TAXON SUMMARY

Masked Owl (southern Australia)

1	Family	Tytonidae
2	Scientific name	*Tyto novaehollandiae novaehollandiae* (Stephens, 1826)
3	Common name	Masked Owl (southern Australia)
4	Conservation status	Near Threatened: a

5 Reasons for listing

The area occupied by this subspecies is thought to have declined by at least half, particularly in the semi-arid zone (Near Threatened: a).

	Estimate	*Reliability*
Extent of occurrence	*4,000,000 km²*	*high*
trend	*stable*	*medium*
Area of occupancy	*35,000 km²*	*low*
trend	*stable*	*medium*
No. of breeding birds	*7,000*	*low*
trend	*stable*	*medium*
No. of sub-populations	*2*	*medium*
Largest sub-population	*6,500*	*low*
Generation time	*5 years*	*low*

6 Infraspecific taxa

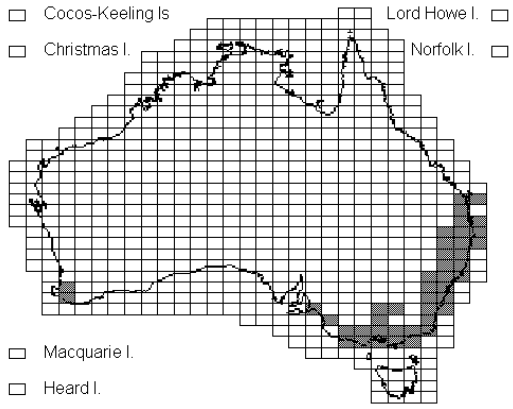
T. n. castanops (Tasmania, introduced to Lord Howe I.) and *T. n. melvillensis* (Tiwi Is, N. T.) are Endangered, *T. n. kimberli* (northern mainland Australia, including north-east Queensland; after Debus, 1993, Higgins, 1999) is Near Threatened. There are four other subspecies in New Guinea and nearby islands. The species 'global status is Least Concern.

7 Past range and abundance

Sparsely distributed through subcoastal mainland Australia from Fraser I, Qld, to Carnarvon, W. A., including Nullarbor Plain. Also occurs inland of Great Dividing Ra. (Schodde and Mason, 1980, Higgins, 1999). Generally found in sub-coastal habitats, but also inland along watercourses (Schodde and Mason, 1980, Debus, 1993). Fossil evidence of wider inland distribution during wetter climates (Rich *et al.*, 1978).

8 Present range and abundance

Numbers reduced in inland New South Wales, South Australia, and on the Nullarbor Plain (Schodde and Mason, 1980, Smith *et al.*, 1995, Higgins, 1999). In Western Australia, restricted to south-west (Johnson and Storr, 1998). Recently located at only 5 of 100 sites surveyed in southern forests, all records from the southern coastal strip between Margaret R. and Manjimup (R. Kavanagh), but also recorded further north, including woodland areas, such as Dryandra (A. A. Burbidge). In Victoria, population estimated at 300-400 pairs, mostly in East Gippsland (Peake *et al.*, 1993). New South Wales: 1,500-2,000 pairs in north-east (Higgins, 1999); 190 pairs in 3,200 km² of State Forests and protected area in south-east (Kavanagh, 1997).



9 Ecology

The southern subspecies of Masked Owl occupies a home range of 5-10 km² within a diverse range of wooded habitats that provide large hollow-bearing trees for roosting and nesting and nearby open areas for foraging (Kavanagh and Murray, 1996, Higgins, 1999). This can include forests, remnants within agricultural land or almost treeless inland plains (Schodde and Mason, 1980, Peake *et al.*, 1993, Debus and Rose, 1994, Higgins, 1999). Nests and roost sites are usually in hollows of large trees, often in riparian forest. Clutch size is usually 3-4 (Schodde and Mason, 1980, Kavanagh, 1996). Masked Owls also roost, and less commonly nest, in caves (Debus, 1993, Peake *et al.*, 1993, Debus and Rose, 1994). Prey are principally terrestrial mammals, including rodents and marsupials (Debus, 1993, Kavanagh, 1996), although possums, gliders, bats, birds, lizards and rabbits may be taken opportunistically (Schodde and Mason, 1980, Hollands 1991, Debus, 1993, Debus and Rose, 1994, Kavanagh, 1996, Higgins, 1999).

10 Threats

Clearance for agriculture has certainly affected abundance in many parts of the species 'range, particularly Western Australia and South Australia (Higgins, 1999), and is the principal reason for listing the subspecies. The reason for the low density of Masked Owls, however, is unknown. Although food does not appear to be limiting on the east coast (Kavanagh, 1996), the apparent decline in arid

Australia may be linked to that of mammals of between 50 and 200 g (Burbidge and McKenzie, 1989). However, Masked Owls may never have been common in dry areas (Debus, 1993). Within forests on the east coast, the availability of nest trees could be declining (Peake *et al.*, 1993, Kavanagh, 1996), but the scarcity of Masked Owls from logged forest in New South Wales (Kavanagh and Bamkin, 1995, Kavanagh *et al.*, 1995) is more likely to be because the vigorous regrowth after logging makes the habitat less suitable for foraging (Kavanagh *et al.*, 1995).

11 Recommended actions

11.1 Undertake follow-up surveys in New South Wales forests to determine trends in abundance and further baseline surveys in forests of south-western Western Australia and south-east Queensland.

11.2 Undertake further modelling work in Victoria to assess habitat requirements and predict distribution.

11.3 Maintain a diverse mosaic of fire ages within forest habitats to keep patches of understorey open.

12 Bibliography

Burbidge, A. A. and McKenzie, N. L. 1989. Patterns in the modern decline of Western Australia ŝ vertebrate fauna: Causes and conservation implications. *Biol. Conserv.* 50:143-198.

Debus, S. J. S. 1993. The mainland Masked Owl *Tyto novaehollandiae*: a review. *Aust. Bird Watcher* 15:168-191.

Debus, S. J. S. and Rose, A. B. 1994. The Masked Owl *Tyto novaehollandiae* in New South Wales. *Aust. Birds* 28 (Suppl.):S40-S64.

Higgins, P. J. (ed.) 1999. *Handbook of Australian, New Zealand and Antarctic Birds. Vol. 4. Parrots to Dollarbird.* Oxford University Press, Melbourne.

Hollands, D. 1991. *Birds of the Night.* A. H. and A. W. Reed, Sydney.

Johnstone, R. E. and Storr, G. M. 1998. *Handbook of Western Australian Birds. Vol. 1. Non-passerines (Emu to Dollarbird).* W. A. Museum, Perth.

Kavanagh, R. P. 1996. The breeding biology and diet of the Masked Owl *Tyto novaehollandiae* near Eden, New South Wales. *Emu* 96:158-165.

Kavanagh, R. P. 1997. Ecology and Management of Large Forest Owls in South-Eastern Australia. PhD thesis, University of Sydney, Sydney.

Kavanagh, R. P. and Bamkin, K. L. 1995. Distribution of nocturnal forest birds and mammals in relation to the logging mosaic in south-eastern New South Wales. *Biol. Conserv.* 71:41-53.

Kavanagh, R. P. and Murray, M. 1996. Home range, habitat and behaviour of the Masked Owl *Tyto novaehollandiae* near Newcastle, New South Wales. *Emu* 96:250-257

Kavanagh, R. P., Debus, S. J. S., Tweedie, T. and Webster, R. 1995. Distribution of nocturnal forest birds and mammals in north-eastern New South Wales: relationships with environmental variables and management history. *Wildl. Res.* 22:359-377.

Peake, P., Conole, L. E., Debus, S. J. S., McIntyre, A. and Bramwell, M. 1993. The Masked Owl *Tyto novaehollandiae* in Victoria. *Aust. Bird Watcher* 15:125-136.

Rich, P. V., McEvey, A. R. and Walkley, R. 1978. A probable Masked Owl *Tyto novaehollandiae* from Pleistocene deposits of Cooper Creek, South Australia. *Emu* 78:88-90.

Schodde, R. and Mason, I. J. 1980. *Nocturnal Birds of Australia.* Lansdowne, Melbourne.

Smith, P. J., Smith, J. E , Pressey, R. L. and. Whish, G. L. 1995. Birds of Particular Conservation Concern in the Western Division of New South Wales: Distributions, Habitats and Threats. *National Parks and Wildlife Service Occasional Paper* 20. New South Wales National Parks and Wildlife Service, Hurstville.

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