

RECOVERY OUTLINE

Brown Goshawk (Christmas Island)

1	Family	Accipitridae
2	Scientific name	<i>Accipiter fasciatus natalis</i> (Lister, 1889)
3	Common name	Brown Goshawk (Christmas Island)
4	Conservation status	Critically Endangered: A2ce, C2b

5 Reasons for listing

A decrease in population size of over 80% in the next three generations (30 years) is predicted (Critically Endangered: A2) on the basis of a decline in habitat quality (c) and the current rate of spread of introduced ants (e). Any decrease in the tiny population would be significant (C2b).

	Estimate	Reliability
Extent of occurrence	137 km ²	high
trend	stable	high
Area of occupancy	100 km ²	low
trend	decreasing	low
No. of breeding birds	150	low
trend	decreasing	low
No. of sub-populations	1	high
Generation time	10 years	low

6 Intraspecific taxa

A. f. fasciatus (southern Australia, Tasmania) and *A. f. didimus* (northern Australia) are Least Concern. There are nine other subspecies in South-east Asia and the Pacific. Globally, species is Least Concern. However, the Christmas Island subspecies may be more closely related to Grey Goshawk *A. novaehollandiae* or be distinct at species level (Carter, 1994, Debus, 1994, Hill, 1997).

7 Past range and abundance

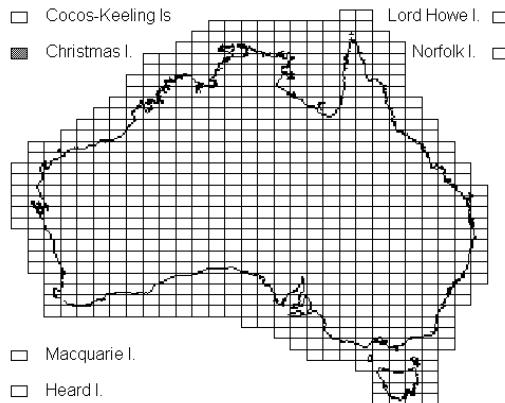
Restricted to Christmas I. in the Indian Ocean. Numbers decreased between 1938 and the early 1970s, but increased again by 1977 (Nelson, 1977, Stokes, 1988).

8 Present range and abundance

As above. However, forest clearance for phosphate mining has reduced the area of habitat suitable for nesting by about one third (Stokes, 1988).

9 Ecology

The Christmas Island subspecies of the Brown Goshawk occurs in all forest types on the island, but is uncommonly seen in secondary forest, settlements or rehabilitated habitat (Hill, 1997). Insects, centipedes, birds and introduced Black Rats *Rattus rattus* have been recorded in its diet. The birds are 'remarkably approachable' and are attracted to walkers as they disturb prey (Marchant and Higgins, 1993, Hill, 1997).



10 Threats

The greatest current threat is from the rapidly spreading, introduced Yellow Crazy Ant *Anoplolepis gracilipes*, which is now thought to occupy 15-18% of the island (D. Slip), and may still be spreading rapidly. These ants are not only likely to prey directly on nestlings, but may alter the whole ecology of the island by killing the dominant life-form, the Red Crab *Gecaroidea natalis*, and by farming scale insects, which damage the trees (O'Dowd *et al.*, 1999). The goshawks are wholly dependent on forest vertebrates and invertebrates for food and the densities of these are likely to be markedly reduced in areas affected by Yellow Crazy Ants (F. A. R. Hill). Forest clearance (no longer permitted) has already destroyed 25% of the habitat, and active hunting previously reduced the population around settlements (Stokes, 1988), and there is a constant risk of introduced disease (Hill, 1997).

11 Information required

- 11.1 Monitor nesting success and diet.
- 11.2 Refine techniques for controlling Yellow Crazy Ants.
- 11.3 Resolve taxonomic status.

12 Recovery objectives

- 12.1 Involvement of all stakeholders in recovery.
- 12.2 A stable or increasing population as verified by monitoring.
- 12.3 Protection of all breeding habitat of this species from clearing and degradation.

- 12.4 Control of the Yellow Crazy Ant.
- 12.5 Production of a timetable for rehabilitating priority minefields and commencement of rehabilitation using that timetable.
- 13 Actions completed or under way
- 13.1 A Draft Recovery Plan has been prepared (Hill, 1997).
- 13.2 A three year research program has been initiated and staff have been dedicated to ant control.
- 13.3 Contingency plans are being developed to establish a captive population on mainland Australia.
- 14 Management actions required
- 14.1 Control the abundance and spread of the Yellow Crazy Ant.
- 14.2 Pending control, establish a captive population with the aim of reintroduction once ant control has been achieved.
- 14.3 Review of Christmas Island Quarantine Service.
- 14.4 Conduct a community education program.
- 14.5 Undertake a detailed population survey.
- 14.6 Negotiate with all landowners to ensure protection of primary forests outside the National Park.
- 14.7 Rehabilitate rainforest on priority minefields.
- 14.8 Form a Recovery Team and implement the Recovery Plan.
- 15 Organisations responsible for conservation
Environment Australia (including Wildlife Australia Branch; Parks Australia North; Christmas Island Rainforest Rehabilitation Program).
- 16 Other organisations involved
Australasian Raptor Association of Birds Australia, Christmas Island Phosphates Pty. Ltd., Christmas Island Shire Council, Museum of Victoria, Australian zoos.

17 Staff and financial resources required for recovery to be carried out ¹

<i>Staff resources required 2001-2005</i>	1.0	<i>Project Officer (Crazy Ants)²</i>
	0.1	<i>Technical Officer (monitoring)</i>
	4.0	<i>Technical Officer (Crazy Ants)²</i>
	0.6	<i>PhD student (population size)</i>
	0.1	<i>Education officer³</i>

Financial resources required 2001-2005

<i>Action</i>	<i>Conservation agencies</i>	<i>Other funding sources</i>	<i>Total</i>
<i>Negotiate habitat protection</i>	\$12,500	\$0	\$12,500
<i>Institute education program³</i>	\$10,000	\$0	\$10,000
<i>Determine population size</i>	\$33,800	\$80,000	\$113,800
<i>Monitor nesting success and diet</i>	\$23,200	\$0	\$23,200
<i>Determine genetic status</i>	\$27,000	\$3,000	\$30,000
<i>Rehabilitation of vegetation^{3,4}</i>	\$81,400	\$940,000	\$1,021,400
<i>Control Crazy Ants²</i>	\$250,000	\$12,000	\$262,000
<i>Establish captive population⁵</i>	\$10,000	\$50,000	\$60,000
<i>Recovery Team operation³</i>	\$3,500	\$0	\$3,500
<i>Total</i>	\$451,400	\$1,085,000	\$1,536,400

¹ Based largely on Hill (1997)

² Costs shared with all ten threatened Christmas I. taxa

³ Costs shared among Abbott's Booby, Christmas Island Frigatebird, Christmas Island Owl and Christmas Island Goshawk

⁴ Major funding derived from levy which varies from year to year depending on amount of phosphate exported

⁵ Costs shared among Brown Goshawk (Christmas I.), Christmas Island Imperial-Pigeon, Emerald Dove (Christmas I.), Christmas Island Owl, Island Thrush (Christmas I.), Christmas Island White-eye

18 Bibliography

- Carter, M. 1994. Christmas Island Birds. *Wingspan* 13 (Autumn):18-21.
- Debus, S. J. S. A. 1994. What is the Christmas Island Goshawk? *Aust. Bird Watcher* 15:377-379.
- Hill, F. A. R. 1997. The Christmas Island Goshawk *Accipiter fasciatus natalis* Recovery Plan. Birds Australia, Melbourne.
- Marchant, S. and Higgins, P. J. (eds) 1993. *Handbook of Australian, New Zealand and Antarctic Birds. Vol. 2. Raptors to Lapwings*. Oxford University Press, Melbourne.

Nelson, J. B. 1977. Report and recommendations on the status and prospects of Abbott's Booby in relation to the British Phosphate Commissioner's mining and conservation policy. Unpublished report, British Phosphate Commission.

O'Dowd, D. J., Green, P. T. and Lake, P. S. A. 1999. Status, impact and recommendations for research and management of exotic invasive ants in Christmas Island National Park. Report to Environment Australia.

Stokes, T. 1988. A review of the birds of Christmas Island, Indian Ocean. *Australian National Parks and Wildlife Service Occasional Paper* 16.

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