



RECOVERY OUTLINE

Southern Cassowary (Australian)

1	Family	Casuariidae
2	Scientific name	<i>Casuarius casuarius johnsonii</i> F. Müller, 1866
3	Common name	Southern Cassowary (Australian)
4	Conservation status	Endangered: C1

5 Reasons for listing

The population could decrease by at least 20% over the next two generations (20 years; Endangered: C1).

	Estimate	Reliability
Extent of occurrence	11,000 km ²	medium
trend	stable	high
Area of occupancy	1,000 km ²	low
trend	decreasing	high
No. of breeding birds	2,000	low
trend	decreasing	medium
No. of sub-populations	14	medium
Largest sub-population	1,500	low
Generation time	10 years	low

6 Intraspecific taxa

C. c. casuarius (Ceram) and about 5 other subspecies occur in New Guinea and on nearby islands. Globally, the species is Vulnerable.

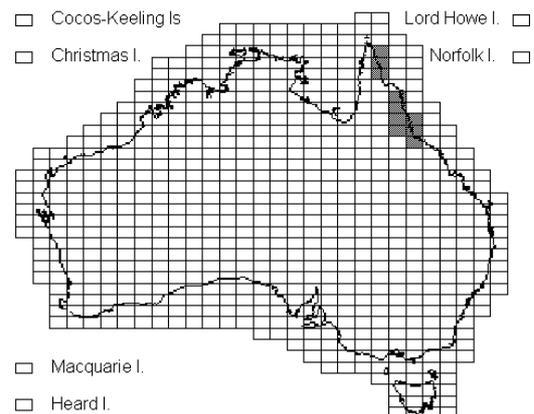
7 Past range and abundance

Eastern Cape York Peninsula, from Cape York to Harmer Ck, and between Pascoe and Stuart Rivers. Also between Cooktown and Townsville, west to extent of rainforest (Marchant and Higgins, 1990), including the entire rainforested portion of the Atherton Tableland.

8 Present range and abundance

As above, but greatly reduced and fragmented by forest clearance. On Cape York Peninsula, there are no recent records north of Bamaga. In the Wet Tropics, there are now ten sub-populations that have become isolated by clearing (D. Storch and J. Bentrupperbaumer). Other sub-populations, like that on Dagmar Range, are connected to larger rainforest blocks by narrow corridors. Estimates of population size are based on scant data, some of questionable validity (Westcott, 1999). In the Wet Tropics bioregion

there are thought to be about 1,500 individuals, based on extrapolations from surveys (Moore, 1997) and on Cape York Peninsula, 300-500 based primarily on the area of available habitat (S. Goosem).



9 Ecology

The Cassowary lives in rainforest and associated habitats that can provide a year-round supply of fleshy fruit. All nests have been recorded in rainforest or woodland mosaics with rainforest elements, and cassowaries appear to be the only bird capable of dispersing some rainforest fruits. Other habitats - eucalypt woodlands and savannas, mangroves, exotic fruit plantations and open ground - are used intermittently (Crome, 1976, Bentrupperbaumer, 1998). Birds walk across short stretches of open land to feed in rainforest patches, gardens and exotic fruit plantations. Sexes maintain independent, but overlapping, territories. Cassowaries lay 3-5 eggs on the ground which the male incubates before raising the young (Bentrupperbaumer, 1998).

10 Threats

Clearance for agriculture is responsible for the loss of most prime habitat of the southern part of the species range, with over 85% cleared in the lowlands and 75%

in the uplands. Clearance is continuing. Habitat that remains is fragmented or connected by only narrow corridors. Many small remnants no longer contain cassowaries. Individual birds are regularly killed and small sub-populations have been eliminated as a result of road accidents and attacks by dogs. Other causes of death include disease (tuberculosis-related disease, aspergillosis), possible competition with pigs for food, and hunting for food and to protect crops (Crome and Moore, 1990, Bentrupperbaumer, 1998, Moore and Moore, 1999). Cyclones can cause local food shortages (J. Bentrupperbaumer) that can imperil isolated sub-populations.

11 Information required

- 11.1 Develop a repeatable technique for assessing population size and for monitoring food availability.
- 11.2 Determine the survival rate and principal cause of mortality of immature cassowaries in different habitats, and the recruitment rate of immatures in response to adult mortality.
- 11.3 Determine use of hill-sides by individuals and by the population.
- 11.4 Study the prevalence of disease in the population and the factors affecting its epidemiology, then assess the role of disease in population regulation.
- 11.5 Examine the genetic structure of the sub-populations, with the aim of showing whether cassowaries have been through bottlenecks in earlier drier climates and hence may be resilient to the current contraction in available habitat, as well as the extent to which individual birds contribute disproportionately to the population.
- 11.6 Evaluate effectiveness of existing conservation measures.

12 Recovery objectives

- 12.1 Maintain sub-populations in all areas of currently occupied habitat and secure significant areas of unprotected habitat.
- 12.2 Re-establish habitat, particularly habitat corridors, to enable gene flow and promote reoccupation of suitable unoccupied habitat.

13 Actions completed or under way

- 13.1 Survey of southern population was completed in 1988.
- 13.2 A Cassowary Advisory Group, with representatives from three community groups with a specific interest in cassowaries, has been established.

- 13.3 A Scientific Advisory Group with representatives from key research and management agencies has been established.
- 13.4 A high profile has been achieved in the community, with the Cassowary becoming a focus for revegetation, traffic planning and dog and pig control.
- 13.5 A public education program to inform residents and tourists about the threats to birds from hand-feeding, speeding vehicles and dogs is being undertaken at selected sites.
- 13.6 Rate deferrals in Johnstone Shire for areas under local conservation agreements have been implemented.
- 13.7 Douglas Shire have implemented a law preventing clearance of Cassowary habitat.
- 13.8 A Cassowary habitat map has been prepared for the Mission Beach area.
- 13.9 Management plans for individual cassowaries that are at risk have been developed for Daintree, Kuranda and Mission Beach areas.
- 13.10 Extensive revegetation for cassowaries, particularly along corridors, is being undertaken.
- 13.11 Surveys are being undertaken of the distribution and numbers of birds in the Cape York Peninsula population.
- 13.12 A capture and sedation technique has been developed and is being employed with problem and injured birds as well as in research.
- 13.13 Techniques are being developed for monitoring population using cameras and DNA in droppings.
- 13.14 Policies on post-mortem analysis and translocation are being developed.
- 13.15 A Recovery Plan is being developed.

14 Management actions required

- 14.1 Prevent clearance of habitat of the southern population by consolidating the protected area estate.
- 14.2 Develop appropriate monitoring techniques and management actions for the Cape York Peninsula population.
- 14.3 Use new monitoring techniques to determine the size of the southern population.
- 14.4 Undertake selective burning to maintain habitat mosaics.

- 14.5 Undertake traffic calming at Cassowary crossing hot spots. Cassowary Care, Kuranda Envirocare, Community for Coastal and Cassowary Conservation, James Cook University of North Queensland, Cooperative Research Centre for Tropical Rainforest Ecology and Management, Queensland Department of Transport, Queensland Department of Natural Resources, traditional owners, local councils, private land-holders, Australian Regional Association of Zoological Parks and Aquaria, Australian Non-passerine Taxon Advisory Group.
- 14.6 Implement appropriate dog and pig control in areas of high Cassowary density.
- 15 Organisations responsible for conservation
Queensland Parks and Wildlife Service.
- 16 Other organisations involved
Cassowary Advisory Group, Wet Tropics Management Authority, CSIRO Wildlife and Ecology, Daintree

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</i>
	1.0	<i>Field Assistant</i>
	1.0	<i>Extension Officer</i>
<i>Financial resources required 2001-2005</i>		

<i>Action</i>	<i>Conservation agencies</i>	<i>Other funding sources</i>	<i>Total</i>
<i>Develop a repeatable monitoring technique for birds and food</i>	\$16,000	\$85,000	\$101,000
<i>Determine demographic parameters</i>	\$88,000	\$35,000	\$123,000
<i>Develop management protocols for Cape York Peninsula</i>	\$81,600	\$0	\$81,600
<i>Negotiate conservation agreements</i>	\$250,000	\$0	\$250,000
<i>Re-establish habitat along corridors</i>	\$150,000	\$200,000	\$350,000
<i>Public education program</i>	\$70,000	\$15,000	\$85,000
<i>Determine the prevalence and effects of disease</i>	\$15,000	\$4,000	\$19,000
<i>Dog and pig control</i>	\$25,000	\$20,000	\$45,000
<i>Recovery plan</i>	\$30,000	\$1,000	\$31,000
<i>Total</i>	\$725,600	\$360,000	\$1,085,600

¹ Does not include cost of land purchase (est. \$16,000,000)

18 Bibliography

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Comments received from

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