

The following descriptions about ranking species and plant communities have been provided verbatim for informational purposes from the following location:

NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.3 NatureServe, Arlington, Virginia. Available at <http://www.natureserve.org/explorer> . Accessed: February 21, 2008).

Interpreting NatureServe Conservation Status Ranks

The conservation status of a species or community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = Global), N = National, and S = Subnational). The numbers have the following meaning:

- 1 = critically imperiled.
- 2 = imperiled.
- 3 = vulnerable to extirpation or extinction.
- 4 = apparently secure.
- 5 = demonstrably widespread, abundant, and secure.

For example, G1 would indicate that a species is critically imperiled across its entire range (i.e., globally). In this sense the species as a whole is regarded as being at very high risk of extinction. A rank of S3 would indicate the species is vulnerable and at moderate risk within a particular state or province, even though it may be more secure elsewhere.

Extinct or missing species and ecological communities are designated with either an "X" (presumed extinct or extirpated) if there is no expectation that they still survive, or an "H" (possibly extinct or extirpated) if they are known only from historical records but there is a chance they may still exist. Other variants and qualifiers are used to add information or indicate any range of uncertainty. See the following conservation status rank definitions for complete descriptions of ranks and qualifiers.

- [Global Conservation Status Definitions](#)
- [National and Subnational Conservation Status Definitions](#)

Global, National, and Subnational Assessments

The overall status of a species or ecological community is regarded as its "global" status; this range-wide assessment of condition is referred to as its global conservation status rank (G-rank). Because the G-rank refers to the species or community as a whole, each species or community can

have just a single global conservation status rank. The condition of a species or community can vary from one country to another, and national conservation status ranks (N-rank) document its condition in a particular country. A species or community can have as many N-ranks as countries in which it occurs. Similarly, status can vary by state or province, and thus subnational conservation status ranks (S-rank) document the condition of the species or community within a particular state or province. Again, there may be as many subnational conservation status ranks as the number of states or provinces in which the species or community occurs.

National and subnational status ranks must always be equal to or lower than the global rank for a particular species or community (in this sense a "lower" number indicates greater risk). On the other hand, it is possible for a species or community to be more imperiled in a given nation or state/province than it is range-wide. As an example, a species may be common and secure globally (G5), vulnerable in the United States as a whole (N3), yet critically imperiled in Florida (S1). In the United States and Canada, the combination of global and subnational ranks (e.g., G3S1) are widely used to place local priorities within a broader conservation context.

Global conservation status assessments generally are carried out by NatureServe scientists with input from relevant natural heritage member programs and experts on particular taxonomic groups. NatureServe scientists similarly take the lead on national-level status assessments in the United States and Canada, while state and provincial member programs assess the subnational conservation status for species found in their respective jurisdictions.

Status assessments ideally should reflect current conditions and understanding, and NatureServe and its member programs strive to update these assessments with new information from field surveys, monitoring activities, consultation, and scientific publications. NatureServe Explorer users with significant new or additional information are encouraged to contact NatureServe or the relevant natural heritage program.

To ensure that NatureServe's central databases represent the most current knowledge from across our network of member programs, data exchanges are carried out with each natural heritage program at least once a year. The subnational conservation status ranks (S-ranks) presented in NatureServe Explorer are therefore only as current as the last data exchange with each local natural heritage program, coupled with the latest web site update (shown in the "small print" at the bottom of each NatureServe Explorer report). Although most subnational conservation status ranks do not change frequently, the most current S-ranks can be obtained directly from the relevant local natural heritage program (contact information available at <http://www.natureserve.org/visitLocal/index.jsp>).

Status Assessment Criteria

Use of standard criteria and rank definitions makes NatureServe conservation status ranks comparable across organism types and political boundaries. Thus, G1 has the same basic meaning whether applied to a salamander, a moss species, or a forest community. Similarly, an S1 has the same meaning whether applied to a species or community in Manitoba, Minnesota, or Mississippi. This standardization in turn allows NatureServe scientists to use the subnational ranks assigned by local natural heritage programs to help determine and refine global conservation status ranks.

Status assessments are based on a combination of quantitative and qualitative information. Criteria for assigning ranks serve as guidelines, however, rather than arithmetic rules. The assessor's overall knowledge of the species or community allows them to weigh each factor in relation to the others, and to consider all pertinent information. The general factors considered in assessing species and ecological communities are similar, but the relative weight given to each factor differs.

For species, the following factors are considered in assessing conservation status:

- total number and condition of occurrences (e.g., populations);
- population size;
- range extent and area of occupancy;
- short- and long-term trends in the above factors;
- scope, severity, and immediacy of threats;
- number of protected and managed occurrences;
- intrinsic vulnerability; and
- environmental specificity.

For ecological communities, the association level generally is the classification unit assessed and ranked (see [Classification of Ecological Communities](#) for an explanation of the classification hierarchy). Only global conservation status ranks are currently available for ecological communities on *NatureServe Explorer*. The primary factors for assessing community status are:

Species known in an area only from historical records are ranked as either H (possibly extirpated/possibly extinct) or X (presumed extirpated/presumed extinct). Other codes, rank variants, and qualifiers are also allowed in order to add information about the element or indicate uncertainty. See the lists of conservation status rank definitions for complete descriptions of ranks and qualifiers.

- total number of occurrences (e.g., forest stands); and
- total acreage occupied by the community.

Secondary factors include the geographic range over which the community occurs, threats, and integrity of the occurrences. Because detailed information on these factors may not be available, especially for poorly understood or inventoried communities, preliminary assessments are often based on the following:

- geographic range over which the community occurs;
- long-term trends across this range;
- short-term trends (i.e., threats);
- degree of site/environmental specificity exhibited by the community; and
- imperilment or rarity across the range as indicated by subnational ranks assigned by local natural heritage programs.

Relationship to Other Status Designations

NatureServe conservation status ranks are a valuable complement to legal status designations assigned by government agencies such as the U.S. Fish and Wildlife Service and the National Marine Fisheries Service in administering the U.S. Endangered Species Act (ESA), and the Canadian Wildlife Service in administering the Species at Risk Act (SARA). NatureServe status ranks, and the documentation that support them, are often used by such agencies in making official determinations, particularly in the identification of candidates for legal protection. Because NatureServe assessment procedures-and subsequent lists of imperiled and vulnerable species-have different criteria, evidence requirements, purposes, and taxonomic coverage than official lists of endangered and threatened species, they do not necessarily coincide.

The IUCN Red List of threatened species is similar in concept to NatureServe's global conservation status assessments. Due to the independent development of these two systems, however, minor differences exist in their respective criteria and implementation. Recent studies indicate that when applied by experienced assessors using comparable information, the outputs from the two systems are generally concordant. NatureServe is an active participant in the IUCN Red List Programme, and in the region covered by *NatureServe Explorer*, NatureServe status ranks and their underlying documentation often form a basis for Red List threat assessments.

Global Conservation Status Definitions

Listed below are definitions for interpreting NatureServe global conservation status ranks (G-ranks). These ranks reflect an assessment of the condition of the species or ecological community across its entire range. Where indicated, definitions differ for species and ecological communities.

NatureServe Global Conservation Status Ranks:

Basic Ranks

Rank	Definition
GX	<p>Presumed Extinct (species) - Not located despite intensive searches and virtually no likelihood of rediscovery.</p> <p>Eliminated (ecological communities) - Eliminated throughout its range, with no restoration potential due to extinction of dominant or characteristic species.</p>

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GH	<p>Possibly Extinct (species) - Missing; known from only historical occurrences but still some hope of rediscovery.</p> <p>Presumed Eliminated - (Historic, ecological communities)-Presumed eliminated throughout its range, with no or virtually no likelihood that it will be rediscovered, but with the potential for restoration, for example, American Chestnut Forest.</p>
G1	<p>Critically Imperiled - At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.</p>
G2	<p>Imperiled - At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.</p>
G3	<p>Vulnerable - At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.</p>
G4	<p>Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors.</p>
G5	<p>Secure - Common; widespread and abundant.</p>

Variant Ranks

Rank	Definition
G#G#	Range Rank - A numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty in the status of a species or community. Ranges cannot skip more than one rank (e.g., GU should be used rather than G1G4).
GU	Unrankable - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends. Whenever possible, the most likely rank is assigned and the question mark qualifier is added (e.g., G2?) to express uncertainty, or a range rank (e.g., G2G3) is used to delineate the limits (range) of uncertainty.
GNR	Unranked - Global rank not yet assessed.
GNA	Not Applicable - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

Rank Qualifiers

Rank	Definition
?	Inexact Numeric Rank - Denotes inexact numeric rank (e.g., G2?)
Q	Questionable taxonomy - Taxonomic distinctiveness of this entity at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or the inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority conservation priority.
C	Captive or Cultivated Only - At present extant only in captivity or cultivation, or as a reintroduced population not yet established.

Intraspecific Taxon Conservation Status Ranks

Intraspecific taxa refer to subspecies, varieties and other designations below the level of the species. Intraspecific taxon status ranks (T-ranks) apply to plants and animal species only; these T-ranks do not apply to ecological communities.

Rank	Definition
T#	Intraspecific Taxon (trinomial) - The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above for global conservation status ranks. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and

	<p>common species would be G5T1. A T-rank cannot imply the subspecies or variety is more abundant than the species as a whole—for example, a G1T2 cannot occur. A vertebrate animal population, such as those listed as distinct population segments under the U.S. Endangered Species Act, may be considered an infraspecific taxon and assigned a T-rank; in such cases a Q is used after the T-rank to denote the taxon's informal taxonomic status. At this time, the T rank is not used for ecological communities.</p>
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National and Subnational Conservation Status Definitions

Listed below are definitions for interpreting NatureServe conservation status ranks at the national (N-rank) and subnational (S-rank) levels. The term "subnational" refers to state or province-level jurisdictions (e.g., California, Ontario).

Assigning national and subnational conservation status ranks for species and ecological communities follows the same general principles as used in assigning global status ranks. A subnational rank, however, cannot imply that the species or community is more secure at the state/province level than it is nationally or globally (i.e., a rank of G1S3 cannot occur), and similarly, a national rank cannot exceed the global rank. Subnational ranks are assigned and maintained by state or provincial natural heritage programs and conservation data centers.

National (N) and Subnational (S) Conservation Status Ranks

Status	Definition
NX SX	Presumed Extirpated - Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
NH SH	Possibly Extirpated (Historical) - Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
N1 S1	Critically Imperiled - Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

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Status	Definition
N2 S2	Imperiled - Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
N3 S3	Vulnerable - Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
N4 S4	Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
N5 S5	Secure - Common, widespread, and abundant in the nation or state/province.
NNR SNR	Unranked - Nation or state/province conservation status not yet assessed.
NU SU	Unrankable - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
NNA SNA	Not Applicable - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
N#N# S#S#	Range Rank - A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
Not Provided	Species is known to occur in this nation or state/province. Contact the relevant natural heritage program for assigned conservation status.

Contact information for individual natural heritage programs is available at <http://www.natureserve.org/visitLocal/index.jsp>.

Breeding Status Qualifiers

Qualifier	Definition
B	Breeding - Conservation status refers to the breeding population of the species in the nation or state/province.
N	Nonbreeding - Conservation status refers to the non-breeding population of the species in the nation or state/province.

M	Migrant - Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the nation or state/province.
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Note: A breeding status is only used for species that have distinct breeding and/or non-breeding populations in the nation or state/province. A breeding-status S-rank can be coupled with its complementary non-breeding-status S-rank if the species also winters in the nation or state/province, and/or a migrant-status S-rank if the species occurs regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. The two (or rarely, three) status ranks are separated by a comma (e.g., "S2B, S3N" or "SHN, S4B, S1M").

Other Qualifiers

Rank	Definition
?	Inexact or Uncertain - Denotes inexact or uncertain numeric rank. (The ? qualifies the character immediately preceding it in the S-rank.)



SPECIES AT RISK FIELD OBSERVATION FORM		
Date		
Observer's Name		
Title	Phone Number	
Observation Type:		
Bird	<input type="checkbox"/>	Vascular Plant <input type="checkbox"/>
Fish	<input type="checkbox"/>	Plant Community <input type="checkbox"/>
Invertebrate	<input type="checkbox"/>	Special Habitat Element <input type="checkbox"/>
Mammal	<input type="checkbox"/>	Other <input type="checkbox"/>
Location (mapsheet, UTM's)		
BGC Unit (include site series if relevant)		
Block Number	Elevation	
Slope %	Age Class	
Aspect	Str. Stage	
ANIMAL SPECIES AT RISK		
Animal Name		
Describe specific location in stand (interior, in a blowdown, beside a rock/tree/water, etc.)		
Stand Basal Area	Crown Closure	
Canopy		
Composition	Shrub Cover	
Dbh		
Presence/absence of snags (quantitative info. If available)		
Hillshade	Distance from road / water	
Burrow System:		
Location (root system, under rocks, bank, etc)		
Opening size/diameter		
Nest:		
Size	Distance from road / water	
Location in tree	Dead or alive	
Tree species	Photo Taken?	
Scat:		
Shape	Presence of hair	
Length	Photo Taken?	

SAR FIELD FORM Page 2		
Tracks:		
Size		
Distance between end of digits and the claw marks		
Distance between tracks	Location	
Gait	Photo Taken?	
Feeding:		
Species (animal or vegetal)		
Browsing characteristics (e.g. cut or broken twig)		
Describe behavior of animal		
PLANT COMMUNITIES AT RISK		
Plant Community Name		
Dominant Plant Species (include % cover):		
Trees		
Shrubs		
Herbs		
Mosses/Lichens		
Humus Form	Surficial Material	
Soil Texture	Coarse Fragment %	
Soil Drainage	Slope Position	
Soil Classification		
Recent evidence of disturbance in community? Adjacent to community?		
Area of plant community		
How many separate occurrences of this plant community within 200m? 500m? 1000m?		
Comments, Site Diagram, Attach Photographs		

