

Approved Conservation Advice  
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

**Approved Conservation Advice for**  
***Diplodactylus occultus* (Yellow-snouted Gecko)**

This Conservation Advice has been developed based on the best available information at the time this Conservation Advice was approved; this includes existing plans, records or management prescriptions for this species.

**Description**

*Diplodactylus occultus*, Family Gekkonidae, also known as the Yellow-snouted Gecko and Yellow-snouted Ground Gecko, is a small ground-dwelling gecko with a snout-to-vent length of 40 mm. The species is dark brown above, with a reddish head, four large, squarish pale brown blotches along the back, and whitish spots scattered on the flanks and limbs (Woinarski et al., 2007).

**Conservation Status**

The Yellow-snouted Gecko is listed as **endangered**. This species is eligible for listing as endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, in 2006, the Minister considered the Threatened Species Scientific Committee's (TSSC) advice under section 189 of the EPBC Act and amended the list under section 184 to include the Yellow-snouted Gecko. The TSSC determined that this species met Criterion 2 of their eligibility criteria (TSSC, 2006b). The species is also listed as vulnerable under the *Territory Parks and Wildlife Conservation Amendment Act 2006* (Northern Territory).

**Distribution and Habitat**

The Yellow-snouted Gecko is endemic to the Northern Territory. This species has been recorded in Wildman Reserve (proposed Mary River National Park (NP)), Annaburroo, Mt Bunday (military training area), and the north-west area of Kakadu NP (King et al., 1982; Cogger, 2000; Johansen, 2006). The range of the Yellow-snouted Gecko is limited and fragmented, with an extent of occurrence estimated to be 1300 km<sup>2</sup> (TSSC, 2006b). This species occurs within the Northern Territory Natural Resource Management Region.

The Yellow-snouted Gecko occurs mostly in areas with well-developed leaf litter and grass in open forests dominated by *Eucalyptus miniata* and *E. tetradonta* (King, Braithwaite, & Wombey, 1982; Johansen, 2006). Soils are typically red sandy-loam. Records from Wildman Reserve include sites with sparse to moderate occurrences of introduced gamba grass (*Andropogon gayanus*).

The distribution of this species is not known to overlap with any EPBC Act-listed ecological communities.

**Threats**

The main potential threats affecting the Yellow-snouted gecko include inappropriate fire regimes and introduced pasture species. Intense fires are likely to increase the mortality of terrestrial geckos and their eggs, reduce the leaf litter in which they shelter, and increase predation risks. Recent surveys in Mary River NP have found the species in areas of conservative fire management (infrequent, controlled fires). Spread of gamba grass (*Andropogon gayanus*) and mission grass (*Pennisetum polystachion*) is threatening due to formation of a denser understorey and encouragement of large-scale intense fires (PWC NT, 2006).

### **Research Priorities**

Research priorities that would inform future regional and local priority actions include:

- Design and implement a monitoring program or, if appropriate, support and enhance existing programs.
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Undertake research to assess population viability under different fire regime.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations or occurrences (TSSC, 2006a).

### **Regional and Local Priority Actions**

The following priority recovery and threat abatement actions can be done to support the recovery of Yellow-snouted Gecko.

#### **Habitat Loss, Disturbance and Modification**

- Monitor known populations to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Investigate further formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.
- Control access routes to suitably constrain public access to known sites on public land.

#### **Invasive Weeds**

- Develop and implement a management plan for the control of gamba grass in the local region.
- Implement management recommendations for the control of Mission Grass (Miller, 2006).
- Manage sites to prevent introduction of invasive weeds, which could become a threat to Yellow-snouted Geckos, using appropriate methods (TSSC, 2006a).
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Yellow-snouted Geckos.

#### **Fire**

- Develop and implement a suitable fire management strategy for Yellow-snouted Gecko.
- Provide maps of known occurrences to local and state Rural Fire Services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

#### **Conservation Information**

- Raise awareness of the Yellow-snouted Gecko within the local community.

#### **Enable Recovery of Additional Sites and/or Populations**

- Investigate options for linking, enhancing or establishing additional populations.
- Support the existing small captive breeding population being maintained at the Territory Wildlife Park.

This list does not necessarily encompass all actions that may be of benefit to the Yellow-snouted Gecko, but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

### **Existing Plans/Management Prescriptions that are Relevant to the Species**

- Management of Mission Grass (*Pennisetum polystachion*) (Miller, 2006), and
- Kakadu National Park Management Plan 2007–2014 (KBM, 2007).

This Conservation Advice was approved by the Minister / Delegate of the Minister on: 1/10/2008

These prescriptions were current at the time of publishing; please refer to the relevant agency's website for any updated versions.

### **Information Sources:**

Cogger, HG 2000, *Reptiles and Amphibians of Australia, Sixth edition*, Reed New Holland, Sydney.

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Kakadu Board of Management (KBM) 2007, *Kakadu National Park Management Plan 2007-2014*, Director of National Parks, Parks Australia North, Darwin, viewed 13 May 2008, <<http://www.environment.gov.au/parks/publications/kakadu/pubs/management-plan.pdf>>

King, M, Braithwaite, RW & Wombey JC 1982, 'A new species of *Diplodactylus* (Reptilia: Gekkonidae) from the Alligator Rivers region, Northern Territory', *Transactions of the Royal Society of South Australia*, vol. 106, pp. 15-18.

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Parks and Wildlife Commission, Northern Territory (PWC NT) 2006, *Yellow-snouted Gecko, Diplodactylus occultus*, Species Profile, Northern Territory Government, Department of Natural Resources and the Arts, viewed 13 May 2008, <[http://www.nt.gov.au/nreta/wildlife/animals/threatened/pdf/herps/yellowsnouted\\_gecko\\_vu.pdf](http://www.nt.gov.au/nreta/wildlife/animals/threatened/pdf/herps/yellowsnouted_gecko_vu.pdf)>

Threatened Species Scientific Committee (TSSC) 2006a, *Commonwealth Conservation Advice on Diplodactylus occultus*, Department of Environment, Water, Heritage, and the Arts, unpublished.

Threatened Species Scientific Committee (TSSC) 2006b, *Commonwealth Listing Advice on Diplodactylus occultus*, Department of Environment, Water, Heritage, and the Arts, viewed 13 May 2008, <<http://www.environment.gov.au/biodiversity/threatened/species/pubs/diplodactylus-occultus-listing.pdf>>

Woinarski, J, Pavey, C, Cowie, I & Ward, S 2007, *Lost from Our Landscape*, Department of Natural Resources, Environment and the Arts, Northern Territory Government.