

Pseudemoia rawlinsoni Glossy Grass Skink

Taxonomy

Pseudemoia rawlinsoni (Hutchinson & Donnellan, 1988)

Recent synonyms: *Leiolopisma rawlinsoni*, *Leiolopisma entrecasteauxii* (part), *Claireascincus rawlinsoni*. (Robertson and Coventry 2019).

Current conservation status

Categorised as Vulnerable in the 2013 Advisory list of threatened vertebrate fauna in Victoria (DSE 2013).

Proposed conservation status

Endangered in Victoria

Criteria A3ce; B2ab(iii,iv,v)

Species Information

Description and Life History

The Glossy Grass Skink is a yellowish brown to olive-brown above, without any contrasting flecks or spots. The stripes are distinct, with a dark brown vertebral line and occasionally narrow paravertebral lines. The characteristic cream dorso-lateral stripe is centred along the third scale row, counting outwards from the centre of the back - usually dark-edged above and below, this stripe starts on the base of the tail, running forward to the neck but not onto the head. There is an immaculate, broad, brown upper lateral zone, with a continuous dark-edged mid-lateral pale stripe along the upper lip to the top of the ear then continuing behind the ear along the body onto the tail. The ventral surfaces are whitish to pale bronze. This species has 23 to 30 rows of very glossy scales at mid-body, the dorsal scales each with three faint striations or keels. The frontoparietal scales are paired, there are six supraciliaries, and the suture between the rostral and frontonasal is much shorter than the width of the frontal. The outer part of the eye is paler than the pupil, and it has a movable lower eyelid with a large transparent disc. Unlike some other members of the genus, the males of this species do not develop bright lateral colours during the breeding season. The Glossy Grass Skink may grow to a snout vent length of 65 mm. (Robertson and Coventry 2019).

It is diurnal, eliothermic and viviparous, producing up to 9 young in mid to late summer (Robertson and Coventry 2019).

Generation Length

The generation length of the Glossy Grass Skink is suspected to be 2 to 4 years. Longevity and age at first reproduction is unknown for this taxon. It has been assumed that sexual maturity is attained at around one year, and that individuals live for around 5 years.

Distribution

Most of this taxon's Victorian distribution is in coastal and near-coastal areas, extending inland to the east of Melbourne (and perhaps to the north). There are museum specimens and some observations attributed to this taxon in the Victorian High Country. Populations tend to be disjunct, and clearing of habitat and draining of swamps has greatly reduced the available habitat for this taxon in the last 200 years.

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Habitat

The taxon is restricted to wetlands or swamps, including brackish marshes.

Threats

The taxon is restricted to swampy habitats, many of which are greatly diminished in extent and quality (Robertson and Coventry 2019). Causes of loss include residential, industrial and agricultural development and roading, more frequent fires, disturbance by feral herbivores post-fire predation by feral carnivores. Development and roads create barriers between populations. Increased drying and warming, resulting from climate change, may also affect the habitat. Fires can cause direct mortality.

IUCN Criteria

Criterion A. Population size reduction. Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	Critically Endangered	Endangered	Vulnerable
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%

<p>A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.</p> <p>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.</p> <p>A3 Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(a) cannot be used for A3]</p> <p>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.</p>	<p>based on any of the following:</p>	<p>(a) direct observation [except A3]</p> <p>(b) an index of abundance appropriate to the taxon</p> <p>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</p> <p>(d) actual or potential levels of exploitation</p> <p>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</p>
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Evidence:

Eligible under Criterion A2 as Vulnerable

The population reduction over the past 10 to 12 years is projected to be 20 to 35%, based on (c) and (e) above.

The habitat of this taxon has been subject to loss and degradation in many areas. Causes of loss include residential, industrial and agricultural development and roading. Development and roads create barriers between populations.

The habitat in coastal East Gippsland was affected by the 2019/20 bushfires, also some of the known range in the high country and in outlying populations in the north-east. It is thought that 25% of the skink's range was affected, and the taxon doesn't burrow, relies on vegetative cover for shelter, is directly killed by fires and has poor tolerance of cleared conditions after fires.

Eligible under Criterion A3 as Vulnerable

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The population reduction over the next 10 to 12 years is projected to be 20 to 30%, based on (c) and (e) above. The habitat of this taxon has been subject to loss and degradation in many areas. These losses are expected to continue, as a result of the identified threats.

Criterion B. Geographic range in the form of either B1 (extent of occurrence) and/or B2 (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			

Evidence:

Eligible under Criterion B2 as Endangered

The Area of Occupancy (AoO) across the taxon's range is estimated to be 496 km², based on 2 x 2 km grids derived from accepted, post-1970 records in the Victorian Biodiversity Atlas.

The taxon is estimated to be severely fragmented. Populations tend to be disjunct and the wetland habitat is reduced and fragmented, such that if records were lost there would be no or little chance of recolonisation.

and is inferred to have a continuing decline in (iii), (iv) and (v) above. Area, extent and quality of habitat has greatly declined as a result of the identified threats (Robertson & Coventry 2019). Habitat continues to be lost and degraded, and some remaining small populations may not be viable. Climate change is likely to have a negative impact on this taxon.

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Criterion C. Small Population size and decline		Critically Endangered	Endangered	Vulnerable
Number of mature individuals		< 250	< 2,500	< 10,000
AND at least one of C1 or C2				
C1	An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
C2	An observed, estimated, projected or inferred continuing decline AND 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			

Evidence:

Ineligible under Criterion C as Data Deficient

There is insufficient evidence to determine the number of mature individuals.

Criterion D. Very small or restricted populations		Critically Endangered	Endangered	Vulnerable
Number of mature individuals (observed or estimated)		< 50	< 250	< 1,000
D2. Only applies to the VU 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: AoO < 20 km ² or number of locations ≤ 5

Evidence:

Ineligible under Criterion D

There is insufficient evidence to determine the number of mature individuals.

Criterion E (Quantitative Analysis) was not addressed as the taxon does not have a detailed Population Viability Analysis.

References

DSE (2013) *Advisory List of Threatened Vertebrate Fauna in Victoria 2013*. Department of Sustainability and Environment, Melbourne. Retrieved from: https://www.environment.vic.gov.au/__data/assets/pdf_file/0014/50450/Advisory-List-of-Threatened-Vertebrate-Fauna_FINAL-2013.pdf

Robertson, P. and Coventry, A. J. (2019). *Reptiles of Victoria: A Guide to Identification and Ecology*. CSIRO Publishing, Clayton South.