NSW SCIENTIFIC COMMITTEE

Red-tailed Black-Cockatoo (inland subspecies) *Calyptorhynchus banksii samueli*

Review of Current Information in NSW

May, 2008

Current status:

The NSW Scientific Committee recently determined that the Red-tailed Black-Cockatoo **(**inland subspecies) *Calyptorhynchus banksii samueli* meets criteria for listing as Vulnerable in NSW under the *Threatened Species Conservation Act* 1995 (TSC Act), based on information contained in this report and other information available for the species. The species *Calyptorhynchus banksii* was previously listed as Vulnerable in NSW on the TSC Act (subspecies not distinguished). Currently neither the species (*Calyptorhynchus banksii*) nor the relevant subspecies (*C. b. samueli)* of the Red-tailed Black-Cockatoo are listed under Commonwealth or any other State legislation.

Species description:

Calyptorhynchus banksii is a large (60 cm in length) black cockatoo with a bushy crest and a red tail panel; the female has a white bill, fine yellow spots and bars on the head and body, and an orange tail panel with fine black bars. It is very similar to the smaller Glossy Black-Cockatoo *Calyptorhynchus lathami*, which has a small crest, softer and less discordant calls, and females have a grey bill and large yellow blotches on the head. The Yellow-tailed Black-Cockatoo *C. funereus* has a yellow ear patch and tail panel, and loud wailing calls.

Taxonomy:

Calyptorhynchus banksii (Latham 1790) (Cacatuidae) is an endemic Australian species and genus in an endemic Australasian family. The taxon in inland NSW is the subspecies *C. b. samueli* Mathews 1917, which extends patchily through central Australia from western Queensland to coastal Western Australia. The separate population in far north-east NSW, in the Tweed River area, is the nominate subspecies *C. b. banksii* (Higgins 1999), which is listed as Critically Endangered in NSW. The isolated forest subspecies *C. b. graptogyn*e (south-east South Australia/western Victoria) and *C. b. naso* (south-west Western Australia) are regarded nationally as being Endangered and Near Threatened, respectively (Garnett & Crowley 2000). The subspecies *C. B. graptogyne* is officially recognised as Endangered in South Australia and in Victoria is one the Advisory List (Threatened on the *Flora & Fauna Guarantee Act* 1988), while *C. b. naso* is considered Rare or likely to become extinct in Western Australia).

Distribution and number of populations:

Calyptorhynchus banksii samueli is essentially confined to the Darling Riverine Plain Bioregion: the Darling River south to about Menindee, and its northern tributaries upstream to about Nyngan on the Bogan River, and Walgett or possibly Boggabilla on the Barwon River (Higgins 1999). Given the mobility of this species (Higgins 1999), these birds are likely to constitute a single

Contact Address: C/o PO Box 1967 Hurstville BC NSW 1481 Telephone: (02) 9585 6940 Facsimile: (02) 9585 6989

subpopulation, with possible interchange with the Queensland population. Recent reports of 'Red-tailed' Black-Cockatoos on the slopes and tablelands of NSW are referable to the Glossy Black-Cockatoo.

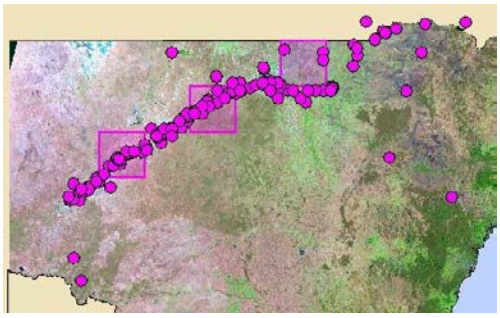

Figure 1. Records since 1980 of the Red-tailed Black-Cockatoo in inland NSW (NSW Wildlife Atlas). Note: The outlying easterly and south-easterly records, for the slopes and Hunter Valley, are probably invalid (misidentified Glossy Black-Cockatoos).

Ecology:

The ecology of the Red-tailed Black-Cockatoo (inland subspecies), and some other subspecies, is generally well understood following recent studies. (*C. b. graptogyne*, *C. b. naso*: Higgins 1999; Johnstone & Kirkby 1999; Cooper *et al.* 2002, 2003; Maron & Lill 2004).

Key habitat requirements

Calyptorhynchus banksii samueli inhabits mature riparian eucalypt woodland, with some old-growth trees providing large hollows, and adjacent open plains and she-oak woodland. Its habitat is under increasing pressure from dryland cultivation (*e.g.* cotton), and denial of water by irrigation schemes upstream.

Breeding biology

Calyptorhynchus banksii samueli breeds in large hollows near the tops of old-growth eucalypts, living or dead. A clutch of usually one egg (only one chick hatches) is laid between spring and autumn. The incubation period is one month, the nestling period 10-14 weeks, the post-fledging dependence period lasts at least three to four months, and juveniles stay with their parents until the start of next breeding season.

Diet

Calyptorhynchus banksii samueli feeds on a variety of seeds obtained from trees and the ground, including agricultural weeds, and also on wood-boring insect larvae. Cultivation of riparian flats may adversely affect its food supply.

Social biology

Calyptorhynchus banksii samueli occurs in pairs, family groups and small to large flocks.

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Territoriality/home range

Calyptorhynchus banksii samueli breeds semi-colonially, defending only the immediate area of the nest hollow, although the species' ranges widely to forage.

Generation length

The generation length of *Calyptorhynchus banksii samueli* is estimated as 20 years, based on information available for other subspecies (Garnett & Crowley 2000).

Ability to disperse/susceptibility to population fragmentation

Calyptorhynchus banksii samueli is highly mobile and able to disperse widely, up to tens of kilometres, and commute up to 40 km to foraging areas (Higgins 1999).

Number of mature individuals:

The precise number of individual of the Red-tailed Black-Cockatoo (inland subspecies) is unknown, but where flocks of hundreds were reported at some regular sites (*e.g.* Bourke) before 2000, observed flocks now number tens or rarely up to 100, since 2000 (NSW Field Ornithologists Club annual bird reports). On this basis, the number of mature individuals is likely to be now less than 10 000 mature individuals.

Threats:

The main threat to *Calyptorhynchus banksii samueli* is clearing of riparian eucalypts, especially individual old trees with large hollows, with a lack of recruitment into this age class. Another subspecies (*C. b. graptogyne*) is adversely affected even by loss of dead nesting trees in paddocks (Maron 2005), a situation that is inferred to apply in the upper tributaries of the Darling Riverine Plains (see below). 'Clearing of native vegetation' and 'Loss of hollow-bearing trees' are listed as Key Threatening Processes under the TSC Act in NSW.

Other threats include overgrazing, which degrades habitat and causes loss of riparian trees through erosion of river banks; cultivation of riparian flats, which may negatively affect the Cockatoo's food supply and deny water to riparian trees (thus causing tree death); and poaching for aviculture (including destruction of nests to obtain chicks). Birds in noisy communal roosts are also sometimes shot (expert advice).

Extreme fluctuations:

There is no evidence of extreme fluctuations in population size or habitat of this subspecies.

Population reduction and continuing declines:

In recent decades, *Calyptorhynchus banksii samueli* is believed to have undergone a moderate reduction in population size in NSW, based on comparative evidence from broadscale surveys. The subspecies was reported in 18 one-degree grids in NSW in the first national bird atlas in 1977-1981, at low to high reporting rates (Blakers *et al.* 1984), and 12 one-degree grids in the

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second national bird atlas in 1998-2002, at low to moderate reporting rates (Barrett *et al.* 2003). Its index of abundance (reporting rate) declined by 34% between the two atlases over 20 years (*i.e.* only one generation). This is a non-significant trend (Barrett *et al.* 2007), probably owing to the small sample size of records, but on the basis of this trend a decline of much more than 30% (71%) can be inferred or projected over three generations (60 years). The Darling Riverine Plain Bioregion has had 23% of its native vegetation cleared to date (all types, including non-woody vegetation), 97% of its area is grazed, and it has a moderate landscape stress rating of 3 out of 6 (Barrett *et al.* 2007). Clearing is inferred to have been mainly of riparian and floodplain woodland in the north-east of the bioregion in the past 30 years, with the expansion of cotton farming. It thus may have affected the species' breeding sites more than its food supply, given that the Cockatoo can eat the seeds of some weed species.

Extent of Occurrence (EOO) & Area of Occupancy (AOO):

The subspecies' estimated EOO in NSW is 120 000 km^2, based on presence in 12 one-degree grids (*c.* 100 km square) in the second national bird atlas (Barrett *et al.* 2003), and its estimated AOO is 5 250 km^2, based on presence in 35 ten-minute grids (*c.* 10 x 15 km) (Cooper & McAllan 1995). EOO has declined by 33% in one generation (20 years: see above).

Severe fragmentation:

There is no evidence of population fragmentation in this subspecies, although its habitat is increasingly fragmented in the upper reaches of the subspecies' NSW range (floodplains of the Barwon, lower Namoi, Macquarie and Bogan Rivers).

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Explanatory note

Between 2007 and 2009 the NSW Scientific Committee undertook a systematic review of the conservation status of a selection of plant and animal species listed under the Threatened Species Conservation Act. This species summary report provides a review of the information gathered on this species at the time the Review was undertaken.

The Scientific Committee's report on the Review of Schedules project and final determinations relating to species that were either delisted or had a change in conservation status can be found on the following website: www.environment.nsw.gov.au .

The Committee gratefully acknowledges the past and present Committee members and project officers who ably assisted the Committee in undertaking the Review of Schedules Project. Information on the people involved in the project can be found in the Acknowledgement section of the project report entitled "Review of the Schedules of the Threatened Species Conservation Act 1995. A summary report on the review of selected species" which is available on the abovementioned website.

This species summary report may be cited as:

NSW Scientific Committee (2008) Red-tailed Black-Cockatoo (inland subspecies) *Calyptorhynchus banksii samueli*. Review of current information in NSW. May 2008. Unpublished report arising from the Review of the Schedules of the Threatened Species Conservation Act 1995. NSW Scientific Committee, Hurstville.

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