

Action Statement

Flora and Fauna Guarantee Act 1988

No. 113

Alpine She-oak Skink *Cyclodomorphus praealtus*

Description and Distribution

The Alpine She-oak Skink *Cyclodomorphus praealtus* belongs to the reptile family Scincidae, the skinks. Scincidae is the largest family of Australian lizards and comprise species with an enormous variety of body form, size and habits. Most have smooth, overlapping scales, an obvious ear aperture and a short, broad fleshy tongue. The genus *Cyclodomorphus* is distinguished from other scincid lizards on the basis of the being sub-equal, or the third toe slightly longer than the fourth; possession of fewer than 29 mid-body scale rows; and the adpressed hind-limb falling far short of the middle of the axilla-groin region (Cogger 2000). Two species of *Cyclodomorphus* occur in Victoria.

The Alpine She-oak Skink is a robust, medium-sized, short-limbed scincid, with a maximum snout-vent length of about 120mm. The dorsal ground colour varies from grey to reddish-brown, and from immaculate to strongly patterned.

The dorsal scales may have thin, black lateral edges, giving the impression of a series of thin, black longitudinal lines. The lateral scales may be flecked with black and grey. The under surface is greyish-yellow, with brown flecks or longitudinal dark lines. The Alpine She-oak Skink is distinguishable from all other species of *Cyclodomorphus* in having fewer than 60 scales on the underside of the original tail.

This species is predominantly diurnal, but may be active after dark on warm nights. Females give birth to between two and nine live young, which are born in mid-late summer. The diet of the Alpine She-oak Skink comprises mainly molluscs and arthropods, however small lizards and snakes,



Alpine She-oak Skink, *Cyclodomorphus praealtus*
(Image: © Graeme Gillespie)



Distribution in Victoria

+ before 1970, ■ since 1970

[source: Atlas of Victorian Wildlife, DSE 2004]

such as the White-lipped Snake *Drysdalia coronoides*, are occasionally consumed (Shea 1988). No data exist on the longevity of this species.

The Alpine She-oak Skink inhabits sub-alpine woodlands, alpine grasslands and herbfields and low heathlands above 1500m in the Australian Alps, from Kiandra (NSW) in the north, to Lankey Plain on the Dargo High Plains in the south (Shea 1995, DSE 2004). Tussock grass appears to be a conspicuous component of the habitat of this lizard. Within this habitat the species shelters beneath litter, rocks, logs and other ground debris, and has been observed basking on grass tussocks.

Within Victoria the Alpine She-oak Skink has been recorded in the vicinity of Falls Creek and Mt Hotham, and on Lankey Plain (DSE 2004). However, no estimates exist of the size of these populations.

Current conservation status

DSE (2003) Endangered (Vict.)

The Alpine She-oak Skink is listed as threatened under the **Flora and Fauna Guarantee Act 1988**. Within Victoria the Alpine She-oak Skink is known from only 29 records in the alpine area in the vicinity of Falls Creek, Mt Hotham and the Dargo High Plains. These records occur within alpine resorts and the Alpine National Park. Much of the species' known range within the National Park is immediately adjacent to alpine resorts.

Due to a paucity of records and a restricted distribution, the status of the Alpine She-oak Skink in Victoria must be considered tenuous. Sites where the species occurs within the alpine resorts are threatened by development for recreational infrastructure and by recreational activities (Schulz *et al.* 1995). Human activities in the area could adversely affect a significant part of these populations. Slashing of native vegetation at the Falls Creek resort is widespread, including areas where the species occurs, and is sufficient to destroy the structural integrity of the Alpine She-oak Skink's habitat (D. Heinze *pers. comm.*). Sites within the Alpine National Park may be threatened by habitat degradation resulting from cattle grazing, and the deleterious impact of this process has been observed at a site near Basalt Hill where numerous Alpine She-oak Skinks have been captured (D. Heinze *pers. comm.*). The response of the Alpine She-oak Skink to fire is unknown, and wildfire may threaten this species. The predicted effects of climate change associated with the enhanced greenhouse effect may further reduce suitable habitat for the species (Bennett *et al.* 1991; Hughes and Westoby 1994). The impact of predation by exotic predators such as cats and foxes on the Alpine She-oak Skink is unknown.

Victorian populations of the Alpine She-oak Skink are in a precarious position, due to their presumed specialised habitat requirements, restricted distribution, probable low numbers, and occurrence in areas prone to human disturbance and cattle grazing. This lizard has only recently been recognised as a distinct species (Shea 1995), and biological knowledge of this taxon is lacking.

The apparently localised distribution and small population sizes of the species render it vulnerable to rapid decline as a result of, for example, fire or disease.

In its final recommendation the Scientific Advisory Committee (SAC 1996) determined that the Alpine She-oak Skink is:

- significantly prone to future threats which are likely to result in extinction, and
- very rare in terms of abundance or distribution.

Major Conservation Objective

The major conservation objectives for the Alpine She-oak Skink are to determine the distribution and abundance of the species within three years, ameliorate immediate threats, and to protect the habitat of known populations.

Management Issues

Ecological issues specific to the taxon

Because so little is known of the species' population dynamics and specific distribution in the alpine region, further research on the Alpine She-oak Skink is an urgent priority. A number of general issues, although largely speculative at the moment, may be pertinent to the conservation of the species.

There is an urgent need to clarify the distribution and abundance of the Alpine She-oak Skink in the alpine region of Victoria. The first Victorian records of this lizard were made in the early 1970s, and there is no information on the distribution or abundance of the species prior to this. Consequently, nothing is known about the historical impact of threatening processes on the Alpine She-oak Skink. A large proportion of the known range of the species occurs within, or adjacent to, the Mt Hotham and Falls Creek Alpine Resorts (Schulz *et al.* 1995; DSE 2004). Thus, areas of habitat occupied by the species may be subject to destruction or modification for infrastructure development for recreational industries (e.g. construction activities or the development of ski runs) and some habitat areas may have been lost to these processes.

The Alpine She-oak Skink has an extremely restricted distribution; it is known to occur only at altitudes above 1500m in alpine regions.

Consequently, like other species with restricted ranges that survive within narrow ecological limits, it has a higher probability of becoming extinct than more widespread species (Bennett *et al.* 1991). Predicted scenarios of global warming due to the enhanced greenhouse effect suggest a contraction of the species' range over time.

Summer recreational activities in areas inhabited by the Alpine She-oak Skink could threaten this species' habitat. Alpine vegetation communities are easily damaged by walkers and vehicles, and take a long time to recover because of the brief growing period and harsh climate in these areas.

Winter recreational activities in alpine areas, which include nordic and down-hill skiing, walking and camping, are likely to be less damaging because of protective snow cover. However, habitat alteration associated with these activities could be deleterious. During periods of sparse snow cover skiers may access larger snow patches by walking across the intervening snow-free areas, where they can cause considerable damage. The slashing of low heathland vegetation in alpine resorts to create ski trails, for example, destroys habitat structure, and is likely to render the habitat unsuitable for the species (D. Heinze *pers. comm.*).

Because of the localised distribution of the species, predation by exotic predators such as cats and foxes may have a considerable impact on populations of the Alpine She-oak Skink. The impact of cattle grazing and trampling on the habitat of the Alpine She-oak Skink remains unquantified, however, cattle on the Bogong High Plains are known to graze on the tussock grasses that appear to be an important component of this lizard's habitat (van Rees 1984). Observations of the impact of cattle in an areas where the species has been captured have shown that cattle trample lizard survey equipment (metal plates placed on the ground), and are also likely to destroy the habitat of the species, and possibly trample individuals (D. Heinze *pers. comm.*). Fire, particularly changed fire regimes, may also have an impact on the Alpine She-oak Skink.

Wider conservation issues

The alpine areas of Victoria have considerable conservation value. Protection of the Alpine She-oak Skink and its habitat will also protect parts of the sensitive alpine ecosystem in the long term and complement protection of the Alpine Bog Community and Fen (Bog Pool) Community (both of which are listed as threatened under the **Flora and Fauna Guarantee Act 1988**). Soil erosion and vegetation damage and disturbance caused by cattle grazing are also listed under this Act, and may be ameliorated by management for the Alpine She-oak Skink. Similarly, management actions for

the Alpine She-oak Skink will improve visitor management in the region over both winter and summer.

The protection of the habitat of the Alpine She-oak Skink may benefit other terrestrial reptiles and amphibians in the area, including species listed as threatened in Victoria by DSE (2003), such as the Alpine Water Skink *Eulamprus kosciuskoi* (Critically Endangered, and listed on the **Flora and Fauna Guarantee 1988**), the Alpine Tree Frog *Litoria verreauxii alpina* (Critically Endangered) and the Alpine Bog Skink *Pseudemoia cryodroma* (Vulnerable, and listed on the **Flora and Fauna Guarantee Act 1988**). Ground-dwelling fauna such as these species may especially benefit from protection from grazing and trampling by cattle and horses.

Similarly, other threatened terrestrial vertebrates such as the Broad-toothed Rat *Mastacomys fuscus* and the Mountain Pygmy-possum *Burrhamys parvus* occur in the vicinity of sites where the Alpine She-oak Skink has been recorded (DSE 2004). Habitat protection as outlined in this Action Statement is likely to assist in the conservation of these species.

Previous Management Action

Relatively brief field surveys in recent years have targeted the Alpine She-oak Skink (Schulz *et al.* 1995; Heinze 1997; Schulz and Mansergh 1997). Placing metal plates placed on the ground to attract the species has been trialed as a survey and monitoring method (Schulz *et al.* 1995, Heinze 1997), however success has been limited (D. Heinze *pers. comm.*). The *Atlas of Victorian Wildlife* database (in January 2004) has 29 records of the species collected between 1971 and 2003.

Intended Management Action

Research and survey

1. Facilitate and undertake research and surveys as follows:
 - Conduct surveys to accurately determine the species' distribution and habitat requirements within the Alpine National Park and adjacent alpine resorts. These surveys should extend beyond the known limits of the distribution of the species.
 - Develop best practise survey and monitoring techniques for the Alpine She-oak Skink. In areas where rock-rolling cannot be conducted (i.e., no rocks exist), pit-fall trapping should be trialed.
 - Estimate the size of populations within the three broad localities from which the species has been recorded.
 - Develop and implement a program to monitor population fluctuations. After the

distribution and abundance of the species has been determined, monitoring should be conducted each year.

- Assess the impact on the species of predation by exotic predators such as cats and foxes. This may be achieved through the analysis of predator scats and stomach contents.
- Investigate further the impact of cattle and wild horse grazing and trampling on the habitat of the species.
- Investigate the ecological relationships between the Alpine She-oak Skink, its dietary items and fire, preferably in conjunction with a broader investigation of fire ecology, and the species' response to habitat succession following fire.

Responsibility: DSE (Biodiversity & Natural Resources Division) and Parks Victoria

Site Management and Habitat Protection

1. Manage areas within the Alpine National Park where the Alpine She-oak Skink occurs for protection of the species' habitat. Identify such areas within the Alpine National Park Management Plan.

Responsibility: Parks Victoria

2. If the species is found to occur in State forest, sites will be protected by appropriate zoning and prescriptions.

Responsibility: NRE (Forests Service)

3. Control fire around the areas within which the species has been recorded. No fuel reduction or habitat management burns should occur until the effects of these activities on the Alpine She-oak Skink are known.

Responsibility: NRE (NE Region, Gippsland Region), Parks Victoria

4. Avoid track works, ski run development, construction activities and any other forms of ground layer disturbance around known Alpine She-oak Skink habitat. In particular, slashing of native vegetation for ski trails should cease in the vicinity of areas known to contain the species.

Responsibility: Falls Creek Alpine Resort Board, Mt Hotham Alpine Resort Board, Parks Victoria

5. Where the impact of trampling by cattle and/or wild horses is found to be affecting populations of Alpine She-oak Skink, implement actions, in liaison with affected parties (e.g., cattle graziers), to mitigate this impact. Such actions may include fencing of habitat, lowering of cattle stocking rates, or encouraging graziers to ensure that stock avoid the habitat of the species.

Responsibility: Parks Victoria

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