

Appendix A. Rank definitions for species at risk

i) NatureServe Status Definitions (global, national and subnational) (from NatureServe 2004)

NatureServe	NatureServe is a non-profit conservation organization that provides the scientific information and tools needed to help guide effective conservation action. NatureServe and its network of natural heritage programs are the leading source for information about rare and endangered species and threatened ecosystems. NatureServe represents an international network of biological inventories-known as natural heritage programs or conservation data centers-operating in all 50 U.S. states, Canada, Latin America and the Caribbean.
Heritage Status Ranks	The conservation status rank, developed by NatureServe and the Natural Heritage Network, of a species or community from a global (i.e., rangewide), national or subnational (provincial) perspective, characterizing the relative rarity or imperilment of the element. Grank = global; Nrank = national; Srank = subnational (provincial) [note: T used for subspecies]
G/N/SX: Presumed Extirpated	Element is believed to be extirpated from the region. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
G/N/SU: Unrankable	Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
G/N/SH: Possibly Extirpated (Historical)	Element occurred historically in the region, and there is some expectation that it may be rediscovered. Its presence may not have been verified in the past 20 years. An element would become SH without such a 20-year delay if the only known occurrences in a state were destroyed or if it had been extensively and unsuccessfully looked for. Upon verification of an extant occurrence, G/N/SH-ranked elements would typically receive an G/N/S1 rank. The G/N/SH rank should be reserved for elements for which some effort has been made to relocate occurrences, rather than simply using this rank for all elements not known from verified extant occurrences.
G/N/S1: Critically Imperilled	Critically imperilled because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. Typically 5 or fewer occurrences or very few remaining individuals (<1,000) or acres (<2,000) or linear miles (<10).
G/N/S2: Imperilled	Imperilled because of rarity or because of some factor(s) making it very vulnerable to extinction or elimination. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000) or linear miles (10 to 50).
G/N/S3: Rare to Uncommon	Vulnerable either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extinction or elimination. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.
G/N/S4: Apparently Secure	Uncommon but not rare (although it may be rare in parts of its range, particularly on the periphery), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern. Typically more than 100 occurrences and more than 10,000 individuals.
G/N/S5: Secure	Common, widespread, and abundant (although it may be rare in parts of its range, particularly on the periphery). Not vulnerable in most of its range. Typically with considerably more than 100 occurrences and more than 10,000 individuals.

ii) COSEWIC Status Definitions (national) (from Environment Canada 2004)

COSEWIC	COSEWIC (Committee on the Status of Endangered Wildlife in Canada) is a committee of experts that assesses and designates which wild species are in some danger of disappearing from Canada.
Species	Any indigenous species, subspecies, variety, or geographically or genetically

	distinct population of wild fauna and flora.
Extinct	A species that no longer exists.
Extirpated	A species that no longer exists in the wild in Canada, but occurring elsewhere.
Endangered	A species facing imminent extirpation or extinction.
Threatened	A species that is likely to become endangered if limiting factors are not reversed.
Special Concern	A species of special concern because of characteristics that make it is particularly sensitive to human activities or natural events.
Not at Risk	A species that has been evaluated and found to be not at risk.
Data Deficient	A species for which there is insufficient scientific information to support status designation.

iii) General Status Definitions (national and provincial) (from CESSC 2001)

General Status – Wild Species project	A partnership between Federal, Provincial and Territorial agencies to develop general conservation status ranks for a large number of species found in Canada. This project reflects a commitment made under the Accord for the Protection of Species at Risk (1996) by provincial, territorial and federal ministers responsible for wildlife, to prevent species in Canada from becoming extinct or extirpated because of human impact. As part of this goal, the Accord commits the parties to "monitor, assess and report regularly on the status of all wild species" with the objective of identifying those species that are of management concern or may be in the future, and those species for which not enough data exists to evaluate their status.
0: Extirpated/Extinct	A species is no longer thought to be present in the region (Canada, province or territory) or that are believed to be extinct. Extirpated species have been eliminated from a given geographic area but may occur in other areas. Extinct species are extirpated worldwide (i.e., they no longer exist anywhere). Species listed by COSEWIC as extinct or nationally extirpated automatically receive an Extirpated/Extinct general status rank. This rank applies at the national level and in whichever province or territory the species formerly existed.
1: At Risk	A species for which a formal detailed risk assessment (COSEWIC assessment or provincial or territorial equivalent) has been completed and that have been determined to be at risk of extirpation or extinction (i.e., endangered or threatened). A COSEWIC designation of Endangered or Threatened automatically results in a general status rank of At Risk nationally. Where a provincial or territorial formal risk assessment finds a species to be "endangered" or "threatened" in that particular region, then, under the general status system, the species automatically receives a provincial or territorial general status rank of At Risk. In this case, if the species is restricted to that province or territory, it would also automatically receive a national general status rank of At Risk. Note that this rank does not necessarily reflect the global status of the species.
2: May be at Risk	A species may be at risk of extirpation or extinction and are therefore candidates for a detailed risk assessment by COSEWIC or provincial or territorial equivalents. Note that this rank does not necessarily reflect the global status of the species.
3: Sensitive	A species is not believed to be at risk of immediate extirpation or extinction but may require special attention or protection to prevent them from becoming at risk. Note that this rank does not necessarily reflect the global status of the species.
4: Secure	A species that is not believed to belong in the categories At Risk, May Be At Risk, or Sensitive. This category includes some species that show a trend of decline in numbers in Canada but remain relatively widespread or abundant. Note that this rank does not necessarily reflect the global status of the species.
5: Undetermined	A species for which insufficient data, information, or knowledge is available with which to reliably evaluate its status.
6: Not Assessed	A species is known or believed to be present regularly in the region (Canada, province or territory) to which the rank applies but has not yet been assessed.

7: Exotic	A species that has moved beyond their natural range as a result of human activity.
8: Accidental	A species occurring infrequently and unpredictably, outside their usual range.

iv) Provincial (OMNR – Committee on the Status of Species-at-Risk in Ontario (COSSARO)) Status Definitions (from NHIC 2004)

COSSARO	In Ontario, The Committee on the Status of Species-at-Risk in Ontario (COSSARO) is the Ministry of Natural Resources (MNR) committee that evaluates the conservation status of species occurring in Ontario, and leads or cooperates in recovery work for species-at-risk in Ontario.
Species-at-Risk	Species at risk include endangered species (many of which are protected by law), as well as threatened and vulnerable species. Some species have already been extirpated from Ontario and others are now extinct. Other species-at-risk are of conservation concern because of their rarity in Ontario, but their formal conservation status has yet to be evaluated.
Endangered	Any native species that, on the basis of the best available scientific evidence, is at risk of extinction or extirpation throughout all or a significant portion of its (Ontario) range.
Threatened	Any native species that, on the basis of the best available scientific evidence, is at risk of becoming endangered throughout all or a significant portion of its (Ontario) range.
Vulnerable	Any native species that, on the basis of the best available scientific evidence, is a species of special concern (in Ontario), but is not a threatened or endangered species. COSEWIC has replaced the category of “Vulnerable” with “Special Concern”.
Extirpated	Any native species no longer existing in the wild in its natural habitat/region, but existing elsewhere in the wild.
Extinct	Any species that no longer exists anywhere.
Natural Heritage Information Centre	Ontario’s Natural Heritage Information Centre (NHIC) maintains a standard ranking system for all Ontario vertebrates and vascular plants, and for certain invertebrates (e.g., butter-flies) and non-vascular plants (e.g., mosses). This system includes a ranking of global and provincial rarity that is very useful for setting conservation priorities.