

Threatened Species of the Northern Territory

Pig-nosed Turtle

Carettochelys insculpta

Conservation status

Australia: Vulnerable

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Near Threatened

Territory Parks and Wildlife Conservation Act 1976

Description

The Pig-nosed Turtle is a large freshwater turtle with characteristic fleshy nostrils and broad, paddle-like flippers. The carapace is brown-grey in colour and the plastron is white-to-cream coloured. Both the carapace and plastron are covered by smooth skin rather than the flat plates that are on other Australian freshwater turtles.

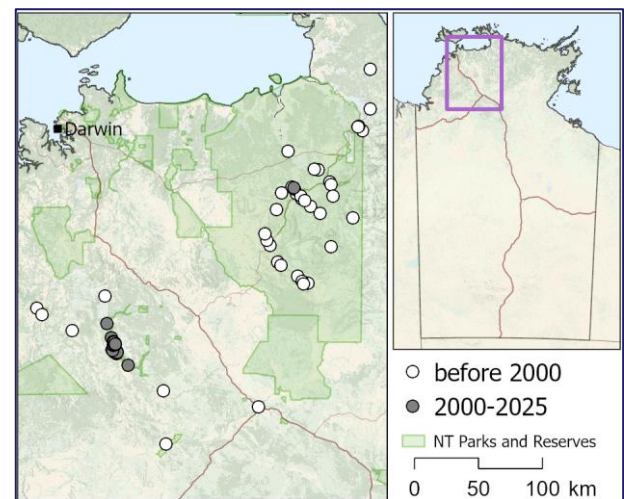
Distribution

The Pig-nosed Turtle occurs in river systems in the western Top End of the Northern Territory, in Indonesian Papua, and in Papua New Guinea. In the Top End, it is known from three major river drainages: the East Alligator, South Alligator, and Daly rivers. Anecdotal reports suggest that the species may also occur in the Victoria and Fitzmaurice rivers.

NT conservation reserves where reported: Kakadu NP, Daly River Esplanade, Flora River Nature Reserve.



Photo: D.Rhind



Known localities of the Pig-nosed Turtle in the NT
(nrmaps.nt.gov.au)

Ecology and life-history

The Pig-nosed Turtle can occupy permanent still and flowing waters. Individuals are opportunistic feeders and have been recorded consuming aquatic plants, leaves, fruits, flowers, insect larvae, crustaceans, molluscs and carrion. Studies in the Daly River showed that bulk of the diet in the dry season consists of ribbonweed and aquatic snails¹.

In the Daly River, individual turtles can make extensive movements throughout the river system, though most occupy home ranges of several kilometres of river length for much of the

year. During the dry season, the species is restricted to main river channels; during overbank flooding in the wet season, they can occupy flooded riparian forest adjacent to the river².

Pig-nosed Turtles are entirely aquatic and do not bask above the water like other freshwater turtles. During the dry season, the species is known to thermoregulate using thermal springs in the Daly River. Females will only leave the water to nest; nests are typically on sandy beaches adjacent to the river. Females have also been recorded nesting twice every second year³. The timing of hatching coincides with the first high flows of the early wet season.

Threatening processes

Threats to the Pig-nosed Turtle include nest predation from feral herbivores, degradation of riparian habitat, loss of connectivity from water extraction and unsustainable Indigenous harvesting.

Agricultural and pastoral activities are threats due to their potential to degrade riverine habitat. This occurs through clearing or disturbance of riparian vegetation, which increases erosion and siltation of rivers and billabongs.

Water extraction is also a potential future threat, particularly in highly seasonal rivers such as the Daly River. Reduced flows can result in 'cease-to-flow' conditions, which in turn restrict the movement of Pig-nosed Turtles and isolate females to disconnected pools⁴. Under these conditions, individuals would have limited resources and reduced access to nesting sites.

Native predators such as the Yellow-spotted Monitor and Mertens' Water Monitor were historically known to prey heavily on Pig-nosed Turtle nests, with 80% of recorded nests consumed along a stretch of the Daly River⁶. This threat has declined following the arrival of the Cane Toad, which has reduced the abundance of these native species.

Conservation objectives and management

Required research and monitoring actions include:

- Surveys to describe the species' current distribution
- Monitoring of known populations to understand relationships between river flow, recruitment and population size
- Acquiring a better understanding of wet season ecology
- Understanding the ecology of hatchling turtles

Required management actions include:

- Management of feral stock to minimise nest loss and habitat degradation

References

- ¹ Welsh, M. 1999. Resource partitioning among the freshwater turtles of the Daly River, Northern Territory, Honours thesis, University of Canberra.
- ² Doody, J.S. Young, J.E. Georges, A. 2002. Sex Differences in Activity and Movements in the Pig-nosed Turtle, *Carettochelys insculpta* in the Wet-Dry Tropics of Australia, *Copeia*, 1:93-103
- ³ Doody, J.S, Georges, A, Young, J.E. 2003. Twice every second year: reproduction in the pig-nosed turtle, *Carettochelys insculpta*, in the wet-dry tropics of Australia. *Journal of Zoology*, 259(2), 179-188
- ⁴ Georges, A., Webster, I., Guarino, E., Thoms, M. Jolley, P. & Doody, S. (2003). Modelling dry season flows and predicting the impact of water extraction on a flagship species. Final Report to the Northern Territory Department of Infrastructure, Planning and Environment. CRC for Freshwater Ecology and the Applied Ecology Research Group, University of Canberra
- ⁵ Davies, C. (2005) Thermoregulation, activity and energetics of the pig-nosed turtle (*Carettochelys insculpta*) in the Daly River, Northern Territory. Honours thesis, University of Canberra
- ⁶ Doody J.S., Green B., Sims, R., Rhind, D., West, P. & Steer, D. 2006 Indirect impacts of invasive cane toads (*Bufo marinus*) on nest predation in pig-nosed turtles (*Carettochelys insculpta*). *Wildlife Research* 33, 349-354.