Australian Capital Territory

# Nature Conservation (Mountain Skink) Conservation Advice 2023

## Notifiable instrument NI2023–224

made under the

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

### 1 Name of instrument

This instrument is the *Nature Conservation (Mountain Skink) Conservation Advice 2023*.

### 2 Commencement

This instrument commences on the day after its notification day.

### 3 Conservation advice for Mountain Skink

Schedule 1 sets out the conservation advice for Mountain Skink (*Liopholis montana*)

Arthur Georges

Chair, Scientific Committee

14 April 2023

**Schedule 1**

(see s 3)

**Conservation Advice  
Mountain Skink – *Liopholis montana***

Conservation Status

The Mountain Skink – *Liopholis montana* (Donnellan, Hutchinson, Dempsey & Osborne, 2002) – is recognised as threatened in the following jurisdictions:

International **Near Threatened**, International Union for the Conservation of Nature Red List

National **Endangered**, *Environment Protection and Biodiversity Conservation Act 1999*

ACT **Endangered**, *Nature Conservation Act 2014*

NSW not yet listed, *Biodiversity Conservation Act 2016*

VIC not yet listed, *Flora and Fauna Guarantee Act 1988*

ELIGIBILITY

The Mountain Skink is listed as Endangered in the ACT Threatened Native Species List under IUCN Criterion B — B2ab(i,ii,iii,iv,v) due to a restricted area of occupancy (Area of occupancy (AOO) = 196 km2), severe fragmentation, ongoing loss and degradation of habitat and inferred decline in number of sub-populations and mature individuals at the national level (Attachment A). The Mountain Skink is reported as rare, declining, and its populations as fragmented (Coyne 2000, Donellan et al. 2002, Osborne and Evans 2015, Senior 2019, Clemann et al. 2018). Before the 2019–2020 fires burnt approximately 32% of the known and likely distribution, the Mountain Skink was assessed as Near Threatened on the IUCN Red List of Threatened Species, approaching Criteria B2a (Clemann et al. 2018).

DESCRIPTION AND ECOLOGY

[](https://canberra.naturemapr.org/sightings/2615578)The Mountain Skink is a stoutly built species with a squarish body shape in cross-section and adults size is attained at 74 mm snout–to-vent length (SVL) with mean adult SVL 92 mm and tail length around 160% of SVL translating to a total length of 240 mm (Donnellan et al. 2002). It has two distinct colour morphs including a patterned morph and a plain morph (Chapple et al. 2008, Robertson and Coventry 2019). The basic colour of the head, body, limbs, and tail is grey-brown with most individuals having a plain, reddish-brown back generally divided by a lighter or more greyish vertebral zone (Donellan et al. 2002).

[Mountain](https://canberra.naturemapr.org/sightings/4263089) Skink (John Wombey – Canberra Nature Map)

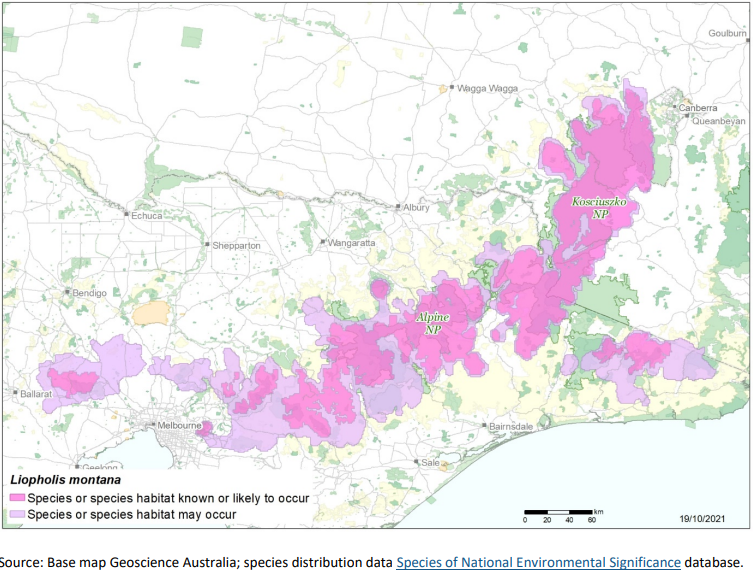
The Mountain Skink is also known as the Tan-backed Skink and was previously considered the high-altitude form of White’s Skink (*Liopholis whitii*, previously *Egernia whitii*). The Mountain Skink can be distinguished from White’s Skink by the absence of dark-edged pale eye-like markings, particularly above the base of the forelimb and can be distinguished from the Guthega Skink (or Snowy Mountain Skink *Liopholis guthega*) by the absence of broad paravertebral stripes (Robertson and Coventry 2019).

It lives in colonies and appears to exhibit stable pair bonds (Senior 2019), with females giving birth to up to four young (Donnellan et al. 2002). It has an omnivorous diet that includes seasonal fruits (Donnellan et al. 2002).

Distribution and Habitat

The Mountain Skink occurs in montane and subalpine areas extending from the Bimberi Range in Namadgi National Park, through the Snowy Mountains in New South Wales (NSW), into the Alpine National Park in Victoria and beyond to lower altitude areas further east and west (Green and Osborne 2012). The current distribution of the Mountain Skink is best reflected in Figure 1 as the ‘species known to or likely to occur’.

**Figure 1: Modelled Distribution of Mountain Skink** (Source: DCCEEW 2022)



Throughout its range it occurs in a series of apparently isolated subpopulations at elevations ranging from 620 m (Wombat State Forest, VIC) to 1800 m (Mt Gingera, ACT) (Green and Osborne 2012, Wilson and Swan 2013, Cogger 2014, Clemann et al. 2018, Farquhar et al. 2021). The Mountain Skink overlaps slightly in elevational distribution with both White’s Skink (*Liopholis whitii*) and the Guthega Skink (*Liopholis Guthega*) (DCCEEW 2022). Whilst there is a broad zone of distributional overlap between the Mountain Skink and Guthega Skink at 1600–1700 m, the two species have never been found in the same habitat at the same time in any area throughout their range (Senior et al. 2021).

In the north of its range, the Mountain Skink occupies montane and subalpine conditions above 1400 m (DCCEEW 2022). In the ACT, the Mountain Skink is at the far north-eastern edge of its range and has been recorded at Mt Gingera, Ginini Flats, Mt Ginini, Stockyard Spur, Mt Scabby, Rolling Ground Gap, Square Rock in Namadgi National Park (Osborne 2021).

The Mountain Skink shelters in deep burrow systems beneath rocks and are found in high country woodlands where it is associated with mostly granitic rocky habitats such as rock outcrops, screes, tors or large logs (Donnellan et al. 2002, Cogger 2014) and was initially recorded at Cotter Source, Jacks Creek and Bimberi (Helman et al. 1988).

Threats

The Mountain Skink is primarily threatened in the ACT by climate change related threats such as increased frequency, extent and severity of wildfires (Ward et al. 2020) and predation by invasive predators (Watson 2006, Woinarski et al. 2018, Stobo-Wilson et al. 2021) especially post-fire by feral cats (*Felis catus*) and by loss of foraging habitat (DCCEEW 2022). If feral herbivores, including horses and deer are allowed to make incursions into Mountain Skink habitat in the ACT they will likely degrade this habitat and reduce the availability of shelter and food for the Mountain Skink, as has occurred for other skinks/reptiles in other areas (Driscoll et al. 2019, Hampton and Davis 2020).

In other parts of its range, it is threatened by logging and timber harvesting and clearing of habitat (Clemann et al.2018). In a study, conducted in the forests and subalpine woodlands of Namadgi National Park, Dixon et al. (2018) found that long-unburned forests and woodlands can be more important for reptile richness and abundance than areas with prescribed burning (Dixon et al. 2018).

Major Conservation Objective

The primary objective in the ACT should be to maintain viable, wild populations of the Mountain Skink within the scope of climate limitations as it is at the edge of its range (altitude, latitude and longitude), taking into account any projected changes to distributional limits under climate change.

Conservation PRIORITIES

Conservation and management priorities for the Mountain Skink in the ACT should be to:

* ensure core habitat and projected core habitat under climate change are protected from disturbance (including trails or park infrastructure), planned burns and fragmentation
* in collaboration with other stakeholders and jurisdictions, conduct targeted surveys to improve understanding of the species occurrence in the ACT and habitat requirements
* undertake climate modelling to predict future distribution of the species within the ACT under a range of climate change scenarios
* work with other jurisdictions and stakeholders to support the research priorities for the species where practical, including studies of population genetic structure and diversity, microhabitat requirements, minimum tolerable fire intervals and potential to create safe havens from predators and herbivores
* incorporate the ecological needs of the Mountain Skink into ecological guidelines (e.g., ACT Government 2019)
* undertake targeted control of invasive predators and weeds within the habitat around skink colonies, particularly post fire, if feasible, to manage impacts on populations
* ensure active surveillance programs are in place to detect the presence of feral horses and invasive predators (including pigs and deer) around known colonies of Mountain Skink, and undertake control as needed
* explore the implications of climate change for population persistence and conduct climate sensitive management actions where feasible. Systematic monitoring and collection of population data, including reproduction and survival data when available, should be used to assess population viability and species distribution. For species whose physiological limits are known, biophysical models can provide a predictive understanding of the habitats required for persistence in the face of climate change through an integration of data on climate and other environmental variables with measures of morphology, behaviour, physiology and life history of the species. Opportunities to address knowledge gaps for this species to establish climate change ready management actions may include university and interjurisdictional research collaborations.

Other Relevant Advice, plans or Prescriptions

* Commonwealth Conservation Advice – Mountain Skink (DCCEEW 2022)
* Namadgi National Park Plan of Management (ACT Government 2010)

Listing Background

The Mountain Skink is listed as an Endangered species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), effective 10 August 2022. It is assessed as Endangered under Criterion 2 (B2ab(i,ii,iii,iv,v)) of the EPBC Act. In 2022, under the *Nature Conservation Act 2014*, the ACT Scientific Committee recommended the Mountain Skink be listed in the Endangered category in the ACT Threatened Native Species List to align with the EPBC Act listing.

Action Plan Decision

The ACT Scientific Committee does not recommend that the Minister for the Environment should make the decision to have an action plan for the species in the ACT under the *Nature Conservation Act 2014* at this time. The key habitat areas of the species in the ACT are along the ACT/NSW border in Namadgi National Park (above 1400 m above sea level) and its habitat is protected there.

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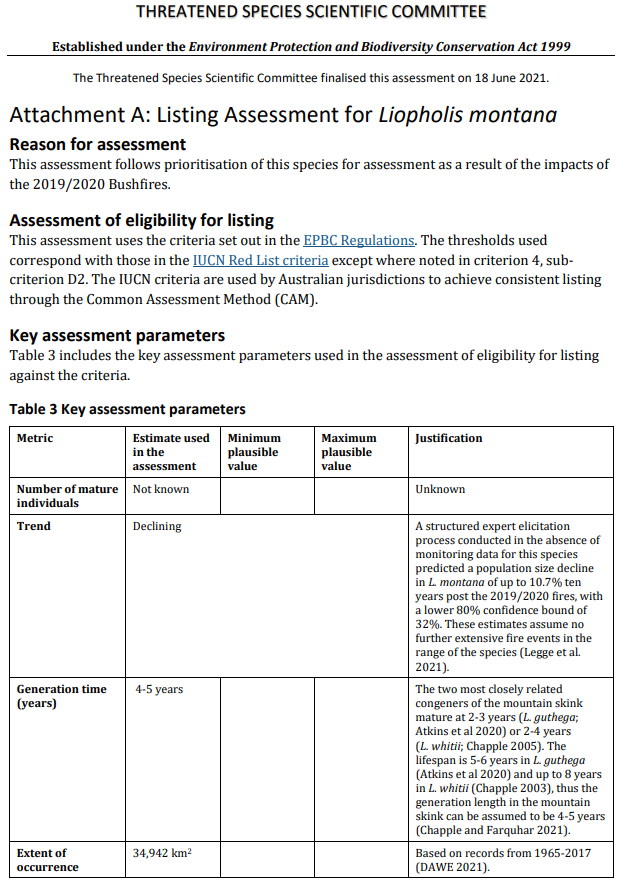
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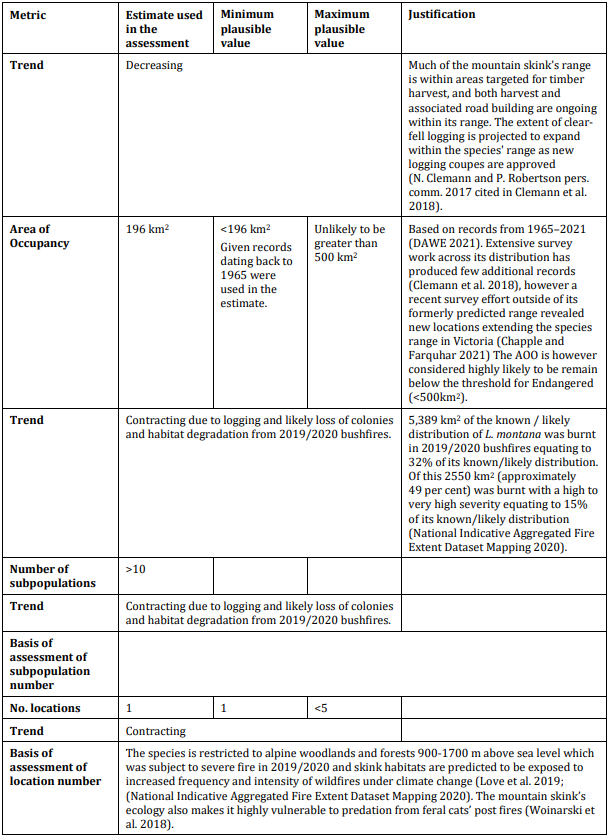
Further Information

Further information on the related Action Plan and Woodland Strategy or other threatened species and ecological communities can be obtained from the Environment, Planning and Sustainable Development Directorate (EPSDD): Phone: (02) 132281, EPSDD Website: <https://www.environment.act.gov.au/>

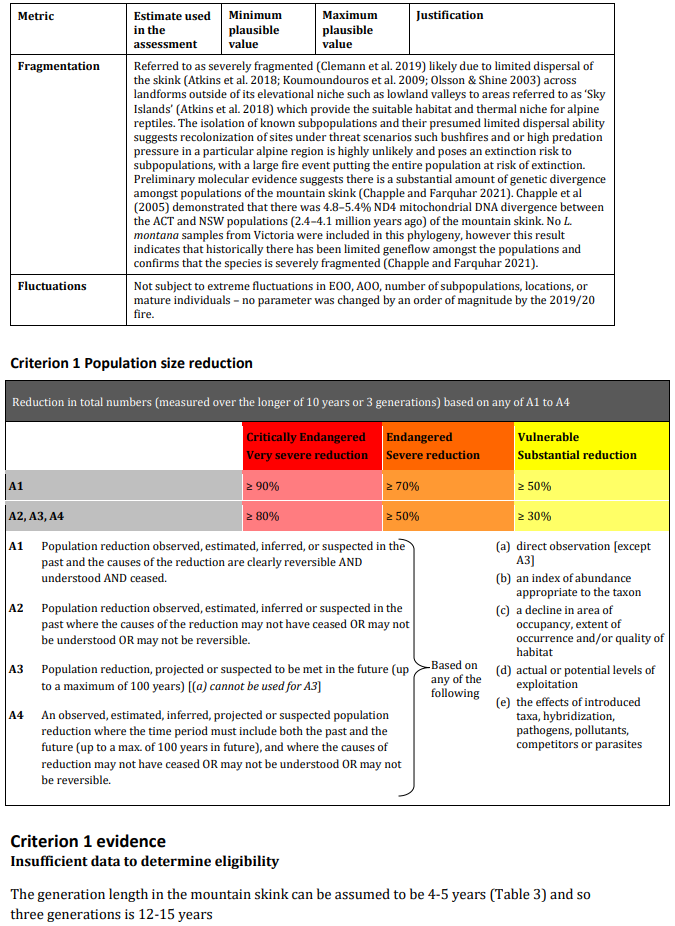
Attachment A: Listing Assessment (DEECCW 2022)



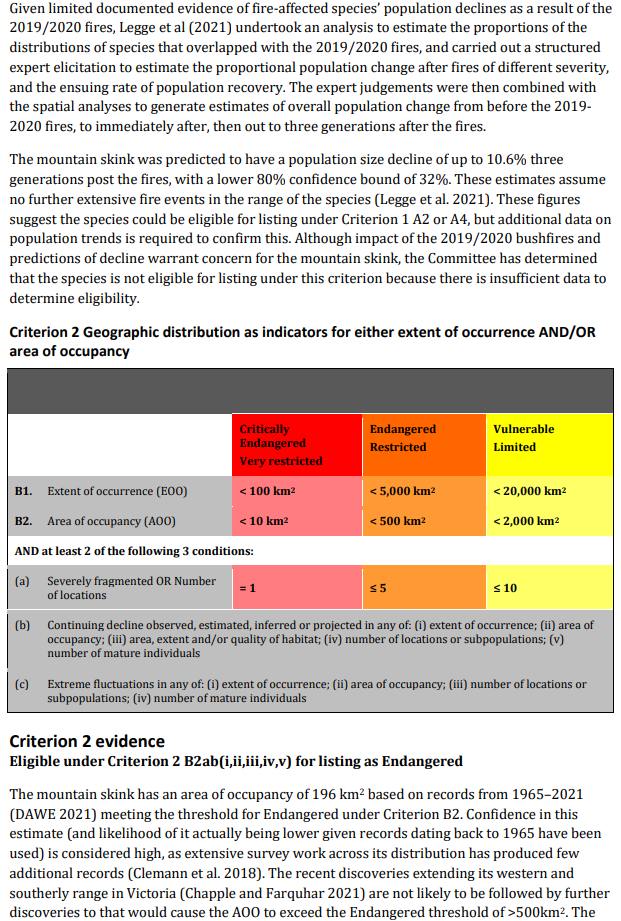
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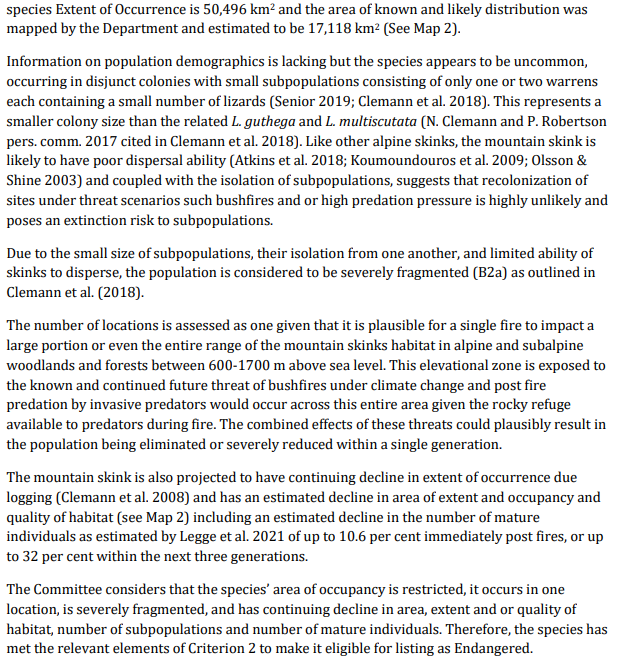
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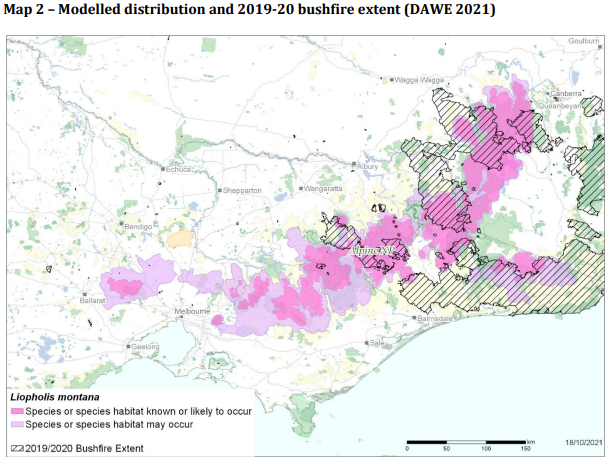
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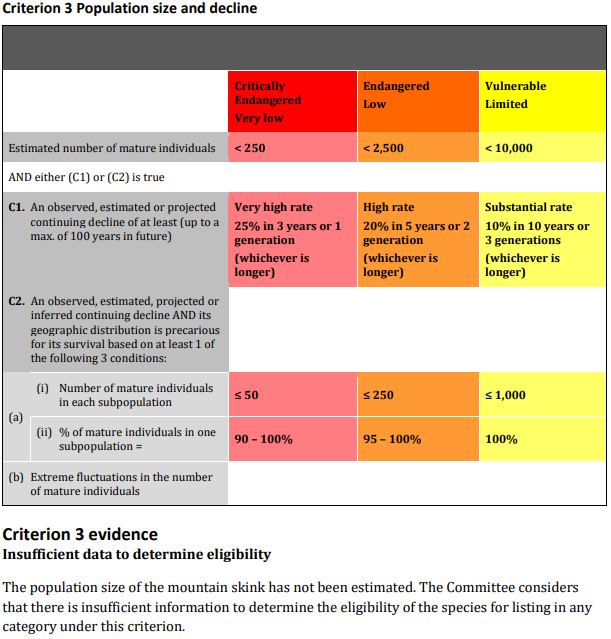


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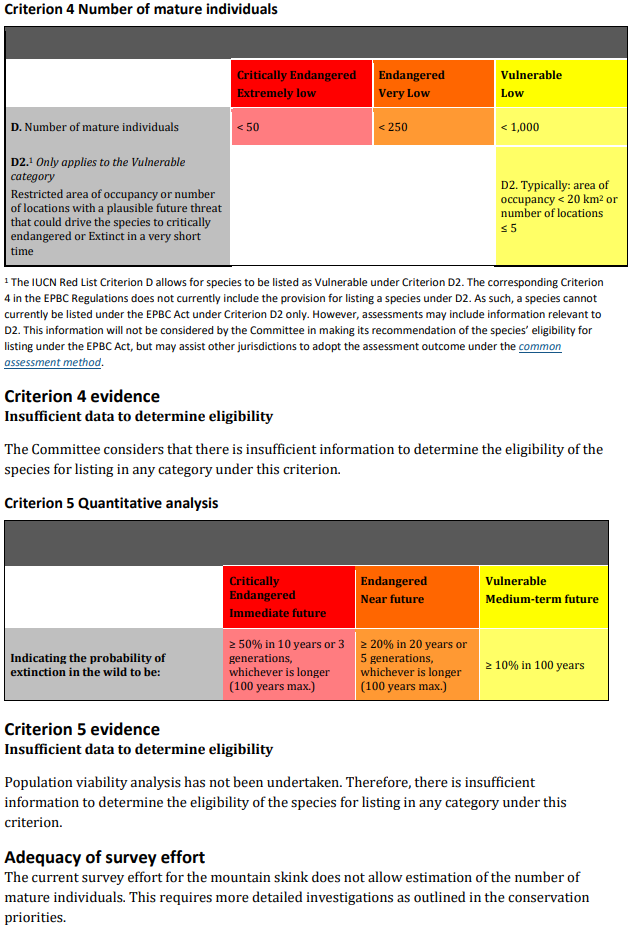


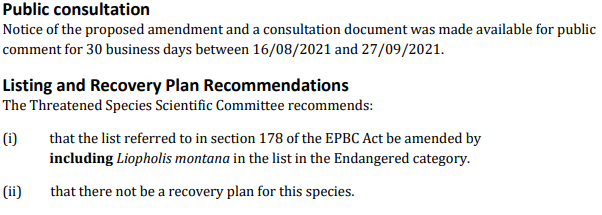
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