

Nature Conservation (Perunga Grasshopper) Conservation Advice 2026

Notifiable instrument NI2026–458

made under the

Nature Conservation Act 2014, s 90C (Conservation advice)

1 Name of instrument

This instrument is the *Nature Conservation (Perunga Grasshopper) Conservation Advice 2026*.

2 Commencement

This instrument commences on the day after its notification day.

3 Conservation advice for Perunga Grasshopper

Schedule 1 sets out the conservation advice for the Perunga Grasshopper (*Perunga ochracea*).

4 Revocation

This instrument revokes the *Nature Conservation (Perunga Grasshopper) Conservation Advice 2020* (NI2020-567).

Simon Clulow
Chair, Scientific Committee
7 October 2026

Schedule 1

(see s 3)

CONSERVATION ADVICE

PERUNGA GRASSHOPPER – *Perunga ochracea*

CONSERVATION STATUS

The Perunga Grasshopper *Perunga ochracea* Sjöstedt, 1921, is recognised as threatened in the following jurisdictions:

National	Not yet Listed, <i>Environment Protection and Biodiversity Conservation Act 1999</i>
ACT	Endangered , <i>Nature Conservation Act 2014</i>
NSW	Not yet listed, <i>Biodiversity Conservation Act 2016</i>

ELIGIBILITY

The Perunga Grasshopper is eligible to be included in the Endangered category of the ACT Threatened Native Species List under the Nature Conservation Act 2014 (NC Act) under IUCN Criterion B — B1ab(ii,iii,v)+2ab(ii,iii,v). The factors that make the Perunga Grasshopper eligible for listing include a restricted extent of occurrence (EOO = 987 km²) and area of occupancy (AOO = 224 km²) across three main threat-derived locations. Continuing declines in AOO and area/extent/quality of habitat are inferred and projected due to ongoing and pervasive impacts of historic land clearance, causing habitat loss and fragmentation of subpopulations, interacting synergistically with other threats, including predation and habitat degradation by non-native animals, climate change, land degradation from inappropriate grazing and inappropriate fire regimes. In addition, there is an inferred and projected ongoing decline in the number of mature individuals due to predation from cats, foxes, house mice and feral pigs (Attachment A).

DESCRIPTION AND ECOLOGY

The Perunga Grasshopper is a small, flightless acridid grasshopper, characterised by a whitish dorsal streak extending from the keeled pronotum to the tip of the abdomen and a broad pale 'X' on the pronotum (Rentz et al. 2003). Adult females range in length from 26–35 mm and adult males from 15–20 mm. A range of colours is possible in adults, with colour morphs ranging between tan, grey-brown, or dull to bright green. The proportion of each colour morph can vary from year to year with a tendency toward grey-brown in dry years and greenish in wet years (R Lewis pers. comm. in ACT Government 1999).



Perunga Grasshopper (Cath Busby – Canberra NatureMapr)

There is little information on the diet of the Perunga Grasshopper. Other grasshoppers in the same subfamily (Catantopinae) have a mixed diet of grasses and forbs, with preference for forbs, while other subfamilies on a similar diet show a preference for grasses. The species has a suspected dietary relationship with native forbs (pers. comm. B. Howland), notably *Chrysocephalum* spp. (Rentz 1996). The Perunga Grasshopper appears to prefer grasslands composed of native species (ACT Government 2017a). The only other member of the genus, *Perunga* sp. 1, feeds widely, including upon Capeweed (*Arctotheca calendula*), Wild Geranium (*Erodium* spp.) and Common Everlasting (*Chrysocephalum apiculatum*) (P. Birks pers. comm. in ACT Government 1999).

Although no work has been undertaken to identify predators of the Perunga Grasshopper, parasitic wasps, *Scelio* spp. in south-eastern Australia have been shown to regulate some populations of other acridid grasshoppers (Baker et al. 1996). Other predators of the Perunga Grasshopper may include birds and the local Wolf Spiders (specifically, *Lycosa godeffroyi*), which are known to eat other large ACT grassland grasshoppers (A. Rowell, pers. obs.).

The Perunga Grasshopper has a life cycle of one year, although, unusually for an ACT grasshopper species, it overwinters as nymphs rather than as eggs. Adults have been recorded between late October and mid-February (Australian National Insect Collection (ANIC) specimens). Very few nymphs have been recorded, so little is known about their appearance, behaviour, or habitat requirements compared to those of the adult.

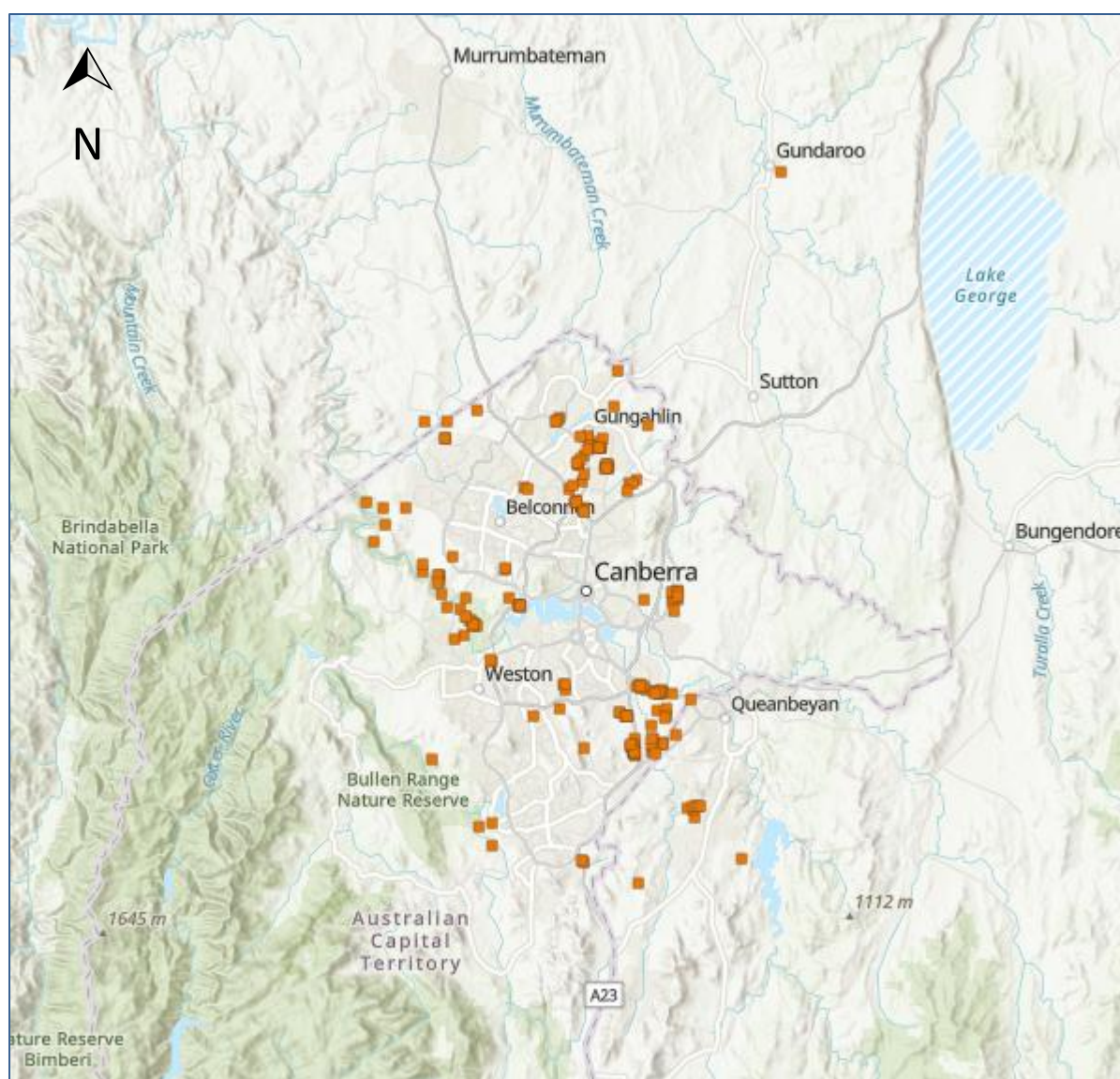
DISTRIBUTION AND HABITAT

The observed range of the Perunga Grasshopper (Map 1) stretches 180 km east–west and 150 km north–south and includes Murrumbateman, Gundaroo, the ACT and Bungendore. The actual area occupied within much of this range is likely to be low because habitat alteration and fragmentation have reduced or destroyed populations. The full extent of the range of the Perunga Grasshopper is unknown. This is, in part, due to a lack of current data. Previous ACT Government work (ACT Government 1999, ACT Government 2017a) indicates populations in Gungahlin (Mulanggari, Gungaderra, Crace, Mulligans Flat and Goorooyaroo nature reserves), Lower Molonglo Nature Reserve, Red Hill Nature Reserve, Murrumbidgee River Corridor), the Majura Valley, Lawson Grasslands, and near the junction of the Gudgenby and Naas rivers. Former collection sites in Reid, Calwell, Gordon, O’Malley and Weetangera have since been developed for housing (ACT Government 2017a). In addition to the limited available site location data, the grasshopper is difficult to see unless first disturbed. When disturbed, the adult appears to actively seek shelter, jumping once or twice before burying itself into a grass tussock. It is a powerful jumper, covering distances of a metre or more (Rentz 2003).

The Perunga Grasshopper is found in areas of Critically Endangered Natural Temperate Grassland (Stephens 1998) with some ACT Government collection records suggesting that the species sometimes occurs in open woodland areas with a grassy understorey, including the Critically Endangered Yellow Box–Blakley’s Red Gum Grassy Woodland community.

The reliance on these grasslands is likely to be for both food and shelter. Field observations suggest that the Perunga Grasshopper uses grass tussocks as shelter spaces, although the species has been recorded in heavily grazed habitats, where the availability of dense grass tussocks was low (Stephens 1998, ACT Government 2013). Stephens (1998) reported that in these latter instances they were found in or near grass tussocks, suggesting a dependence on tussocks for habitat.

Map 1: Distribution of Perunga Grasshopper records (1997-2024) (ACT Wildlife Atlas)



THREATS

The Perunga Grasshopper is known only from areas of Natural Temperate Grassland, a Critically Endangered ecological community under the *Nature Conservation Act 2014* (NC Act). The main threats provided in the ACT Action Plan for the species (ACT Government 2017a) include:

- habitat loss of Natural Temperate Grassland
- habitat degradation of native plant species through inappropriate management strategies that reduce grassland structure or allow colonisation of native grasslands by exotic plant species
- habitat fragmentation compounded by the flightless nature of adults that restricts movement between fragments and recolonisation
- inappropriate large-scale autumn/winter fire regimes that may endanger nymphs
- climate change effects combined with the species' limited mobility makes it less able to adapt by moving to accommodate habitat change.

MAJOR CONSERVATION OBJECTIVE

The overall conservation objective of the Action Plan for this species (ACT Government 2017) is to maintain in the long term, viable, wild populations of the Perunga Grasshopper as a component of the indigenous biological resources of the ACT and region.

CONSERVATION PRIORITIES

The long-term conservation of the Perunga Grasshopper depends on protecting its native grassland and grassy woodland habitat. Conservation priorities include to:

- conserve important ACT populations by managing threats to the species and its habitat
- manage the species and its habitat to preserve sufficient genetic diversity to promote population resilience in the wild, particularly through herbage mass management as per the Ecological Guidelines (ACT Government 2026) for the species specifically and NTG generally as well as removal of weeds, patch burning and creation of a diverse habitat structure
- enhance the long-term viability of populations through management of adjacent grassland to increase habitat area and connect populations
- provide offset areas, with management plans, for areas subject to urban development
- continue extensive survey, monitoring and research
- understand the habitat requirements of the species (in terms of food plants, and required vegetation structure)
- collaborate with research institutions and non-government organisations and encourage citizen science and volunteers to increase knowledge of the species, its distribution, population status, biology and habitat needs.

CONSERVATION ISSUES

It is recommended that quantitative targets and resourcing requirements are clearly identified in any Action Plan or other related projects/programs relevant to this species. Broader conservation issues need to be considered in developing and implementing actions arising from this advice and the species listing assessment (Attachment A).

Critical Habitat

No critical habitat has been identified for this species, however the species only occurs in a very restricted area in and around Canberra and nearby NSW, mostly in critically endangered ecological communities including Natural Temperate Grassland and sometimes in native grasslands in the Yellow Box – Blakely's Red Gum Grassy Woodland.

Climate Change

Climate change impacts are inevitable and will affect the persistence of many species within the ACT. Most vulnerable in this regard are those species that occupy highly fragmented habitat with highly restricted distributions, such as this species. Capacity should be developed to model the impact on this species and its habitat under likely climate change scenarios if we are to anticipate and manage the impacts of climate change. This will require a combination of research and the development of in-house capacity for the collection of relevant data and its application in climate change modelling.

Population Viability

With highly fragmented and declining species, such as this species, it is important to ensure actions maintain connectivity and genetic diversity to prevent functional extinction.

Jurisdictional Collaboration

The location of the species habitat in the ACT and nearby NSW requires the development of any policies and action/recovery plans to be collaborative with NSW to maximise the conservation outcomes for the species.

Ngunnawal Community Engagement

The ACT Government should actively facilitate, the inclusion of the Ngunnawal people in the conservation of this species and its habitat as part of Ngunnawal Country. Reference to the draft Cultural Resource Management Plan (ACT Government in prep.) would be useful to inform culturally appropriate resource management including of native species that aligns with achieving conservation outcomes for the species.

OTHER RELEVANT ADVICE, PLANS OR PRESCRIPTIONS

- ACT Action Plan – Perunga Grasshopper (ACT Government 2017a)
- ACT Native Grassland Conservation Strategy (ACT Government 2017b)

LISTING BACKGROUND

The Perunga Grasshopper was initially listed in the ACT as a Vulnerable species on 30 May 1997 in accordance with section 21 of the *Nature Conservation Act 1980*. At that time, the Flora and Fauna Committee (now the Scientific Committee) concluded that the assessment satisfied the following criterion:

- 2.2 Species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by the following:
 - 2.2.1 Current serious decline in distribution, from evidence based on:
 - 2.2.1.1 direct observation, including comparison of historical and current records
 - 2.2.1.3 a serious decline in quality and quantity of habitat
 - 2.2.4 Seriously fragmented distribution for a species currently occurring over a moderately small range or having a moderately small area of occupancy within its range.

The Flora and Fauna Committee assessed that this species met the above criteria for listing as Vulnerable for the following reasons:

- the Perunga Grasshopper was fairly common in specific areas in the ACT until the late 1970s, when some of these areas were lost to urban development
- there was a serious decline in the quality and quantity of the habitat of the species throughout its range, including the ACT, and the area of occupancy is probably now extremely small
- destruction and alteration of habitat seriously fragmented the species' distribution, therefore, resulting in little possibility of recolonisation after local extinctions due to the flightless nature of adults.

The Perunga Grasshopper was reassessed by the ACT Scientific Committee in 2025-26 as part of the CAM-MOU, to align lists across jurisdictions. This legacy species is re-assessed at the national scale to be eligible for inclusion in the Endangered category under IUCN Criterion B — B1ab(ii,iii,v)+2ab(ii,iii,v).

ACTION PLAN DECISION

The Perunga Grasshopper currently has an Action Plan (ACT Government 2017a) in the ACT under the *Nature Conservation Act 2014*. The ACT Scientific Committee recommends to the Minister for the

Environment that the ACT continue having an action plan for the Perunga Grasshopper under the ACT Native Grasslands Conservation Strategy (ACT Government 2017b).

REFERENCES

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- ACT Government 2017a. *Action Plan Perunga Grasshopper Perunga ochracea*. Environment, Planning and Sustainable Development Directorate, Canberra.
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- Farrow RA 2012. Devising a survey method for the vulnerable Perunga Grasshopper in the ACT including a determination of its habitat preferences so that habitat can be used as a surrogate for its potential occurrence. Report to ACT Environment and Sustainable Development Directorate by Tilembeya Consulting and XCS Consulting Pty Ltd, Canberra.
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- Rowell A 2015. *The vulnerable Perunga Grasshopper at Canberra Airport, 2003 to 2014*. Report to Canberra Airport, Canberra.
- Stephens CJ 1998. Grasshopper (Orthoptera: Acrididae) assemblages in natural temperate grasslands of differing native plant diversities. Honours thesis. Department of Botany & Zoology, Australian National University, Canberra.

FURTHER INFORMATION

Further information on the related Action Plan or other threatened species and ecological communities can be obtained from: Environment, Planning and Sustainable Development Directorate (EPSDD).

Phone: (02) 132281, EPSDD – Environment Website: [Environment - ACT Government](#)

ATTACHMENT A: LISTING ELIGIBILITY

Reason for Assessment

The *Perunga ochracea* was listed in the ACT as a Vulnerable species on 30 May 1997 in accordance with section 21 of the *Nature Conservation Act 1980* (ACT), making it a legacy species under the Common Assessment Method (CAM) MOU that was agreed in 2015 with the criteria for listing changing in 2016 to align with the international criteria of the IUCN.

At that time of the initial assessment, the ACT Flora and Fauna Committee (now ACT Scientific Committee) assessed that this species met the criteria for listing as Vulnerable due to a serious decline in distribution and being seriously fragmented across a small range. Most of the species' habitat was cleared following colonisation and what little remains is highly fragmented and close to urban areas. Several threats continue to act on the species' habitat, which when combined with the interacting effects of fragmentation result in a likelihood of ongoing risk of decline.

As a legacy species it was prioritised for assessment of information provided by the ACT Scientific Committee as part of the CAM process, to systematically review species that are inconsistently listed under the EPBC Act and relevant state/territory legislation or lists.

Assessment of eligibility for listing against the criteria

This assessment uses the criteria set out in the [Nature Conservation \(Threatened Native Species Eligibility\) Criteria 2016](#) as they equate to the [EPBC Regulations](#). The thresholds used correspond with those in the [IUCN Red List criteria](#). The IUCN criteria are used by Australian jurisdictions to achieve consistent listing assessments through the CAM.

Key assessment parameters

Table 3 includes the key assessment parameters used in the assessment of eligibility for listing against the criteria. The definition of each of the parameters follows the [Guidelines for Using the IUCN Red List Categories and Criteria](#).

Table 3. Key assessment parameters

Metric	Estimate used in the assessment	Minimum plausible value	Maximum plausible value	Justification
Number of mature individuals	Unknown	Unknown	Unknown	Insufficient data
Trend	Unknown			
Generation time (years)	<1 year		1 year	The specific generation time is unknown, however the species has a lifecycle of one year (Farrow 2012, ACT Government 2017a), so it can be inferred that the generation length is less than a year.
Extent of occurrence	987 km ²	849 km ²	987 km ²	The EOO used is calculated using all available occurrence data, historical and recent (n=328). While some of these sites of historic records have since been developed, there is under-sampling and a lack of targeted surveys across potentially suitable habitat that may contribute to

Metric	Estimate used in the assessment	Minimum plausible value	Maximum plausible value	Justification
				underestimating EOO, therefore, the maximum value is used in the assessment to balance these factors. The lower limit reflects the EOO with only occurrence records collected post 2000 (n=292), to reflect loss of areas of habitat through urbanisation and development.
Trend	Declining			The EOO has undoubtedly contracted historically due to habitat loss, and threats that are impacting the quality of remaining habitat, plus threats from predation by non-native animals means that continuing decline in the EOO can be inferred and/or projected.
Area of Occupancy	224 km ²	208 km ²	224 km ²	The AOO was calculated as 224 km ² using Geocat, which applies the IUCN (2024) 2 km x 2 km grid method, using all available occurrences (n=328) across all years. The minimum value was calculated using only occurrence records from post-year 2000, to account for loss of habitat through urbanisation and development.
AOO is a standardised spatial measure of the risk of extinction, that represents the area of suitable habitat known, inferred or projected to be currently occupied by the taxon. It is estimated using a 2 km x 2 km grid to enable comparison with the criteria thresholds. The resolution (grid size) that maximizes the correlation between AOO and extinction risk is determined more by the spatial scale of threats than by the spatial scale at which AOO is estimated or shape of the taxon's distribution. It is not a fine-scale estimate of the actual area occupied. In some cases, AOO is the smallest area essential at any stage to the survival of existing populations of a taxon (e.g. breeding sites for migratory species).				
Trend	Declining			The AOO is highly likely to have contracted historically with habitat loss. The cumulative and interacting impact of threats combined with the fragmented landscape, the low dispersal ability of the species and the close proximity to urban areas, means it is considered likely that the AOO is at high risk of decline, particularly for occurrences at the suburban/urban interface, where pressure from predation and degradation by non-native animals and habitat degradation by weeds is high.
Number of subpopulations	9	3	16	Given the high levels of habitat fragmentation and a low dispersal ability, gene flow is likely to be restricted and the number of subpopulations in the relatively small area is likely high. The estimate used in the assessment is based upon the occurrence points and assumes that gene flow may occur in geographically close occurrences, within 1 km, even over cleared, or developed terrain. The minimum plausible value loosely groups the highest density occurrence points together centred around grasslands to the north, west and south-east of Canberra, and excludes the outliers near Gundaroo, NSW that are around 20km from the closest ACT occurrences and 10 km apart. This grouping does not account for potential barriers to dispersal such as roads, urban developments and unsuitable habitat.

Metric	Estimate used in the assessment	Minimum plausible value	Maximum plausible value	Justification
				The maximum plausible estimate does account for these barriers and is calculated on the assumption that there is no dispersal over such barriers. The estimate used allows for some dispersal occurring more broadly, within 1km of observed occurrences (see Figure 2).
Trend	Declining			Given the fragmented landscape and low dispersal ability of the species, increasing vulnerability to stochastic extinction events, plus the proximity to urban areas and associated threats, it is projected that the number of subpopulations will decline.
Basis of assessment of subpopulation number	The estimate is based on examination of known occurrences, mapping and an inference that due to the species traits, that dispersal may occur over short geographic distances (less than 1 km), even if habitat is missing between these occurrences, but not over larger distances.			
Number of locations	3	3	4	The cumulative and interacting nature of the threats impacting <i>P. ochracea</i> are likely to have had major and continuing impacts on the species. Of these threats, clearing for agriculture, forestry and urban development and associated degradation of habitat is considered the most severe and plausible threat and provides the basis for defining the number of locations. Most of the known occurrence records for <i>P. ochracea</i> occur at the urban interface, in and around Canberra and suburbs. These subpopulations on the urban interface are at particularly high risk from the impacts of urbanisation and clearance. The likely impacts of urbanisation and clearance on the species are multifaceted and include population decline due to habitat loss and degradation, plus ongoing indirect impacts due to isolation of subpopulations into small patches, reduced gene flow, increased vulnerability to disturbance events such as prescribed fire, increased vulnerability to stochastic extirpation events, and reduced ability to recolonise following disturbance. Given the potential for urban expansion leading to new clearance, combined with the legacy effects of past clearance, which could rapidly impact all subpopulations, the subpopulations on the urban interface around Canberra are considered as one location. The two north easterly subpopulations as two separate locations, as the urbanisation pressure on these is lesser than the subpopulations closer to Canberra. This gives a total of three locations (see Figure 2).
Basis of assessment of location number	The number of locations was estimated based on land clearing for agriculture, forestry and urban development being the most major and plausible threat to the species and the potential for subpopulations at the urban interface to be impacted in one event.			

Metric	Estimate used in the assessment	Minimum plausible value	Maximum plausible value	Justification
Trend	Stable			Whilst threats are acting on the species, there is no evidence that the number of locations is undergoing continuing decline.
Severe fragmentation	The species occurs as isolated subpopulations, likely with limited gene flow between, due to low vagility and the highly altered and fragmented habitat. However, there is no current evidence that it is severely fragmented.			
Fluctuations	There is no evidence for fluctuations			

Criterion 1 Population size reduction

Reduction in total numbers (measured over the longer of 10 years or 3 generations) based on any of A1 to A4				
—		Critically Endangered Very severe reduction	Endangered Severe reduction	Vulnerable Substantial reduction
A1		≥ 90%	≥ 70%	≥ 50%
A2, A3, A4		≥ 80%	≥ 50%	≥ 30%
A1	Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.	Based on any of the following: (a) direct observation [except A3] (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat (d) actual or potential levels of exploitation (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites		
A2	Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.			
A3	Population reduction, projected, inferred or suspected to be met in the future (up to a maximum of 100 years) [(a) cannot be used for A3]			
A4	An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.			

Criterion 1 evidence

Insufficient data to determine eligibility

The specific generation time is unknown, however the species has a lifecycle of one year (Farrow 2012, ACT Government 2017a), so it can be inferred that the generation length is less than a year. which means that a three-generation length period is less than 3 years. However, under this criterion, the longer value of 10 years is used for estimates of population size reduction. Most of the estimated population size reduction for this species was likely to have occurred through historic vegetation clearance for agriculture and urbanisation. There is insufficient evidence to demonstrate a 30% or greater population size reduction in the last 10 years. Given Natural Temperate Grassland of the South Eastern Highlands, and some other native grasslands, including those in the White Box–Yellow Box–Blakely's Red Gum Grassy

Woodland and Derived Native Grassland are protected under federal and state/territory legislation, there is insufficient evidence to expect that a decline of 30% or more should occur in the next 10 years.

The Committee considers that there is insufficient information to determine the eligibility of *P. ochracea* for listing in any category under this Criterion.

Criterion 2 Geographic distribution as indicators for either extent of occurrence AND/OR area of occupancy

	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
B1. Extent of occurrence (EOO)	< 100 km ²	< 5,000 km ²	< 20,000 km ²
B2. Area of occupancy (AOO)	< 10 km ²	< 500 km ²	< 2,000 km ²
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Criterion 2 evidence

Eligible under criterion 2: B1ab(ii,iii,v)+2ab(ii,iii,v): Endangered.

The EOO of *P. ochracea* is 987 km² and the AOO is 224 km², using all available occurrence records and calculated using Geocat. Both EOO and AOO are within the eligibility thresholds for Endangered under sub-criterion B1 and B2.

In addition to these thresholds, at least two of three conditions ((a), (b), (c)) must be met.

The species occurs in three locations, based on land clearing for agriculture, forestry and urban development and the likelihood that the threat could impact the subpopulations of the species in each of these locations. The subpopulations occurring in the urban interface are deemed to be a single location, as the legacy and ongoing pressures of urbanisation are likely to be impacting the subpopulations broadly across this area. The two north-easterly subpopulations are deemed to represent an additional two locations, as they are separated from the main urban centre and face different pressures. The maximum plausible number of locations estimated is 4, which still meets the eligibility threshold for Endangered under condition (a).

It is estimated that around 90% of this species habitat has been lost through land clearance and development post-settlement. There is an inferred and projected ongoing decline in AOO and area, extent and quality of habitat due to ongoing and pervasive impacts of historic land clearance, causing habitat loss and fragmentation of subpopulations, interacting synergistically with other threats, including predation and habitat degradation by non-native animals, climate change, land degradation from inappropriate grazing and inappropriate fire regimes, meeting condition (b)(ii,iii). In addition, there is an

inferred and projected ongoing decline in the number of mature individuals due to predation from feral cats, foxes, house mice and pigs meeting condition (b)(v).

There is no evidence that extreme fluctuations occur in any of the parameters of this species. Therefore, condition (c) is not met.

Criterion 3 Population size and decline

		Critically Endangered	Endangered	Vulnerable
		Very low	Low	Limited
Estimated number of mature individuals		< 250	< 2,500	< 10,000
AND either (C1) or (C2) is true				
C1. An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future)		Very high rate 25% in 3 years or 1 generation (whichever is longer)	High rate 20% in 5 years or 2 generations (whichever is longer)	Substantial rate 10% in 10 years or 3 generations (whichever is longer)
C2. An observed, estimated, projected or inferred continuing decline AND its geographic distribution is precarious for its survival based on at least 1 of the following 3 conditions:				
(a)	(i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
	(ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%
(b) Extreme fluctuations in the number of mature individuals				

Criterion 3 evidence

Insufficient data to determine eligibility

The number of mature individuals is unknown and has not been estimated for this species. Therefore, there is insufficient information to determine the eligibility of *P. ochrace* for listing in any category under this Criterion.

Criterion 4 Number of mature individuals

	Critically Endangered Extremely low	Endangered Very Low	Vulnerable Low
D. Number of mature individuals	< 50	< 250	< 1,000
D2. ¹ Only applies to the Vulnerable category Restricted area of occupancy or number of locations with a plausible future threat that could drive the species to critically endangered or Extinct in a very short time			D2. Typically: area of occupancy < 20 km ² or number of locations ≤ 5

¹ The IUCN Red List Criterion D allows for species to be listed as Vulnerable under Criterion D2. (The corresponding Criterion 4 in the EPBC Regulations does not currently include the provision for listing a species under D2. As such, a species cannot currently be listed under the EPBC Act under Criterion D2 only. However, assessments may include information relevant to D2. This information will not be considered by the Committee in making its recommendation of the species' eligibility for listing under the EPBC Act, but may assist other jurisdictions to adopt the assessment outcome under the [common assessment method](#).)

Criterion 4 evidence

Insufficient data to determine eligibility

The number of mature individuals of *P. ochracea* is unknown. Although this species is considered to occur at a minimum of three and maximum of five locations, the AOO is larger than the suggested < 20 km² threshold for D2. Therefore, there is insufficient information to determine the eligibility of *P. ochracea* for listing in any category under this Criterion.

Criterion 5 Quantitative analysis

	Critically Endangered Immediate future	Endangered Near future	Vulnerable Medium-term future
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% in 100 years

Criterion 5 evidence

Insufficient data to determine eligibility

No known quantitative analysis has been undertaken for this species. Therefore, there is insufficient information to determine the eligibility of *P. ochracea* for listing in any category under this Criterion.

Adequacy of survey

The species' distribution is known from 328 occurrence records, which are from a range of sources, including verified citizen science records from NatureMapr, surveys for other threatened taxa, direct surveys for the species, and opportunistic samples. Whilst the species is cryptic, it is large, distinct, and relatively easy to identify, therefore there is high confidence that these represent accurate records of the species. These occurrence records, plus evidence from the published literature and reports provide support that the species genuinely has a highly restricted distribution and is a habitat specialist.

The species occurs in the ACT and NSW, and whilst it is well surveyed in the ACT, there is less certainty in the data for NSW due to less survey effort. However, Natural Temperate Grassland habitat is listed as Critically Endangered in NSW and subject to the same threats as in the ACT. Therefore, the species is likely undergoing the same threatening processes and declines.

As with most species, there is potential that additional targeted surveys will reveal a greater range for the species, however, the species EOO is well within the 5,000 km² bound for listing as Endangered at 987 km², and given the small amount of habitat left for the species post-European settlement and broadscale vegetation clearance, there is high confidence that additional records will not increase the species' EOO above this value. Similarly, for the AOO of 224 km² which is well within the upper bound for Endangered of 500 km²

Whilst further surveys are needed to confirm details on the species' microhabitat affinities and to better determine the species' occurrences within suitable habitat in the EOO, it is considered there is sufficient scientific data to support the assessment of the species.

Public consultation

Under the *Nature Conservation Act 2014* (ACT), notice of the nomination and consultation document was made available for public comment for at least six weeks between 14 January 2025 and 26 February 2025. Any comments received that were relevant to the survival of the species were considered by the Scientific Committee as part of the assessment process and informed the Scientific Committee's advice.