

THREATENED SPECIES SCIENTIFIC COMMITTEE

Established under the *Environment Protection and Biodiversity Conservation Act 1999*

The Minister approved this conservation advice on 31/10/2015 and included this species in the Vulnerable category, effective from 31/10/2015

Conservation Advice

Platycercus caledonicus brownii

green rosella (King Island)

Taxonomy

Generally accepted as *Platycercus caledonicus brownii* (green rosella (King Island)), Kuhl, 1820. It is one of two subspecies of green rosella, which is endemic to Australia.

Summary of assessment

Conservation status

Vulnerable

Criterion 4: (Vulnerable)

The highest category for which *Platycercus caledonicus brownii* is eligible to be listed is Vulnerable.

Subspecies can also be listed as threatened under state and territory legislation. For information on the listing status of this species under relevant state or territory legislation, see <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>

Reason for conservation assessment by the Threatened Species Scientific Committee

This advice follows assessment of information provided by a Committee nomination to list the *Platycercus caledonicus brownii*.

Public Consultation

Notice of the proposed amendment and a consultation document was made available for public comment for >30 business days between 30 October 2014 and 21 December 2014. Any comments received that were relevant to the survival of the subspecies were considered by the Committee as part of the assessment process.

Subspecies Information

Description

The green rosella has dark green upperparts with black mottling, yellow (adults) or duller yellow-green (juveniles) head, neck and underparts, a red forehead and blue cheek-patches. The rump is olive-yellow, and the shoulder, wing edges and tail edges are blue. The female is greener and duller than the male (Pizzey and Knight, 1997). The green rosella (King Island) is not clearly distinguishable (morphologically) from the other subspecies (del Hoyo and Collar, 2014).

Distribution

The subspecies is endemic to King Island. It is largely confined to the Pegarah forest after large-scale clearance of vegetation, although during the non-breeding season it sometimes occurs elsewhere on the island (Garnett et al., 2011; Department of Primary Industries, Parks, Water and Environment, 2014). The other subspecies *Platycercus caledonicus caledonicus* is more widely distributed across Tasmania and nearby islands in Bass Strait (Higgins, 1999; Clements, 2000).

Relevant Biology/Ecology

The subspecies is largely confined to eucalypt forests, where it probably feeds on a wide range of seeds (including those of grasses, eucalypts and other trees) as well as fruit, blossoms and insects (Garnett et al., 2011). They are mainly arboreal but forage at all levels from ground to canopy; in closed forests they mainly forage in the mid-upper canopy. They forage singly, in pairs or small flocks mostly with fewer than 20 birds. They are considered sedentary, with no large-scale seasonal movements recorded (Higgins, 1999).

Adults are monogamous, and nest in hollows or broken branches of trees in dry or wet eucalypt forests. Usually 4-5 eggs are laid. In absence of tree-hollows it nests in disused buildings and concealed forks of tree trunks (King Island Natural Resource Management, 2013). One clutch is laid per year, with repeat clutches usually laid in the same hollow. Both sexes care for the young after hatching. Roosting is communal (Higgins 1999). The generation time is estimated at 5.9 years and the maximum longevity in the wild estimated at 10.2 years (Garnett et al., 2011; Department of Primary Industries, Parks, Water and Environment, 2014).

Threats

Habitat clearing is a key threat. Approximately 70% of the native vegetation on King Island has been cleared, resulting in a highly fragmented and developed landscape. In the remaining vegetation, inappropriate fire frequencies are the main threat, with frequent fires limiting habitat regeneration and affecting hollow availability. Severe and uncontrolled wildfire can also destroy foraging and breeding habitat (Garnett et al., 2011; Department of Primary Industries, Parks, Water and Environment, 2014).

The scarcity of nesting sites may limit the population size. The subspecies may face competition for nest hollows from brush tail possums, exotic birds and honeybees. Weeds and feral cats (*Felis catus*) may also threaten the subspecies (Garnett et al., 2011; Department of Primary Industries, Parks, Water and Environment, 2014).

How judged by the Committee in relation to the EPBC Act Criteria and Regulations

Criterion 1. Population size reduction (reduction in total numbers)			
Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	Critically Endangered Very severe reduction	Endangered Severe reduction	Vulnerable Substantial reduction
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%
A1	<p>Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.</p> <p>(a) direct observation [except A3]</p>		
A2			
A3			
A4			
		<p>based on any of the following:</p> <p>(b) an index of abundance appropriate to the taxon</p> <p>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</p> <p>(d) actual or potential levels of exploitation</p> <p>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</p>	
A2	<p>Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.</p>		
A3	<p>Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(a) cannot be used for A3]</p>		
A4	<p>An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.</p>		

Evidence:

Insufficient data to determine eligibility

The green rosella was once considered to be common on King Island, but its range has been restricted as it relies on forested habitat which has mostly been cleared for agriculture (Garnett et al. 2011). The *Action Plan for Australian Birds 2010* (the Bird Action Plan 2010; Garnett et al., 2011) estimates the total population of green rosellas to be between 250 and 1000 mature individuals, which is consistent with the Bird Action Plan 2000 (Garnett and Crowley, 2000) which estimated a population of about 500 birds. However, while the Bird Action Plan 2010 considered the population to be stable there is no actual data in which to assess any recent population trends.

The Committee considers that there is insufficient information to determine the eligibility of the species for listing in any category under this criterion.

Criterion 2. Geographic distribution is precarious for either extent of occurrence AND/OR area of occupancy			
	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
B1. Extent of occurrence (EOO)	< 100 km ²	< 5,000 km ²	< 20,000 km ²
B2. Area of occupancy (AOO)	< 10 km ²	< 500 km ²	< 2,000 km ²
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Evidence:

Insufficient data to determine eligibility

The extent of occurrence is estimated to be 800 km² and the area of occupancy estimated to be 50 km², which are restricted under Criterion B1 and B2. The subspecies exists at a single location, which meets Criterion B2(a). However, there are insufficient data to assess whether there are continuing declines or extreme fluctuations in the extent of occurrence, area of occupancy, habitat or numbers of individuals (Garnett et al., 2011).

The Committee considers that there is insufficient information to determine the eligibility of the species for listing in any category under this criterion.

Criterion 3. Small population size and decline			
	Critically Endangered Very low	Endangered Low	Vulnerable Limited
Estimated number of mature individuals	< 250	< 2,500	< 10,000
AND either (C1) or (C2) is true			
C1 An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future)	Very high rate 25% in 3 years or 1 generation (whichever is longer)	High rate 20% in 3 years or 1 generation (whichever is longer)	Substantial rate 10% in 10 years or 3 generations (whichever is longer)
C2 An observed, estimated, projected or inferred continuing decline AND its geographic distribution is precarious for its survival based on at least 1 of the following 3 conditions:			
(a) (i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
(a) (ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%
(b) Extreme fluctuations in the number of mature individuals			

Evidence:

Insufficient data to determine eligibility

The total number of mature individuals is thought to be between 250 and 1000 (Garnett et al., 2011), which meets the threshold for low under this criterion. However, there are insufficient data to assess whether there are continuing declines in the population (Garnett et al., 2011). Therefore, the subspecies has not been demonstrated to have met this required element of this criterion.

Criterion 4. Very small population			
	Critically Endangered Extremely low	Endangered Very Low	Vulnerable Low
Number of mature individuals	< 50	< 250	< 1,000

Evidence:

Eligible for listing as Vulnerable

Intensive surveys were recently undertaken on King Island to better understand the population size of the green rosella (King Island Natural Resource Management Group, 2015). The surveys took place over two weekends in late April and early May 2015. In all, 114 people surveyed suitable habitat on the island over two weekends, culminating in a total of 401 survey hours. A total of 78 green rosellas were counted from 82 sites. While it is likely some birds were double-counted the surveys were designed to minimise this by commencing counts in different parts of the island at similar times. Although empirical estimates were not provided, the survey concluded that it would be extremely unlikely that populations of green rosellas would be more than 1000 individuals. The low number of birds found comparative to total effort supports the Bird Action Plan 2010 conclusion that the population may be as low as 500 individuals.

Based on the Bird Action Plan 2010 (Garnett et al., 2011) estimate of 500 individuals, and the low number of birds found during recent surveys, the Committee considers there is likely less than 1000 individuals on the Island, which meets the threshold for listing as Vulnerable under this criterion.

Criterion 5. Quantitative Analysis			
	Critically Endangered Immediate future	Endangered Near future	Vulnerable Medium-term future
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% in 100 years

Evidence:

Insufficient data to determine eligibility

Population viability analysis has not been undertaken.

Conservation Actions

Recovery Plan

There is a management plan in place for King Island (Threatened Species Section, 2012) that includes objectives to conserve and expand habitat identified as important to *Platycercus caledonicus brownii*. This plan is considered adequate to stabilise and, potentially, expand the numbers of *Platycercus caledonicus brownie* in the wild.

Conservation and Management Actions

Primary Conservation Action

- Investigate hollow availability and, if necessary, protect nest hollows from other fauna and/or erect nest-boxes.
- Investigate the effect of fire on food and hollow availability and, if necessary, manage fire to reduce the frequency of high intensity fires.
- Explore options to retain and increase the number of hollow-bearing trees for nesting.
- Erect nest boxes to increase breeding capacity.

Survey and monitoring priorities

- Undertake regular and systematic surveys in key areas of the Island in order to determine a robust population size and trend.

Information and research priorities

- Extent of competition for tree hollows with other fauna and investigate hollow protection measures.

Recommendations

- (i) The Committee recommends that the list referred to in section 178 of the EPBC Act be amended by **including** in the list in the Vulnerable category:

Platycercus caledonicus brownii

- (ii) The Committee recommends that there should not be a recovery plan for this subspecies.

Threatened Species Scientific Committee

02/09/2015

References cited in the advice

Birdlife Australia (2014). Submission in response to the draft listing and conservation advice for six bird species. Threatened Species Committee, Birdlife Australia.

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