

## THREATENED SPECIES OF THE NORTHERN TERRITORY



### MASKED OWL (north Australian mainland subspecies)

#### *Tyto novaehollandiae kimberli*

#### Conservation status

Australia: Vulnerable.

Northern Territory: Vulnerable.

#### Description

The masked owl is a large dark owl, most likely to be confused with the barn owl *Tyto alba*, which is noticeably smaller and paler, with far weaker legs and feet and with far less feathering on the legs. It is most likely to be detected from its loud call, which comprises a highly varied set of shrieks and complex whistles.

The subspecies occurring on the north Australian mainland differs from that of the subspecies *T. n. melvillensis* occurring on the Tiwi Islands, in being lighter (at least for females), and in a series of minor plumage differences (described in Higgins 1999). Both subspecies are appreciably smaller than the two other subspecies from south-eastern and south-western Australia.



Northern Australian mainland subspecies of the Masked Owl (Photo © D P Lewis)

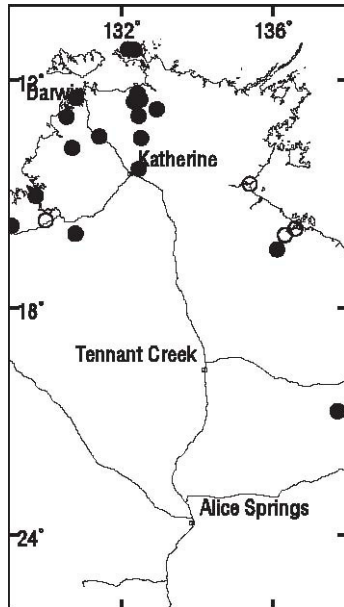
#### Distribution

The distribution of the mainland north Australian masked owl subspecies *T. n. kimberli* is very imperfectly known, with remarkably few records across its broad range. Based on compilation of records from 1998-2002, the New Atlas of Australian Birds (Barrett *et al.* 2003) reported it from only one 1/4° grid cell (from a total of about 130) in northern Western Australia, two (of a total of about 320) in the Top End of the Northern Territory, one on the Barkly Tableland, and five in northern Queensland. The circumscription of this distribution is confused by (i) a number of unconfirmed records away from its main range (Higgins 1999), such as on the south-west of Cape York Peninsula and in semi-arid Northern Territory; and (ii) whether or not the northeast Cape York Peninsula population is recognised as subspecifically distinct. Recognising the shortcomings in survey information, the current range can be considered to include the north and north-west coastal Kimberley; the Top End of the Northern Territory, including Cobourg Peninsula, extending south to around Katherine (Storr 1977), with a handful of isolated records from further south, including Jasper Gorge (the Victoria River District), McArthur River station, and Avon Downs (Barkly Tablelands) (Storr 1977; Higgins 1999; Barrett *et al.* 2003); north-eastern Queensland, including a few early records from north-eastern Cape York Peninsula (Archer-Watson Rivers) (the putative subspecies *T. n. galei*), with a broader distribution centred on Townsville.

*Conservation reserves where reported:* Garig Gunak Barlu National Park, Gregory National Park, Kakadu National Park, Keep River National Park, Nitmiluk National Park.



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Known locations of the north Australian mainland subspecies of the masked owl.  
○ = pre 1970; ● = post 1970

### Ecology

The masked owl occurs mainly in eucalypt tall open forests (especially those dominated by Darwin woollybutt *Eucalyptus miniata* and Darwin stringybark *E. tetradonta*), but also roosts in monsoon rainforests, and forages in more open vegetation types, including grasslands. Although it may roost in dense foliage, it more typically roosts, and nests, in tree hollows. Mammals, up to the size of possums, constitute the bulk of its diet (Higgins 1999).

Although there is no detailed information for this subspecies, masked owls of other subspecies occupy large exclusive home ranges, estimated at 5-10 km<sup>2</sup> (Kavanagh and Murray 1996).

### Conservation assessment

Too little information is known about the distribution, population size and trends in population to ascribe conservation status with any confidence. In north-eastern Queensland, the subspecies is considered to be in decline (Nielsen 1996). Given the large home ranges needed by the species, the population of mainland masked owls in the NT is probably fewer than 10,000 breeding

individuals. Given the probability that the population is declining in the NT at a rate of more than 10% in a 15 year period (an estimated period for three generations), the subspecies qualifies as **Vulnerable** under criterion C1:

- population size estimated to number fewer than 10,000 mature individuals, and
- an estimated continuing decline of at least 10% within 10 years or three generations, whichever is longer.

### Threatening processes

There is no reliable information on what factors may affect the status of this subspecies. It is possible that food resources may be diminishing, through broad-scale decline of small and medium-sized native mammals, possibly due to changed fire regimes (Woinarski *et al.* 2001; Pardon *et al.* 2003). This would lead to a subsequent decline in the masked owl population. The greatly increased cover and height of invasive exotic grasses (Rossiter *et al.* 2003) may cause a reduction in foraging efficiency for this owl.

The current regime of more intense, frequent and extensive fires may reduce the availability of large trees and hollows (Williams *et al.* 1999, 2003) required for nesting. Conversely, more extensive and less patchy fires may lead to greater foraging efficiency (Oakwood 2000).

### Conservation objectives and management

A national recovery plan for the mainland masked owl, and other birds, has recently been established (Woinarski 2004).

Recent studies on the Tiwi Islands have demonstrated that playback of calls is likely to significantly increase probability of detection of this species (Woinarski *et al.* 2003). The main research priority is to derive more precise information on population size, home range, habitat



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requirements, and response to putative threatening processes. A monitoring program should be established for at least representative populations.

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[May 2006]

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