

# NSW SCIENTIFIC COMMITTEE

## Coxen's Fig-Parrot *Cyclopsitta diophthalma coxeni*

Review of Current Information in NSW

April 2008

### Current status:

Coxen's Fig-Parrot *Cyclopsitta diophthalma coxeni* is currently listed as Endangered in Queensland under the *Nature Conservation Act 1992* (NC Act) and as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The NSW Scientific Committee recently determined that Coxen's Fig-Parrot meets criteria for listing as Critically Endangered 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.

### Species description:

Coxen's Fig-Parrot is a small (16 cm in length), short-tailed, dumpy green parrot with a blue and red face pattern, blue outerwings and a red spot on each upperwing where it joins the lower back. In flight, a pale stripe is visible on the underwings. It is similar to the small green lorikeets (Musk Lorikeet *Glossopsitta concinna* and Little Lorikeet *Glossopsitta pusilla*), but is distinguished by its face pattern (distribution of red and blue), shorter tail, underwing stripe, red dorsal spots, blue (rather than green) outerwings, and by its calls which are more disyllabic than those of the Little Lorikeet.

### Taxonomy:

Coxen's Fig-Parrot *Cyclopsitta diophthalma coxeni* Gould 1867 is the southernmost subspecies of the Double-eyed Fig-Parrot *Cyclopsitta diophthalma* (Hombron & Jacquinot 1841). It is endemic to a small area of coastal eastern Australia (Figure 1). Two other subspecies are endemic to Australia: *C.d. macleayana* Ramsay 1874 of north-east Queensland and *C.d. marshalli* (Iredale 1947) of Cape York Peninsula. Otherwise, this species occurs only in New Guinea and its satellite islands, where there are several other subspecies of Double-eyed Fig-Parrot and a second species in the genus *Cyclopsitta*. Another genus of fig-parrot, *Psittaculirostris*, is endemic to New Guinea, making this group of parrots (tribe Cyclopsittacini) endemic to the Australasian Region. Claims of a second fig-parrot taxon in south-east Queensland/north-east NSW, in the same area as Coxen's Fig-Parrot, have proven to be unsupported (Schodde 2007).

### Distribution and number of populations:

Coxen's Fig-Parrot is restricted to coastal south-east Queensland (north to Bundaberg), and the Border Ranges and Big Scrub areas of extreme north-east NSW. Recent claims of records farther south, to the Hastings River catchment, have not been substantiated (Schodde 2007). There are

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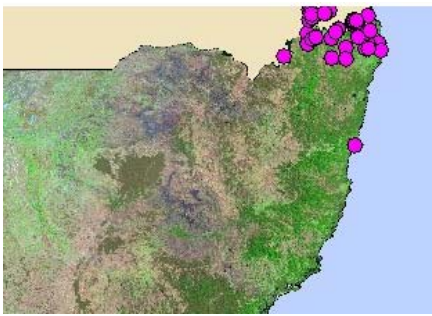
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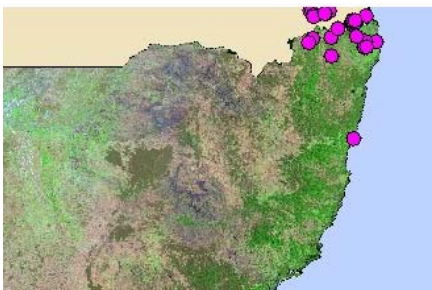
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believed to be four subpopulations, of which two are in NSW (Garnett & Crowley 2000). These NSW populations are in the Levers Plateau/Koreelah Range/Richmond Range/western Border Ranges area and in the Mt Warning/Nightcap Range/former Big Scrub areas (Alstonville Plateau), respectively (from Figure 1 in NSW NPWS 2002). Historical and recent records (to 2001) are collated in the species' recovery plan (NSW NPWS 2002). Records since 1990, some of which were not listed in the recovery plan, were reported in the NSW Field Ornithologists Club annual bird reports and rare bird reports published in *Australian Birds* (tabulated below). There have been no sightings since 2002 (Eco Logical 2007; expert advice 2008).

Number of birds	Location	Date
2	Brunswick Heads	07.91
2	Huonbrook	04.92
2	Beaury SF Urbenville	05.92
1+	Big Scrub FR Dunoon	09.93
2	Cambridge Plateau	01.94
2	Clunes	04.95



**Figure 1:** All records of Coxen's Fig-Parrot (NSW Wildlife Atlas).



**Figure 2:** Records of Coxen's Fig-Parrot since 1980 (NSW Wildlife Atlas).

In both the above maps, the southernmost outlying record is likely to be invalid (from the discussion by Schodde 2007 on the alleged 'new' Fig-Parrot taxon and its source).

## Ecology:

The ecology of the northern subspecies *macleayana* is generally moderately well understood, but ecology is very poorly understood for Coxen's Fig-Parrot.

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## Key habitat requirements

Coxen's Fig-Parrot inhabits lowland subtropical rainforest and gallery forest that supports abundant fleshy-fruited trees, particularly native figs *Ficus* of several species. Such lowland forests have been extensively cleared, logged and fragmented.

## Breeding biology

Virtually no reliable information exists for the Coxen's subspecies; the single alleged clutch of eggs was misidentified (Beruldsen 2002). The breeding biology of Coxen's Fig-Parrot is inferred to be similar to other subspecies, *i.e.* a nest cavity excavated in a dead or decaying limb or trunk of a tree in or on the edge of rainforest; a clutch of two to three eggs in spring; an incubation period of three weeks; and a nestling period five to six weeks (Higgins 1999). Generation length for the Coxen's Fig-Parrot is estimated as two years (Garnett & Crowley 2000). Potential breeding habitat of Coxen's Fig-Parrot in NSW has been extensively cleared, and large trees in lowland forests have been targeted for logging.

Coxen's Fig-Parrot occurs in pairs or, during the non-breeding season, small flocks of up to seven birds. There are no reports of communal roosting (as occurs in the northern subspecies), perhaps because Coxen's is now too rare to gather in large numbers. Communal roosts may function as 'information centres', enabling flock members to find food. The absence of communal roosts in Coxen's subspecies may inhibit efficient foraging.

## Diet

Coxen's Fig-Parrot feeds mostly on native rainforest figs but also on other native rainforest fruits, lichen, insect larvae within fruits, nectar from flowers, and occasionally fruits of introduced plants. The food resources of this species have been extensively cleared.

## Territoriality/home range

There is virtually no information on the home range for this subspecies. It is probably a non-territorial altitudinal migrant or local nomad in the non-breeding season. Otherwise, its behaviour is inferred to be similar to that of other subspecies, *i.e.* it occurs as solitary, monogamous pairs maintaining exclusive breeding territories centred on food trees.

## Ability to disperse/susceptibility to population fragmentation

Although mobile and capable of flying long distances, Coxen's Fig-Parrot is inferred to be adversely affected by habitat fragmentation, which may impede dispersal in search of food or cause gaps in food availability during the year. The population of the Coxen's Fig-Parrot is considered to be severely fragmented (Garnett & Crowley 2000).

## **Number of mature individuals:**

The global population of Coxen's Fig-Parrot is estimated about 100 mature individuals, of which most are in Queensland (*i.e.* NSW holds a small proportion, perhaps 20% based on the respective

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share of geographic range). No subpopulation exceeds 50 individuals. However, these estimates were assigned a low level of confidence by Garnett & Crowley (2000).

## **Threats:**

Historically, the main threat to Coxen's Fig-Parrot has been clearing of subtropical rainforest for agriculture, particularly the parrots' winter foraging habitat in the coastal lowlands, and degradation of rainforests by logging. 'Clearing of native vegetation' is listed as a Key Threatening Process under the TSC Act in NSW. The lack of connectivity caused by the currently highly fragmented nature of remaining habitat may also pose a threat to this species.

Many weeds are invading rainforest remnants inhabited by this species, especially in the lowlands. These degrade the Fig-Parrot's habitat, and are likely to suppress its food trees and hinder its access to them (NSW NPWS 2002). 'Invasion and establishment of exotic vines and scramblers' is listed as a Key Threatening Process in NSW under the TSC Act.

This parrot is likely to be highly sought by egg collectors and aviculturists (NSW NPWS 2002), but no documented evidence exists of attempted poaching.

'Infection by Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species and populations', a Key Threatening Process listed under the TSC Act, is another potential threat to the species.

## **Extreme fluctuations:**

There is no evidence of extreme fluctuations in the population size or habitat of the Coxen's Fig-Parrot.

## **Population reduction and continuing declines:**

There is little information on Coxen's Fig-Parrot's past abundance, but it was always considered uncommon. It is thought to be still declining, with at least two breeding subpopulations in each of NSW and Queensland (Garnett & Crowley 2000). There are few NSW records in recent years (six records in the 1990s, each of two birds, at six localities: NSW FOC annual bird reports). This species is cryptic and likely to be under-recorded (*e.g.* Charley 2000), so the paucity of recent records in NSW need not mean that it is absent.

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

Coxen's Fig-Parrot is estimated to have a global extent of occurrence (EEO) of 70 000 km<sup>2</sup> (Garnett & Crowley 2000), of which most (at least 80%) falls in Queensland. The global estimated area of occupancy (AAO, IUCN 2008) of this species is 140 km<sup>2</sup>, most of which (at least 80%) falls in Queensland. Thus, the maximum EEO (IUCN 2008) in NSW is 14 000 km<sup>2</sup> and the maximum AOO is 28 km<sup>2</sup>.

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## Severe fragmentation:

Coxen's Fig-Parrot is considered to have a "severely fragmented population" (Garnett & Crowley 2000) within severely fragmented habitat.

## References:

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- Higgins PJ (Ed.) (1999) 'Handbook of Australian, New Zealand and Antarctic Birds', vol. 4. (Oxford University Press: Melbourne)
- IUCN (2008) 'Guidelines for using the IUCN Red List Categories and Criteria. Version 7.0.' (Standards and Petitions Working Group of the IUCN Species Survival Commission Biodiversity Assessments Sub-committee: Switzerland). (<http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf>).
- NSW Field Ornithologists Club (1990-2007) NSW annual bird reports and rare bird reports, published annually in *Australian Birds*.
- NSW NPWS (2002) 'Approved recovery plan for the Coxen's Fig-Parrot *Cyclopsitta diophthalma coxeni* (Gould)'. NSW NPWS, Hurstville.
- Schodde R (2007) Fig-Parrot facts—and fictions? *Wingspan* **17**, 14-17.

### 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](http://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.

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This species summary report may be cited as:

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