

# Threatened Species of the Northern Territory

## Mitchell's Water Monitor

### *Varanus mitchelli*

#### Conservation status

**Australia: Critically Endangered**

*Environment Protection and Biodiversity Conservation Act 1999*

**Northern Territory: Vulnerable**

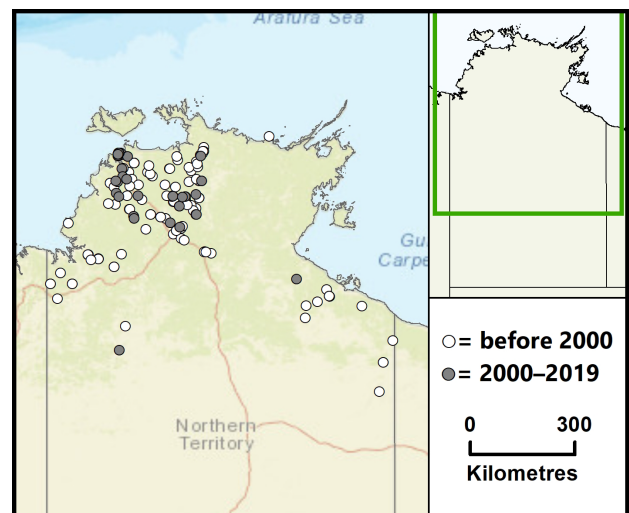
*Territory Parks and Wildlife Conservation Act 1976*

#### Description

Mitchell's Water Monitor is a slender, medium-sized monitor growing to a total length of 70 cm. The back is dark brown to black with small yellow spots and/or black-centred ocelli, while the head and limbs are black above with scattered cream or yellow spots. The underside of the body is cream-coloured. The throat, sides of the neck and lower lip are lemon-yellow with black spots and bars. The tail, which is about twice as long as the body, is strongly laterally compressed and has a distinct two-keeled crest along the top of the terminal half.

#### Distribution

Mitchell's Water Monitor occurs in the Kimberley region of Western Australia and the Top End of the Northern Territory (NT), with an isolated locality in north-western Queensland. In the NT, the distribution includes all the northern river systems that flow into the Timor Sea, Arafura Sea and the Gulf of Carpentaria. There are no records of the species from any offshore islands.



Known localities of Mitchell's Water Monitor in the NT

[nrmaps.nt.gov.au](http://nrmaps.nt.gov.au)

NT conservation reserves where reported: Keep River National Park (NP), Judburra/Gregory NP, Litchfield NP, Nitmiluk NP, Kakadu NP, Limmen NP, Mary River NP, Eley NP, Black Jungle/Lambells Lagoon Conservation Reserve (CR), Cutta Cutta Caves Nature Park, Flora River Nature Park, Fogg Dam CR, Howard Springs Nature Park, Manton Dam Recreation Area, Territory Wildlife Park-Berry Springs Nature Park and Umbrawarra Gorge Nature Park.

## Ecology and life-history

Mitchell's Water Monitor inhabits margins of watercourses, swamps and lagoons<sup>2</sup>. The species is semi-aquatic and a strong swimmer. It is also adept at climbing and will rest in hollows and underneath bark on trees. Individuals often bask on rocks or limbs overhanging water and readily take to the water when disturbed. The diet comprises mostly aquatic insects, fish, small lizards and frogs.

## Threatening processes

The advance of Cane Toads *Rhinella marina* across the NT presents the most significant threat to the species. Monitors are highly susceptible to Cane Toad toxin and this species can easily consume a toad large enough to kill it<sup>1</sup>. Cane Toads may also deplete areas of potential prey for monitors, especially prey species eaten by juveniles. Such dietary competition would likely hinder recovery of Mitchell's Water Monitor from declines following the arrival of Cane Toads in an area. The distribution of the Cane Toad in the NT overlaps 100% of the distribution of the Mitchell's Water Monitor.

Records of the species from the NT post-Cane Toad invasion demonstrate that not all individuals have been extirpated by Cane Toads. There are over 130 records post-2000, many collected during systematic fauna surveys conducted by DEPWS, from across the entire Northern Territory distribution. The species has persisted at a substantial number of sites and therefore there is considerable uncertainty about the number of individuals across the species' distribution.

## Conservation objectives and management

It is highly unlikely the spread of Cane Toads across the NT will be halted. Given our inability to prevent localised declines once Cane Toads arrive, conservation and management effort is best aimed at trying to maintain the presence of Mitchell's Water Monitor in toad-invaded areas.

## References

- <sup>1</sup> Smith, J.G., Phillips, B.L. 2006. Toxic tucker: the potential impact of cane toads on Australian reptiles. *Pac. Conserv. Biol.* 12, 40–49.
- <sup>2</sup> Laive, A. de, Schembri, B., Jolly, C.J., 2021. Novel habitat associations and seasonality in threatened Mitchell's water monitors (*Varanus mitchelli*): Implications for conservation. *Austral Ecology* n/a.
- <sup>3</sup> Doody, J.S., Rhind, D., Green, B., Castellano, C., McHenry, C., Clulow, S., 2017. Chronic effects of an invasive species on an animal community. *Ecol.* 98, 2093–2101.