GUIDELINES FOR ELIGIBILITY FOR LISTING UNDER THE *THREATENED SPECIES PROTECTION ACT 1995*

INTRODUCTION

The *Threatened Species Protection Act 1995* (the Act) provides for the protection and management of Tasmania's threatened native flora and fauna and to enable and promote the conservation of native flora and fauna. The Act provides Schedules of taxa that have different categories of threatened status. The Act also establishes mechanisms for the listing and delisting of taxa.

The functions of the Scientific Advisory Committee (SAC) established under Section 8 of the Act include to advise the Minister and the Secretary on the listing and delisting of taxa of flora and fauna. When providing advice to the Minister and the Secretary, the SAC may consult with the broader scientific community, as it considers appropriate (section 8(6) of the Act). The SAC has a statutory responsibility for preparing guidelines on how the five criteria specified in Section 15 of the Act are to be applied to particular taxonomic groups and must, from time to time, publish those guidelines in the Tasmanian Government Gazette (section 15(6) of the Act). These Guidelines fulfil that responsibility.

These Guidelines apply to both nominations made by any person under sections 16-21 of the Act and SAC recommendations made under section 13(4) of the Act. Nominations made by any person are advertised for a 30-day public comment period. SAC recommendations are also publicly notified and there is a 30-day period to appeal to the Tasmanian Civil and Administrative Tribunal (TASCAT) regarding the Minister's decision to propose making an order to add, amend, or omit a taxa of flora or fauna from the schedules of the Act. SAC will also apply these Guidelines when undertaking the five-yearly review of each listed taxon as required under section 13(6) of the Act. In determining the criteria for listing, the SAC must have regard only to matters of nature conservation and not to social and economic matters (section 15(7) of the Act).

This version of the Guidelines was revised in April 2026 to revise the rare criteria to better align with the approach, criteria and thresholds use in the International Union for the Conservation of Nature (IUCN) Red List Guidelines, while maintaining the original intent of the rare criteria.

It is the intent of the SAC to have Guidelines that are transparent, quantitative and meaningful. From time to time the SAC will review the relevance, applicability and knowledge base for the Guidelines and develop revised Guidelines to be published in the Tasmanian Government Gazette.

The major taxonomic groups considered by the SAC in the development of these Guidelines were terrestrial vascular flora and non-vascular flora, vertebrate fauna, invertebrate fauna, and marine organisms. The guidelines for listing are outlined below. They are based on the IUCN criteria, but recognise the State and Commonwealth legislative responsibilities, and the local geographic and biological knowledge base and expert assessment of threatening processes in Tasmania.

CRITERION (1) – ENDANGERED (extant)

An extant taxon of native flora or fauna may be listed as endangered if it is in danger of extinction because long-term survival is unlikely while the factors causing it to be endangered continue operating. (Section 15(1) of the Act).

The following criteria (A–E) may provide evidence of the level of threat. In order to be considered as endangered, at least ONE of the criteria A–E should apply.

(A) Reduction in population size based on any of the following:

1. an observed, estimated, inferred or suspected reduction of at least 70% over the last 10 years or within the past three generations[1] of the species, whichever is longer, where the causes of the reduction are clearly reversible AND understood AND ceased based on (and specifying) any ONE of the following:

    a. direct observation;
    b. an index of abundance appropriate for the taxon;
    c. a decline in area of occupancy[2], extent of occurrence[3] and/or quality of habitat;
    d. actual or potential levels of exploitation; or
    e. the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.

2. an observed, estimated, inferred or suspected population size reduction of at least 50% over the last ten years or three generations, whichever is longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. a population size reduction of at least 50%, projected, inferred or suspected to be met within the next ten years or the next three generations, whichever is longer (to a maximum of 100 years), based on (and specifying) any one of (b), (c), (d), or (e) under A1

4. an observed, estimated, inferred, projected or suspected[4] population size reduction of at least 50% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, AND where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

(B) Geographic range in the form of either B1 (extent of occurrence) or B2 (area of occupancy) or both:

1. extent of occurrence estimated to be less than 5,000 km^2, and estimates indicating at least two of (a) to (c):

    a. severely fragmented[5] or known to exist at no more than five locations[6];
    b. continuing decline observed, estimated, inferred or projected in any one of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations[7]; or (v) number of mature individuals;
    c. extreme fluctuations in any one of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; or (iv) number of mature individuals.

2. area of occupancy estimated to be less than 500 km^2, and estimates indicating at least two of (a) to (c):

    a. severely fragmented or known to exist at no more than five locations;
    b. continuing decline observed, estimated, inferred, or projected in any one of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; or (v) number of mature individuals; and
    c. extreme fluctuations in any one of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; or (iv) number of mature individuals.

(C) Total population size estimated to number fewer than 2,500 mature individuals[8] and EITHER:

1. an observed, estimated or projected continuing decline of at least 20% within five years or two generations, whichever is longer (to a maximum of 100 years); OR

2. a continuing decline[9] observed, estimated, projected, or inferred, in numbers of mature individuals and at least one of the following:

    a. population structure in the form of at least one of the following: (i) severely fragmented (i.e. no subpopulation estimated to contain more than 250 mature individuals); or (ii) at least 95-100% of all mature individuals in a single subpopulation; or

    b. extreme fluctuations in number of mature individuals.

(D) Total population size estimated to number fewer than 250 mature individuals.

(E) Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or five generations, whichever is longer (up to a maximum of 100 years).

CRITERION (2) - ENDANGERED (presumed extinct)[10]

A taxon of native flora or fauna may be listed as endangered because it is presumed to be extinct on the ground that no occurrence of the taxon in the wild can be confirmed during the past 50 years. (Section 15(2) of the Act).

For a taxon to be confirmed to have occurred in the wild during the past 50 years, there must be a verified specimen or a record of a sighting that is considered to be reliable.

CRITERION (3) - VULNERABLE

A taxon of native flora or fauna may be listed as vulnerable if it is likely to become an endangered taxon while the factors causing it to be vulnerable continue operating. (Section 15(3) of the Act).

The following criteria (A–E) may provide evidence of the level of threat. In order to be considered as vulnerable at least ONE of the criteria A–E should apply.

(A) Total population reduction in the form of EITHER of the following:

1. an observed, estimated, inferred or suspected population size reduction of at least 50% over the last 10 years or within the past three generations, whichever is longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any ONE of the following:

   a. direct observation;
   b. an index of abundance appropriate for the taxon;
   c. a decline in area of occupancy extent of occurrence and/or quality of habitat;
   d. actual or potential levels of exploitation; or
   e. the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.

2. an observed, estimated, inferred or suspected population size reduction of at least 30% over the last 10 years or three generations, whichever is longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. a population size reduction of at least 30% projected, inferred or suspected to be met within the next 10 years or the next three generations, whichever is longer (up to a maximum of 100 years), based on (and specifying) any of (b), (c), (d) or (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of at least 30% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, AND where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

(B) Geographic range in the form either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. extent of occurrence estimated to be less than 20,000 km^2, and estimated indicating at least two of (a) to (c):

   a. severely fragmented or known to exist at no more than ten locations;
   b. continuing decline observed, estimated, inferred, or projected in any one of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; or (v) number of mature individuals; and
   c. extreme fluctuations in any one of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; or (iv) number of mature individuals.

2. area of occupancy estimated to be less than 2,000 km^2, and estimates indicating at least two of (a) to (c):
   a. severely fragmented or known to exist at no more than ten locations;
   b. continuing decline observed, estimated, inferred, or projected in any one of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; or (v) number of mature individuals; and
   c. extreme fluctuations in any one of the following: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; or (iv) number of mature individuals.

(C) Total population size estimated to number fewer than 10,000 mature individuals and either:

1. an observed, estimated or projected continuing decline of at least 10% within 10 years or three generations, whichever is longer (to a maximum of 100 years); OR

2. a continuing decline observed, estimated, projected, or inferred, in numbers of mature individuals and at least one of the following (a) to (b)
   a. population structure in the form of either (i) no subpopulation estimated to contain more than 1,000 mature individuals; or (ii) all mature individuals are in one subpopulation.
   b. extreme fluctuations in number of mature individuals.

(D) Total population very small or restricted in the form of either of the following:

1. total population size estimated to number fewer than 1,000 mature individuals; OR

2. total population with a very restricted area of occupancy typically less than 20 km^2 or in five or fewer locations such that it is prone to the effects of human activities or stochastic events within a very short time period in an uncertain future, and thus capable of becoming critically endangered or even extinct in a very short time period.

(E) Quantitative analysis showing the probability of extinction in the wild is at least 10% within 100 years.

CRITERION (4) – RARE

A taxon of native flora or fauna may be listed as rare if it has a small population in Tasmania that is not endangered or vulnerable but is at risk. (Section 15(4) of the Act).

The following criteria may provide evidence of the level of threat. In order to be considered as rare at least ONE of the criteria A-B should apply.

A. A taxon of limited distribution or numbers with a plausible future threat based on (and specifying) any one of the following:
   1. The extent of occurrence is less than 2,000 km^2
   2. The area of occupancy is less than 60 km^2 OR less than 10 locations

AND a plausible future threat that could drive the taxon to vulnerable to endangered in a short time (e.g., within one or two generations—or within three to five years, if this is longer—after the threatening event occurs).

B. Small population size and decline in the form of EITHER of the following:
   1. The total population consists of fewer than 15,000 mature individuals, AND an observed, estimated, inferred or projected continuing decline AND at least one of the following conditions:
      a) Number of mature individuals in each subpopulation is <2,000; OR;
      b) 90 – 100% of mature individuals occur in 5 or fewer subpopulations.

Where there is a high level of uncertainty and concern for the species, the SAC has the discretion to list/retain a species on the list as rare.

CRITERION (5) - TAXA BELOW THE LEVEL OF SUBSPECIES

A taxon of native flora or fauna which is below the level of sub-species and which is narrowly defined owing to its taxonomic position, environmental conditions or geography may be listed only if, in addition to the requirements of this section, there is a special need to conserve it in Tasmania (Section 15(5) of the Act).

A taxon of native flora or fauna is defined in the Act as flora and fauna naturally occurring in Tasmania (section 3 of the Act). A taxon is defined as a taxonomic group of any rank into which organisms are categorised (section 3 of the Act). The CAM MoU provides that all native organisms are considered eligible for assessment and listing including the taxonomic units of species, subspecies and varieties (Schedule 1, Item 2.1 of the CAM MoU).

(A) Populations are only eligible for assessment if all of the following apply.

1. the population is part of an eligible taxonomic unit[11] as defined in the CAM MoU; and
2. the population is geographically isolated, distinct and able to be defined in a way that differentiates it from all other populations[12]; and
3. the taxon of which the population is a part is not listed as Nationally Threatened (Schedule 1, Item 2.2 of the CAM MoU).

(B) Any migrant, vagrant or hybrid that the SAC determines to be suitable for inclusion as native flora or fauna can also be listed (Section 3 of the Act).[13] Although the *IUCN Guidelines for Using the Red List Categories and Criteria* specifically exclude hybrids from assessment, except for apomictic plant hybrids which are treated as species, the CAM Working Group has adopted a policy position on the listing of hybrids, such that hybrids may only be considered for assessment as threatened under the CAM if they satisfy all of the following criteria:

1. they must be a distinct entity, that is, the progeny are consistent within the agreed taxonomic limits for that taxon group;
2. they must be capable of being self-perpetuating, that is, not reliant on the parent stock for replacement; and
3. they are the product of a natural event, that is, both parents were/are naturally occurring and cross fertilisation was by natural means (CAM Working Group, Hybrid Policy Paper).

These criteria for hybrids are *in addition to* all other requirements of the CAM, including the application of the *IUCN Guidelines for Using the Red List Categories and Criteria*. It is recognised that, with the application of these criteria, eligible hybrids would meet the definition of an undescribed species in the *IUCN Guidelines for Using the Red List Categories and Criteria* (Common Assessment Method Working Group, Hybrid Policy Paper). As such hybrids must also meet the following criteria in order to be listed:

4. There must be general agreement that the undescribed form is a clearly circumscribed species;
5. There must be a clear indication that work is underway to describe the species (e.g., a draft manuscript in preparation or a paper with the new description already submitted for publication);
6. Clear distribution information must be provided;
7. Listing the undescribed species will potentially aid in its conservation;
8. Specimen reference numbers (voucher collection details) must be provided to enable the species to be traced without confusion;
9. The museum, herbarium or other institution holding the collection/s and the individual/s responsible for the proposal must be identified; and

10. Undescribed species sometimes have a local common name, if so this should be provided, but if not, a recognizable common name should be coined, so that it can be used to clearly indicate the identity of this taxon without any implication about scientific validity (*IUCN Guidelines for Using the Red List Categories and Criteria*).

(C) For assessments of species or subspecies that are not conventionally accepted (i.e. not described), such as *aff.* taxa, a taxonomic diagnosis and description of the species/subspecies in forms suitable for publication in conventional scientific literature should be provided. If such information is not available, then the following will be included in the assessment documentation: (i) evidence that a scientific institution (such as state/territory museum or herbarium) has a voucher specimen of the species/subspecies; and (ii) a written statement signed by a taxonomist or other person who has relevant expertise, confirming the validity of the new species/subspecies (Schedule 1, Item 2.1 of the CAM MoU). For an undescribed species to be listed, the following conditions must be met:

1. There must be general agreement that the undescribed form is a clearly circumscribed species;
2. There must be a clear indication that work is underway to describe the species (e.g., a draft manuscript in preparation or a paper with the new description already submitted for publication);
3. Clear distribution information must be provided;
4. Listing the undescribed species will potentially aid in its conservation;
5. Specimen reference numbers (voucher collection details) must be provided to enable the species to be traced without confusion;
6. The museum, herbarium or other institution holding the collection/s and the individual/s responsible for the proposal must be identified; and
7. Undescribed species sometimes have a local common name, if so this should be provided, but if not, a recognizable common name should be coined, so that it can be used to clearly indicate the identity of this taxon without any implication about scientific validity (*IUCN Guidelines for Using the Red List Categories and Criteria*).

ENDNOTES

[1] Generation length is defined in the *Guidelines for Using the IUCN Red List Categories and Criteria* as the average age of parents of the current cohort (i.e., newborn individuals in the population).

[2] Area of occupancy is defined in the *Guidelines for Using the IUCN Red List Categories and Criteria* as the area within its 'extent of occurrence' which is occupied by a taxon, excluding cases of vagrancy. To ensure valid use of criteria and maintain consistency of assessments across taxa, it is recommended to scale estimates of area of occupancy using 2x2km grid cells.

[3] Extent of occurrence is defined in the *Guidelines for Using the IUCN Red List Categories and Criteria* as the area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known, inferred or projected sites of present occurrence of a taxon, excluding cases of vagrancy. Extent of occurrence can often be measured by a minimum convex polygon (the smallest polygon in which no internal angle exceeds 180 degrees and which contains all the sites of occurrence).

[4] The use of inference, suspicion and projection allow taxa to be assessed in the absence of complete data. Refer to the *Guidelines for Using the IUCN Red List Categories and Criteria* for further guidance on the application of criteria that require the use of inference, suspicion and projection.

[5] The phrase 'severely fragmented' refers to the situation in which increased extinction risk to the taxon results from the fact that most of its individuals are found in small and relatively isolated subpopulations (in certain circumstances this may be inferred from habitat information). These small subpopulations may go extinct, with a low probability of recolonization. Refer to the *Guidelines for Using the IUCN Red List Categories and Criteria* for guidance on the criterion be used to decide whether there is severe fragmentation.

[6] Locations are defined in the *Guidelines for Using the IUCN Red List Categories and Criteria* as a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the taxon present.

[7] Subpopulations are defined in the *Guidelines for Using the IUCN Red List Categories and Criteria* as geographically or otherwise distinct groups in the population between which there is little demographic or genetic exchange (typically one successful migrant individual or gamete per year or less).

[8] The number of mature individuals is defined in the *Guidelines for Using the IUCN Red List Categories and Criteria* as the number of individuals known, estimated or inferred to be capable of reproduction.

[9] A continuing decline is defined in the *Guidelines for Using the IUCN Red List Categories and Criteria* as a recent, current or projected future decline (which may be smooth, irregular or sporadic) which is liable to continue unless remedial measures are taken. Fluctuations will not normally count as continuing declines, but an observed decline should not be considered as a fluctuation unless there is evidence for this.

[10] The criteria for the category of endangered (presumed extinct), as prescribed by section 15(2) of the Act, differ from the criteria of extinct and extinct in the wild as developed by the IUCN and agreed to by Tasmania and most other states and territories under the CAM MoU. Rather than requiring there to have been no confirmed occurrence of the taxon in the wild in the last 50 years (per the criteria for endangered (presumed extinct) in section 15(2) of the Act), the IUCN category of extinct requires there to be no reasonable doubt that the last individual of the taxon has died. A taxon is presumed extinct in accordance with the IUCN criteria when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form. Similarly, the IUCN criteria for the category of extinct in the wild require a taxon to be known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. During the revision of these Guidelines in 2023, SAC formed the view that it would not be possible to accommodate the IUCN and nationally agreed CAM categories of extinct and extinct in the wild in the revised Guidelines without a legislative amendment to the Act. This is largely because the Act itself prescribes the criteria to be applied when determining whether a taxon should be listed as endangered (presumed extinct) i.e. the requirement for there to have been no confirmed occurrence of the taxon in the wild in the last 50 years is enshrined in the Act.

[11] Populations of undescribed species, subspecies or formally recognised varieties are eligible for assessment, but only when the definitions and information requirements for undescribed taxa as outlined in the *Guidelines for Using the IUCN Red List Categories and Criteria* are also met (Schedule 1, Item 2.2 of the CAM MoU).

[12] Distinctiveness refers to characteristics of genetics, phylogeny, morphology, ecology, physiology behaviour, ecosystem role or other aspects of the population's biology that set it apart from other populations of the same taxon. Distinctiveness may be determined from evidence of those characteristics and may be the outcome of geographical, reproductive or other form of isolation from other populations of the same taxon. The effect of isolation is to limit demographic or genetic exchange to a low level (typically one successful migrant or gamete per year or less). Isolation may occur either naturally or have anthropogenic causes. The scale at which geographic isolation is

considered will depend on the biology of the taxon being assessed (Schedule 1, Item 2.2 of the CAM MoU).

[13] The ability to list vagrants and hybrids was included in the Act via amendment in 2001. The clause notes from the 2001 amendment stated that SAC has the discretion to consider vagrants and hybrids for listing.