Australian Threatened Species

Great desert skink *Egernia kintorei*

Aboriginal names: Tjakura (Pitjantjatjara/Ngaanyatjarra), Warrarna (Walpiri), Mulyamiji (Manyjilyjarra)

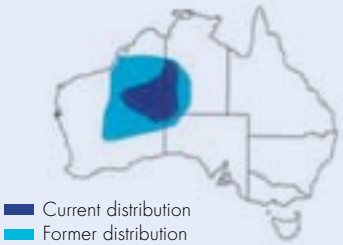
Conservation Status

Great desert skink. Photo by Ada Nano

Commonwealth: Vulnerable *(Environment Protection and Biodiversity Conservation Act 1999)*

Northern Territory: Vulnerable *(Territory Parks and Wildlife Conservation Act 2000)*

Western Australia: Vulnerable *(Wildlife Conservation Act 1950)*



Great desert skink distribution.
Source WWF-Australia

What does it look like?

The Great desert skink is a large burrowing skink which weighs up to 350 grams and is about 440 millimetres from the snout to the tip of the tail when fully grown.

The colour of the upper surface of the skink commonly ranges from light grey to a bright orange-brown while the under-parts range from vivid lemon-yellow to creamy grey. The tail is longer than the body, and in good seasons the base of the tail becomes swollen with stored fat reserves.

The Great desert skink is one of two skinks found in the rangelands listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)–the other is the Slater's skink or *Egernia slateri slateri*.

Where does it live?

The Great desert skink is found in the sandy and gravelly habitats of the western deserts region of Central Australia. Most of the currently known populations are on Aboriginal lands.

The skinks generally inhabit spinifex (*Triodia* species and *Plectrachne* species) grassland sandplains and some adjacent dunefield swales. They live communally in burrow systems of up to 10 metres in diameter, with multiple entrances.

Mature adult pairs share burrow systems with their juvenile offspring, and the young adult skinks leave their birth burrows in their third summer. The Great desert skink are known to move between burrow systems into vacated burrows of other skinks and also those of Mulgaras–a rat-sized carnivorous marsupial.

What does it eat?

Great desert skink feed on large numbers of termites and supplement this dietary mainstay with cockroaches, beetles, spiders, ants and the occasional small lizard or flower. Most of their burrow systems are located close to termite pans, and the lizards catch termites when they come to the surface to harvest grasses or during dispersal of winged adults.

Most foraging is done in the early evening or during the night in hotter months. Great desert skinks hibernate within specially constructed chambers in their burrow systems over the cooler months.

Did you know...

- Great desert skinks were first recorded by European explorers in the Great Victorian Desert during the Elder expedition of 1892–93.
- A distinctive feature of Great desert skink burrows is the large latrine area where resident lizards habitually defecate.

Altered fire regimes: a major threat

What are altered fire regimes?

The areas inhabited by the Great desert skink have been burnt by Aboriginal people for thousands of years, as they move around the country hunting and collecting resources. This burning regime involves frequent lighting of small fires during particular times of the year, which produces a mosaic of vegetation patches of varying fire-age. With the high frequency and patchiness of burning the chance of large or hot wildfire is limited, and these relatively cool fires tend to burn to the edge of patches of fire-age vegetation and then die out.

With the arrival of Europeans, Aboriginal burning practices have been significantly altered in timing, frequency and scale and in places have altogether ceased. When areas are not burnt for a long time the available fuel load builds up as the vegetation ages. This increases the potential for larger and hotter fires, especially when these fires occur during the warmer seasons. Many wildfires now burn through more than a thousand square kilometres in a single event, which creates large areas of vegetation of a single fire age.

Why are altered fire regimes a problem in Australia?

Fire is a critical component of the Australian landscape, and our native species have adapted to living with fire over millions of years. The way fire is occurring throughout the landscape today, as compared to how fire occurred throughout the landscape prior to Europeans arrival, now presents a major threat.

An increase in fire intensity and frequency has the potential to:

- reduce the size of patches of fire sensitive vegetation
- change the structure, composition and abundance of vegetation
- change the timing of fruiting and seeding of species
- increase the prevalence of fire-promoting grasses *and*
- change the availability of nesting and shelter sites for animals.

Total fire exclusion can result in an increase in some woody shrub species at the expense of grasses and species that require fire to reproduce.

As Australia's climate changes, the problem of altered fire patterns is predicted to worsen in northern Australia. Existing fire regimes may be altered by changes in the amount and extent of rainfall patterns, changes in fuel load and wind regimes, and possible changes in ignition patterns (i.e. lightning).

Why are modern fire regimes a threat to *Egernia kintorei*?

Great desert skinks have adapted to a patch-burning regime, and remaining populations are found in areas which have active fire management by Aboriginal people.

Burrow systems are primarily found in areas burnt in the previous 3–15 years. Research at Uluṟu–Kata Tjuṯa National Park found that recently burnt habitat improves the chance of successful reproduction for the skink, with burrows in areas burnt within the last 10 years recording the greatest number of juveniles.

Surviving a large-scale fire is very difficult for the Great desert skink. Food resources and cover from predators are severely reduced following a large fire due to loss of vegetation cover over large areas and the resulting loss of invertebrates and small vertebrates that live in the vegetation.

The effects of predation by feral cats and foxes are further exacerbated by population fragmentation due to loss of habitat from inappropriate fire regimes.

What is being done?

Reducing the number, impact and extent of destructive wildfires is critical to building an appropriate habitat mosaic.

Further research into the range and critical habitat of the Great desert skink, along with feral predator control programs and the continuation or re-instatement of patch burning regimes are key objectives stated in the recovery plan for the Great desert skink.

Since 1996, a Parks Australia study at Uluṟu–Kata Tjuṯa National Park has been monitoring Great desert skink populations. This ongoing research project also includes the monitoring of species such as Mulgara and Bilby populations in the area.

Threatened Species Network grants projects involving scientists and traditional owners in the Nyirripi Community north-west of Alice Springs and with Martu people in Western Australia have found areas that supported populations of Great desert skink and Mulgara were those visited most regularly for hunting by local people. Patch burning and the hunting of cats during these hunting visits are thought to be the main reasons for the healthier populations.

Projects such as these provide important opportunities for scientists to learn about Great desert skink ecology and habitat, and also demonstrate the importance of the involvement of Aboriginal people in recovery efforts for Great desert skink and for many other threatened plants and animals in the arid rangelands.

How you can help

- Follow all fire warnings and do not light fires that could escape into the bush.
- Be careful when travelling—never throw matches or cigarettes from a vehicle.
- Walk, cycle or use public transport.
- Save on heating and cooling costs by insulating, draught-sealing and shading, while setting thermostats appropriately. For more information see the 'Heating and Cooling' fact sheet of the *Your Home Technical Manual*: www.greenhouse.gov.au/yourhome/
- Switch off lights, appliances and equipment when they're not needed and install energy-efficient fluorescent lamps such as compact fluorescent lights.
- Minimise waste of packaging and materials—refuse, reduce, re-use, recycle.
- For other tips on saving energy around the home, go to the Australian Greenhouse Office web site: www.greenhouse.gov.au/gwci/index.html

Contacts and references

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You can also find out more information about Australia's threatened species by visiting **www.deh.gov.au/biodiversity/threatened** or contacting the Department of the Environment and Heritage Community Information Unit, email ciu@deh.gov.au, or freecall 1800 803 772.

- McAlpin, Steve. 2001. *A Recovery Plan for the Great Desert Skink* (Egernia kintorei) *2001–2011*. Arid Lands Environment Centre, Alice Springs NT.
- Paltridge, Rachel and McAlpin, Steve. 2001. *A guide to rare and threatened animals in Central Australia*. WWF–Australia, Sydney NSW.

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