

Threatened species of the Northern Territory

Abbott's booby

Papasula abbotti

Conservation status

Australia: Endangered

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Endangered

Territory Parks and Wildlife Conservation Act 1976

Description

Abbott's Booby is a large seabird with long narrow wings, a long neck and a proportionally large head. Unlike other booby species, the wings are mostly white underneath and almost entirely blackish above. The back, rump and uppertail coverts are white with prominent black streaking posteriorly. The long wedge-shaped tail is blackish above and below. The long bill of males is pale bluish grey with a dark tip, while that of females is pinkish with a dark tip. Both sexes have a small blackish mask around the eyes.

Distribution

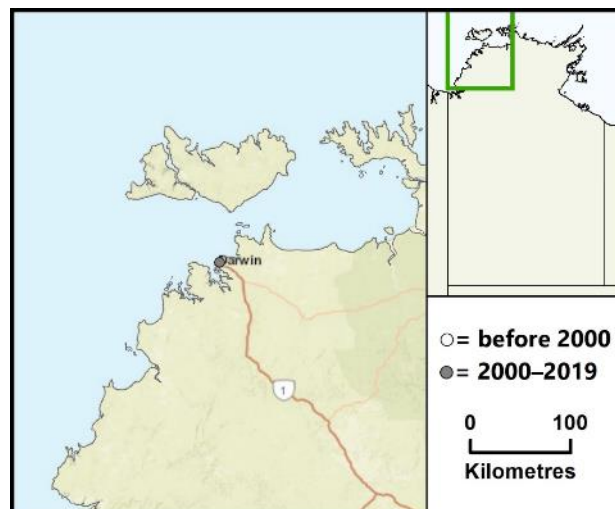
Abbott's Booby breeds only on Christmas Island in the eastern Indian Ocean; though the species also bred on Rodrigues (Mascarene Islands), and possibly other islands in the Indian Ocean, until the early nineteenth century. The at-sea distribution of Abbott's Booby is poorly known. During the breeding season, the species is thought to forage over oceanic waters northeast of Christmas Island to Indonesia. However, during the chick-rearing period, Abbott's Booby parents forage mostly within 100 km of Christmas Island¹.



Credit: D Sargeant/North Thailand Birding

The only record from the Northern Territory (NT) of Abbott's Booby is an exhausted individual that was found in suburban Darwin in January 2017.

NT conservation reserves where reported: None



Ecology and life-history

Abbott's Booby forages in warm, low-salinity oceanic waters, where it feeds on a diet of fish and squid. On Christmas Island, the species nests in the tall forests on the central and western areas of the island plateau and in the upper terrace forest of the north coast. Abbott's Boobies construct large nests in the upper

branches of tall trees using leafy twigs. Suitable nesting habitat is influenced by the availability of tall trees, the nature of the forest canopy and topography, which influence safe entry and departure from nests. Emergent trees on spurs, hill sides and valley sides make ideal nesting sites.

Although Abbott's Booby is gregarious, it is not strongly colonial like other booby species. Reproductive output is very low. Clutches comprise a single egg and successful pairs typically breed once every two years (i.e. a biennial breeding cycle). The incubation period lasts eight weeks, after which the chick is dependent on its parents for 30–40 weeks². Generation length is estimated to be 16.3 years³.

Threatening processes

One-third of the nesting habitat of Abbott's Booby was cleared for phosphate mining on Christmas Island in the 1960s to 1980s, killing many chicks and adults in the process. Remaining forest adjacent to cleared areas is now more exposed to turbulent winds and severe storms, which lower breeding performance and degrade nesting habitat.

The Yellow Crazy Ant *Anoplolepis gracilipes*, which was introduced to Christmas Island, poses an indirect threat to Abbott's Booby. Yellow Crazy Ants kill Christmas Island Red Crabs *Gecarcoidea natalis*, which play a key role in forest ecosystems, and promote the growth of scale insects, which can lead to damage of host trees and canopy death. These negative impacts on ecosystem function are likely to lead to degradation and loss of nesting habitat for Abbott's Booby.

Threats at sea may include overfishing, marine pollution and entanglement in longline fishing gear. Anthropogenic climate change may have a long-term negative impact on Abbott's Booby, particularly through increases in sea surface temperature and the frequency of severe storms.

Conservation objectives and management

Given Abbott's Booby has only been recorded once in the NT, no specific conservation research or management actions are warranted for this species in the NT.

Conservation management priorities on Christmas Island include mine site rehabilitation, eradication of Yellow Crazy Ants and population monitoring of Abbott's Booby^{5,6}.

References

- ¹ Henniecke, J.C., and Weimerskirch, H. 2014. Foraging movements of Abbott's Boobies during early chick-rearing and implications for a marine Important Bird Area in Christmas Island waters. *The Raffles Bulletin of Zoology* 30, 60–64.
- ² Nelson, J.B. 1971. The biology of Abbott's Booby *Sula abbotti*. *Ibis* 113, 429–467.
- ³ Garnett, S.T., Szabo, J.K., and Dutton, G., 2011. The action plan for Australian Birds 2010. CSIRO Publishing, Canberra.
- ⁴ Yorkston, H.D., and Green, P.T. 1997. The breeding distribution and status of Abbott's Booby (*Sulidae: Papasula abbotti*) on Christmas Island, Indian Ocean. *Biological Conservation* 79, 293–301.
- ⁵ Threatened Species Scientific Committee. 2015. Conservation Advice *Papasula abbotti* Abbott's booby. Department of the Environment, Canberra.
- ⁶ Department of Environment and Heritage. 2004. National recovery plan for the Abbott's Booby *Papasula abbotti*. Department of the Environment and Heritage, Canberra.