Platycercus caledonicus subsp. *brownii*

King Island green rosella

TASMANIAN THREATENED SPECIES LISTING STATEMENT

Platycercus caledonicus
Image by Mark Wapstra

Common name: King Island green rosella

Scientific name: ***Platycercus caledonicus* subsp. *brownii*** (Kuhl, 1820)

Group: Vertebrate, Aves, Psittaciformes, Psittacidae

Status: *Threatened Species Protection Act 1995*: **Vulnerable**
Environment Protection and Biodiversity Conservation Act 1999: **Vulnerable**

Distribution: Endemic status: **Endemic to King Island, Tasmania**
Tasmanian NRM Regions: **Cradle Coast**
Tasmanian IBRA Regions: **KIN**

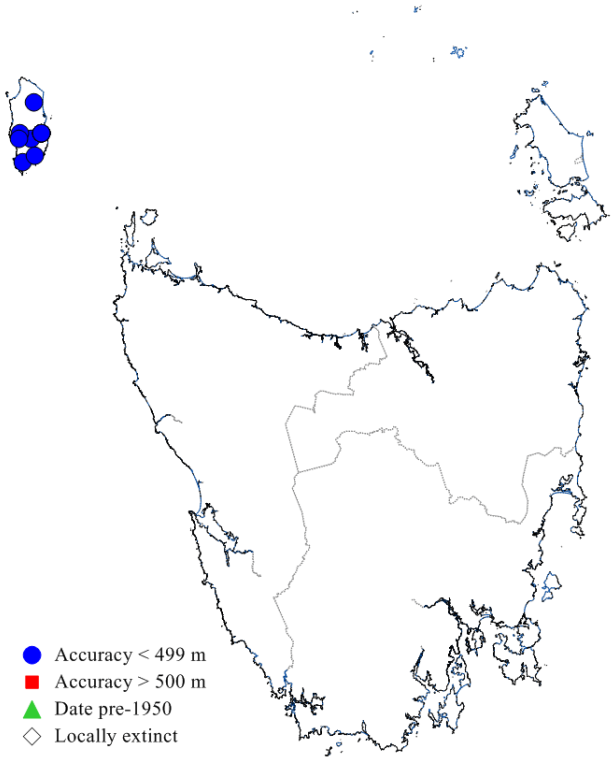

Figure 1. The distribution of the King Island green rosella, showing NRM regions.

Plate 1. *Platycercus caledonicus brownii*
Image by Tim Woodburn

SUMMARY:
The King Island green rosella (*Platycercus caledonicus brownii*) is endemic to King Island and is a subspecies of the Tasmanian green rosella. It is a large broad-tailed parrot with the rich yellow, dark-green and black colouring characteristic of the species.

The species appears to be restricted to eucalypt forest on the island, although it may occur throughout the island during the non-breeding season. The total population size of the King Island green rosella is estimated to be less than 500 mature individuals. The area of occupancy is estimated to be 50 km^2.

The principal threats to the species include loss of habitat and competition with brush-tailed possums, exotic birds and European honey bees.

Management objectives include preventing the loss or degradation of habitat, improving the understanding of the ecological requirements of the species, and improving the reservation status of the species.

IDENTIFICATION AND ECOLOGY

The green rosella is an iconic Tasmanian endemic bird. There are two recognised subspecies: *caledonicus* which occurs throughout mainland Tasmania (known as the green rosella), and *brownii* which is restricted to King Island (Plate 1).

The King Island green rosella is a large broad-tailed parrot, adults reaching about 37 cm in length and weighing 100 to 150 g. It has dark green upperparts with black mottling, a rich yellow head, neck and upperparts, a red forehead and blue cheek-patches. Its tail is green edged with blue-white outer feathers, the wings are green and violet blue and its rump is olive-green.

Male and female King Island green rosellas are similar in external appearance, although the female is greener and duller.

The juvenile birds have an under-wing stripe, not present in the adults, a dull yellow-green head and underparts, and dull green body.

The two sub-species cannot be readily distinguished morphologically (Del Hoyo and Collar 2014).

The King Island green rosella is predominantly herbivorous, consuming seeds, berries, nuts, fruit, and flowers but may also eat insect larvae and insects such as psyllids (Garnett et al. 2011). Fruit of weedy shrubs such as hawthorn (*Crataegus monogyna*) and largeleaf cotoneaster (*Cotoneaster glaucophyllus*) are also consumed.

The King Island green rosella forms monogamous pairs. From the age of three years they nest annually between September and February in tree hollows, where they lay 4 to 5 eggs (Higgins 1999, Garnett et al. 2011). Eggs are incubated by the female for 19 to 23 days. Both parents care for the young. Fledglings leave the nest at approximately five weeks old and are dependent on parents for around two weeks after fledging (Higgins 1999). The species is generally observed in pairs, but forms flocks in autumn-winter (KINRMGI 2003).

Individuals of the King Island green rosella are believed to be relatively long-lived. Natural mortality factors include predation of adults by raptors, and predation of eggs and chicks by avian and arboreal predators. Feral cats may also be a potential threat (KINRMGI 2006).

The species is considered generally sedentary or resident during the breeding season but can be locally nomadic outside the breeding season.

Birds roost communally, at least during winter. Birds return to the same roost each evening, leaving the roost shortly after daybreak throughout the year.

Surveying techniques

Surveying for the King Island green rosella can be carried out at any time of year. During the breeding season the species is most likely to be detected in eucalypt forest habitat, but outside the breeding season may be present in other habitats on the island.

Confusing species

There are no confusing species on King Island.

DISTRIBUTION AND HABITAT

The King Island green rosella is endemic to King Island, which lies northwest off the coast of Tasmania (Figure 1). Its extent of occurrence is throughout the island during the non-breeding season (approximately 800 km^2) but is restricted to 50 km^2 in the Pegarah State Forest area during the breeding season (Garnett et al. 2011; KINRMGI 2003).

The King Island green rosella mainly inhabits dry and wet eucalypt forests (Plate 2), but also uses scrub, shelterbelts and homestead gardens (KINRMGI 2003). While many vegetation types may be used for foraging, the species usually nests in a hollow or the broken branch of a tall tree in dry or wet eucalypt forests (Higgins 1999), although other nesting sites such as wall cavities and shingle roofs are well documented.

Plate 2. Habitat of the King Island green rosella along the Seal River. Image by M. Wapstra

POPULATION PARAMETERS

The total population size of the King Island green rosella is estimated to be less than 500 mature individuals (Garnett et al. 2011).

The estimated area of occupancy is 50 km^2 (Garnett et al. 2011), which represents an area the approximate size of the Pegarah State Forest. The extent of occurrence is currently unknown but the species has been recorded in the larger forest remnants on the island.

RESERVATION STATUS

Parts of the island are in reserves (e.g. Lavinia State Reserve, Seal Rocks State Reserve, Kentford Forest Nature Reserve, Kentford Forest Conservation Area and several public reserves on Crown land). Additionally, some areas of private property on King Island have had private conservation covenants placed upon them (under the Tasmanian *Nature Conservation Act 2002*). The extent to which these reserves support potential habitat for the King Island green rosella has not been estimated.

CONSERVATION STATUS

The King Island green rosella was listed in 2002 as vulnerable under the Tasmanian *Threatened Species Protection Act 1995*, meeting criterion D, specifically D1 (total population estimated to number fewer than 1000 mature individuals). In 2015 it was also listed as vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

The species is also included in DPIPWE's *King Island Biodiversity Management Plan 2012-2022* (TSS 2012).

THREATS, LIMITING FACTORS & MANAGEMENT ISSUES

The key threat to the King Island green rosella is land clearing and degradation of habitat.

Loss of habitat (land clearing): The historical clearing of native eucalypt forests on King Island appears to have been the primary cause of decline in the King Island green rosella. Particularly, the loss of mature hollow-bearing eucalypts has reduced the availability of nest sites. Up to 70% of King Island's original vegetation has been lost through clearing for agriculture (TSS 2012). The remaining pockets of suitable habitat are vulnerable to further loss.

Loss of habitat (fire): While wildfire can be beneficial to the development of tree hollows for nesting in the longer term, severe wildfire can potentially eliminate large areas of the species' remaining foraging and breeding habitat. This is a distinct risk due to the high fire frequency in the remaining vegetation present on King Island.

Competition for breeding habitat: Suitable hollows for nesting are scarce and competition exists with other species for hollows. For example, brush-tailed possums, introduced European honey bees and common starlings compete directly with King Island green rosellas for the available hollows (Higgins 1999).

Climate change: The trend towards a warmer climate may increase the frequency and exacerbate the effect of wildfire on the habitat of the King Island green rosella.

Stochastic risk: The likely small size of the total population of mature individuals of the King Island green rosella exposes the species to the risk of extinction as a result of stochastic events.

MANAGEMENT STRATEGY

Management objectives

The main objective for the management of *Platycercus caledonicus* subsp. *brownii* is to decrease the risk of extinction by maintaining and improving habitat within the range of the species through appropriate land management.

What has been done?

- **Targeted surveys & monitoring:** This species has been included in surveys for King Island bird species e.g. Green & McGarvie (1971), McGarvie & Templeton (1974) and KINRMGI (2015). In 2003, KINRMGI reported on the Natural Heritage Trust project 'Biodiversity Indicators for Sustainable Land Management'. The King Island green rosella was found to be one of the more common breeding birds on the island, mainly in the east and south. The King Island green rosella was recorded 51 times from 20 sites (KINRMGI 2003).
- **Competition for breeding habitat:** KINRMGI (undated) indicated that the use of nest boxes had been trialled with limited success due to competition from starlings.
- **Forestry management:** The King Island green rosella, along with all threatened fauna on King Island, has been included in the *Threatened Fauna Adviser*, a decision-support system used by the forest industry to take account of threatened fauna in wood production forests managed under the Tasmanian *Forest Practices Code* (FPA 2014, FPA 2015).

What is needed?

- Increased long-term security of King Island green rosella habitat on both public and private land;
- Increased understanding of population abundance;
- Identification of breeding sites and increased understanding of breeding success, including an assessment of the value of providing artificial breeding sites (nest boxes);
- Monitoring to determine population trends;
- Increased available information on species management requirements for land managers and regulators.

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Prepared in April 2010 by Mark Wapstra and updated by the Threatened Species and Private Land Conservation Section in January 2020 under the provisions of the Tasmanian *Threatened Species Protection Act 1995.* Published in 2020.

Cite as: Threatened Species Section (2020). Listing Statement for *Platycercus caledonicus* subsp. *brownii* (King Island green rosella). Department of Primary Industries, Parks, Water and Environment, Tasmania.

View:
https://dpipwe.tas.gov.au/conservation/threatened-species-and-communities/lists-of-threatened-species

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Permit: A permit is required under the *Tasmanian Threatened Species Protection Act 1995* to knowingly "take" (which includes kill, injure, catch, damage, destroy and collect), keep, trade in or process any specimen of a listed species.