reducing threats. Following the completion of a recovery strategy or management plan, a government response statement is prepared. This statement outlines the government’s goal for the recovery of the species and summarizes the prioritized actions the government intends to take or support for the protection, recovery and management of the species.

In 2019, amendments were made to the ESA including:

- allowing for the Minister to temporarily suspend species and habitat protections for up to three years for some newly listed species when certain criteria are met,
- establishing the Species at Risk Conservation Fund to allow for proponents to pay species conservation charges in lieu of fulfilling on-the-ground permit or registration conditions for certain species,
- changes to how species are classified as at-risk and how recovery policies are developed.

An amendment to the criteria classification was also made in 2019 where COSSARO is responsible to consider the condition of the species across the broader biologically relevant geographic range. If the species is at a lower risk outside of Ontario, COSSARO classifies it as such.

In 2021, regulations were also established and amended that enabled use of the Species at Risk Conservation Fund, established the Species Conservation Action Agency, and expanded conditional exemptions to enable more proponents to register their activities requiring standard approaches rather than seek permits or agreements from the ministry.

This indicator examines trends in the status of species repeatedly assessed by COSSARO to see if their status has improved.

Data Analysis

To assess trends in the status of species at risk in Ontario, changes in species status following reassessment by the Committee on Species at Risk in Ontario (COSSARO) were examined. Species are assessed approximately every 10 years, or more often if warranted.

Between 1996 and 2022, 356 species were assessed by COSSARO. Species that were assessed more than once between 1996 (the year criteria were established for assessing species) and 2022 were included in the analysis. Only species with an initial and most recent assessment classification other than ‘data deficient’ were included (n= 182). COSSARO criteria were used for all species reassessments considered in this analysis; however, there have been minor changes to the criteria throughout the years that may affect some reassessments. Criteria considered when making a classification assessment include population size, distribution range, habitat quality, threats, etc. In some cases, better information about the species will be a reason it has changed classes. The numbers of species that were moved into lower risk categories, higher risk



categories or experienced no change in status are presented.

Data for this indicator were collected from COSSARO Annual Reports (2008 – 2022), COSSARO reports to, and data is maintained by the Ontario Ministry of the Environment, Conservation and Parks (1996-2022). COSSARO annual reports are available on the Ontario Government website (How species at risk are listed | Ontario.ca).

It is important to note that the goals set out in Ontario government response statements (GRS) for species at risk are focused on achieving or maintaining the best possible state (e.g. distribution, abundance, etc.) that is feasible for species’ recovery after considering biological, social, cultural and economic factors, rather than changes in at-risk status. This differs from the Ontario Biodiversity Strategy target to improve the status of species of conservation concern.

This indicator reports on progress towards meeting the Ontario Biodiversity Strategy target.

Results

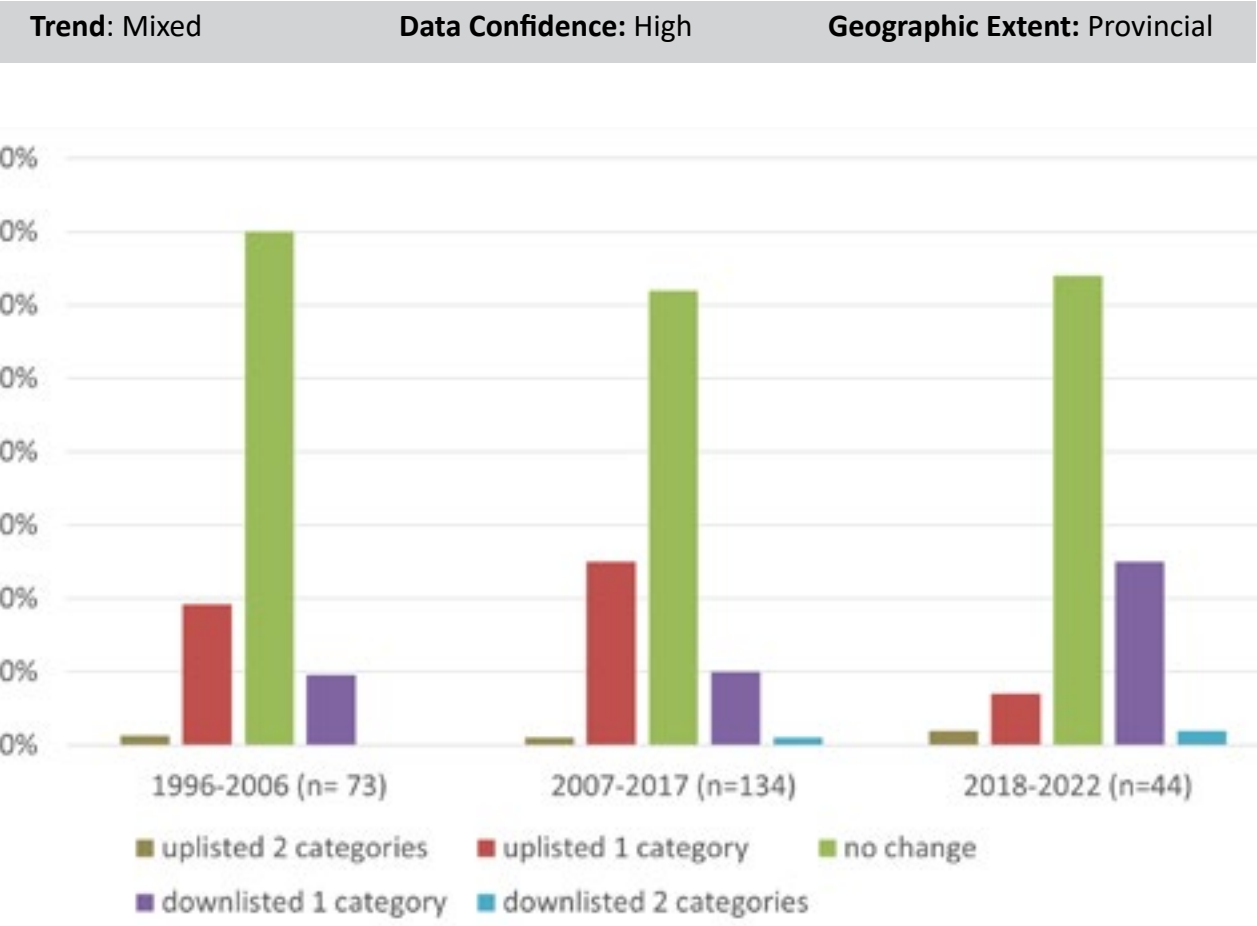


Figure 1. Changes in species status following re-assessment by the Committee on the Status of Species at Risk in Ontario 1996-2022 (n = 182). Note: uplist means species has moved to a higher risk (more at risk than previous assessment), while downlisted means the species is moved to a lower risk category¹.

¹ 2018-2022 is 5 years because of data availability at the time of the report.



Status

- As of January 2024, there were 268 species on the Species at Risk in Ontario List. This represents an increase of 25 species since the State of Ontario’s Biodiversity 2021 report.
- Between 1996 and 2022, 182 species were assessed more than once by the Committee on the Status of Species at Risk in Ontario (COSSARO).
- Since 1996, looking per decade¹, the majority of species reassessed showed no change in status 70% from 1996-2006, 62% from 2007-2017, and 64% from 2017-2022.
- The species uplisted went from 20% from 1996-2006, 26% from 2007-2017, and 9% from 2018-2022, while downlisted species were 10% in 1996-2006, 11% in 2007-2017, and 27% in 2018-2022. Reasons for species being uplisted or downlisted can be due to response and recovery efforts, increases in population sizes, distribution range, and habitat quality. As well, criteria regarding broader biological relevant geographic range, or improved knowledge may also affect the change in classification listing.
- Of the species re-assessed and downlisted between 2018-2022, half (n= 6) were due to the broader biological relevant geographic range, 3 were due to genuine changes (e.g stable populations, reintroduction, and 3 were due to non-genuine changes (e.g. improved data, additional fieldwork).
- As of January 2023, 11 species have been removed from the Species at Risk in Ontario List and deemed no longer at risk, since 2004 – Great Grey Owl (2004), Hooded Warbler (population recovery 2011), Red-Shouldered Hawk (2005), Bigmouth Buffalo (few threats and range increases, 2009), Greenside Darter (2005), Southern Flying Squirrel (2005), Flooded Jellyskin (new information 2014) , Eastern Milksnake (no clear evidence of decline other than in extreme southwestern part of the province and threats are less severe in parts of range near the Canadian shield, 2015), Beluga whale — James Bay population (population stable and increasing, 2022), Beluga whale — Western Hudson Bay population (population stable and increasing, 2022) and Bald Eagle (population increase, 2022) (COSSARO annual reports, 2008 - 2024).

Links

Related Targets: N/A

Related Themes: N/A

Web Links

Ontario Ministry of Natural Resources - Species at Risk <https://www.ontario.ca/page/species-risk-ontario>

Canadian Environmental Sustainability Indicator – Species at Risk Population Trends

<https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/species-risk-population-trends.html>

Committee on the Status of Species at Risk in Ontario Annual reports – 2008-2024 https://cossaroagency.ca/wp-content/uploads/2024/04/COSSARO_2023_Report_EN.pdf

Ministry of the Environment, Conservation and Parks Species at risk Ontario - <https://www.ontario.ca/page/species-risk>

Ministry of the Envionment, Conservation and Parks - Review of progress towards the protection and recovery of Ontario’s species at risk. <https://www.ontario.ca/page/review-progress-towards-protection-and-recovery-ontarios-species-risk>

References:

Favaro, B., D.C. Claar, C.H. Fox, C. Freshwater, J.J. Holden, A. Roberts, and UVic Research Derby. 2014. Trends in extinction risk for imperiled species in Canada. PLOS One. 9: e113118.

Citation

Ontario Biodiversity Council. 2025. State of Ontario’s Biodiversity [web application]. Ontario Biodiversity Council, Peterborough, Ontario. [Available at: <http://ontariobiodiversitycouncil.ca/sobr> (Updated: May 9, 2025)].

¹ 2018-2022 is 5 years because of data availability at the time of the report.