



Consultation Document on Listing Eligibility and Conservation Actions

Polytelis alexandrae (princess parrot)

You are invited to provide your views and supporting reasons related to:

- 1) the eligibility of *Polytelis alexandrae* (princess parrot) for inclusion on the EPBC Act threatened species list; and
- 2) the necessary conservation actions for the above species.

Evidence provided by experts, stakeholders and the general public are welcome. Responses can be provided by any interested person.

Anyone may nominate a native species, ecological community or threatening process for listing under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or for a transfer of an item already on the list to a new listing category. The Threatened Species Scientific Committee (the Committee) undertakes the assessment of species to determine eligibility for inclusion in the list of threatened species and provides its recommendation to the Australian Government Minister for the Environment and Energy.

Responses are to be provided in writing either by email to:
species.consultation@environment.gov.au

or by mail to:

The Director
Freshwater Species Conservation Section
Wildlife, Heritage and Marine Division
Department of the Environment and Energy
PO Box 787
Canberra ACT 2601

Responses are required to be submitted by 19 May 2017.

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General background information about listing threatened species

The Australian Government helps protect species at risk of extinction by listing them as threatened under Part 13 of the EPBC Act. Once listed under the EPBC Act, the species becomes a Matter of National Environmental Significance (MNES) and must be protected from significant impacts through the assessment and approval provisions of the EPBC Act. More information about threatened species is available on the Department's website at: <http://www.environment.gov.au/biodiversity/threatened/index.html>.

Public nominations to list threatened species under the EPBC Act are received annually by the Department. In order to determine if a species is eligible for listing as threatened under the EPBC Act, the Committee undertakes a rigorous scientific assessment of its status to determine if the species is eligible for listing against a set of criteria. These criteria are available on the Department's website at: <http://www.environment.gov.au/biodiversity/threatened/pubs/guidelines-species.pdf>.

As part of the assessment process, the Committee consults with the public and stakeholders to obtain specific details about the species, as well as advice on what conservation actions might be appropriate. Information provided through the consultation process is considered by the Committee in its assessment. The Committee provides its advice on the assessment (together with comments received) to the Minister regarding the eligibility of the species for listing under a particular category and what conservation actions might be appropriate. The Minister decides to add, or not to add, the species to the list of threatened species under the EPBC Act. More detailed information about the listing process is at: <http://www.environment.gov.au/biodiversity/threatened/nominations.html>.

To promote the recovery of listed threatened species and ecological communities, conservation advices and where required, recovery plans are made or adopted in accordance with Part 13 of the EPBC Act. Conservation advices provide guidance at the time of listing on known threats and priority recovery actions that can be undertaken at a local and regional level. Recovery plans describe key threats and identify specific recovery actions that can be undertaken to enable recovery activities to occur within a planned and logical national framework. Information about recovery plans is available on the Department's website at: <http://www.environment.gov.au/biodiversity/threatened/recovery.html>.

Information about this consultation process

Responses to this consultation can be provided electronically or in hard copy to the contact addresses provided on Page 1. All responses received will be provided in full to the Committee and then to the Minister.

In providing comments, please provide references to published data where possible. Should the Committee use the information you provide in formulating its advice, the information will be attributed to you and referenced as a 'personal communication' unless you provide references or otherwise attribute this information (please specify if your organisation requires that this information is attributed to your organisation instead of yourself). The final advice by the Committee will be published on the Department's website following the listing decision by the Minister.

Information provided through consultation may be subject to freedom of information legislation and court processes. It is also important to note that under the EPBC Act, the deliberations and recommendations of the Committee are confidential until the Minister has made a final decision on the nomination, unless otherwise determined by the Minister.

Polytelis alexandrae

princess parrot

Taxonomy

Conventionally accepted as *Polytelis alexandrae* Gould 1863.

Description

The princess parrot is a medium-sized slender parrot growing to 40–45 cm long. It has mostly dull olive-green plumage, paler on the underparts, with a blue-grey cap, yellow-green shoulder patches, blue back and rump, pale blue-green uppertail and pink chin, throat and foreneck.

Distribution

The species is scattered and irregularly occurs across the arid regions from near Oodnadatta in South Australia, west to near Coolgardie and the east Murchison River in Western Australia, and north to near the Fitzroy River in Western Australia and to Howell Ponds in the Northern Territory (Higgins 1999; Baxter & Henderson 2000). The species may be concentrated in the Great Sandy, Gibson, Tanami and Great Victoria Deserts, and in the central ranges (Blyth & Burbidge 1997; Higgins 1999).

Irregularity confounds determination of any change in distribution but records from the periphery of the range, in south-west and north-west Western Australia, northern Northern Territory and northern South Australia have become less frequent since the 1950s (Blyth & Burbidge 1997).

Relevant Biology/Ecology

Princess parrots are usually recorded from shrublands and savanna woodlands in swales between sand dunes, with occupied sites typically consisting of spinifex *Triodia* species and a variety of shrubs and scattered emergent trees. Also sometimes in vegetated riverine and littoral areas.

The species feeds on a combination of grass seeds and acacia seed pods, and on nectar from flowering trees and shrubs and leaves (Carter 1993; Higgins 1999; Pavey et al. 2014; Forshaw 2002).

Nests have been recorded in hollows in *Eucalyptus camaldulensis* (river red gum), *E. Gongylocarpa* (marble gum) and *Allocasuarina decaisneana* (desert oak) (Baxter & Henderson 2000). A recent study conducted in central Australia found the parrots only nested in marble gum hollows, demonstrating the importance of that species for breeding events. Nests were typically in large trees, and approximately 6 m from the ground (Pavey et al. 2014). Clutch size for wild princess parrots is thought to range from 3–6 eggs (Higgins 1999), which accords with field observations that found adults typically fledged one or two young, but could fledge up to five (Pavey et al. 2014).

The princess parrot is considered to have irruptive breeding dynamics, that is, the species may not often be present for long periods of time and then large numbers of birds are seen in a particular area for a short period of time. They may breed in core areas in wet years then irrupt or disperse more widely following rainfall (Higgins 1999). It is thought that rainfall events may trigger these irruptive breeding events (Pavey et al. 2014).

A generation time of 7.7 years is derived from an age at first breeding of 2.0 years and a maximum longevity of 13.4 years, both values are extrapolated from captive birds where maximum recorded longevity extends to 24 years (Garnett et al. 2011).

Threats

No known current threats exist, but princess parrots may be adversely affected by the same habitat changes that led to the extinction of many central Australian mammals over the 20th century (Burbidge & McKenzie 1989).

Table 1 – Threats impacting the princess parrot in approximate order of severity of risk, based on available evidence.

Threat factor	Threat type and status	Evidence base
Fire		
Increased intensity of fire events	suspected current	Increased intensity of fire events, due to less frequent burning and altered fuel loads, may result in the death of hollow-bearing trees, and may affect food availability (Pavey 2013).
Habitat modification		
Increased availability of water	potential	Increased availability of water in areas grazed by domestic stock may have allowed other more water-dependent parrots to expand into the arid zone and compete with princess parrots (Garnett et al. 2011). However, this has not been demonstrated.
Habitat degradation	potential	Throughout the range of the princess parrot, habitat may have been degraded and food availability reduced by altered fire regimes with a coarser mosaic of fire history, and the introduction of sheep and feral herbivores such as rabbits (<i>Oryctolagus cuniculus</i>) and camels (<i>Camelus dromedarius</i>) (Garnett et al. 2011).
Disease		
Psittacine Beak and Feather disease (PBFD)	potential	PBFD is an infectious and potentially fatal disease that is common in Australian parrots, and that may have catastrophic effects on some parrot populations. Symptoms of the disease have been recorded in the princess parrot (DEH 2005), but it is not known if the disease is having any effect on mortality rates or population size.

Assessment of available information 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%
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>A1 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>A2 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> <p>A3 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> <p>A4 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> </div> <div style="flex: 1; padding-left: 20px;"> <p><i>based on any of the following</i></p> <ul style="list-style-type: none"> (a) direct observation [except A3] (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat (d) actual or potential levels of exploitation (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites </div> </div>			

Evidence:

The population of princess parrots is estimated at approximately 1 200 mature individuals and the population is thought to be stable, although with a low reliability (Garnett et al. 2011).

The data presented above appear to demonstrate the species is **not eligible for listing under this criterion**. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

Criterion 2. Geographic distribution as indicators 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 indicating distribution is precarious for survival:			
(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:

The extent of occurrence (EOO) is estimated at approximately 1.3 million km² and area of occupancy (AOO) is estimated as 470 km² (DOEE 2017), and both are thought to be stable (Garnett et al. 2011). These figures are based on the mapping of point records from 1997 to 2017, obtained from state governments, museums, CSIRO and Birdlife Australia. The EOO was calculated using a minimum convex hull, and the AOO calculated using a 2x2 km grid cell method, based on the IUCN Red List Guidelines 2014 (DOEE 2017).

The data presented above appear to demonstrate the species is **not eligible for listing under this criterion**. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process

Criterion 3. 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 5 years or 2 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:

The population of princess parrots is estimated at approximately 1 200 mature individuals and the population is thought to be stable, although with a low reliability (Garnett et al. 2011).

The data presented above appear to demonstrate the species is **not eligible for listing under this criterion**. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

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

Evidence:

The population of princess parrots is estimated at approximately 1 200 mature individuals and the population is thought to be stable, although with a low reliability (Garnett et al. 2011).

The data presented above appear to demonstrate the species is not eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

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:

As a population viability analysis appears not to have been undertaken, there is insufficient data to demonstrate if the species is eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

Consideration for delisting

The princess parrot appears not to be eligible for listing under the EPBC Act as it does meet any of the listing criteria. The species is considered near threatened in the Bird Action Plan 2010 due to the population nearing 1 200 mature individuals (Garnett et al. 2011). While population declines likely occurred during the 20th century, the current population and the extent and area of occurrence are considered stable (Garnett et al. 2011).

While there is an approved conservation advice in place for the princess parrot, it is unclear to what extent the advice is being enacted and how any actions that might be occurring as a result of the advice are benefitting the survival of the species.

As a listed threatened species, the princess parrot is afforded protection under the EPBC Act (1999) as a 'matter of national environmental significance'. This means that any person who proposes to take an action that will have, or is likely to have, a significant impact on the princess parrot must refer that action to the minister for a decision on whether assessment and approval is required under the EPBC Act. More information on the significant impact guidelines can be found at <https://www.environment.gov.au/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance>. If the princess parrot is removed from list of threatened species then it will no longer be protected as a matter of national environmental significance.

The purpose of this consultation document is to elicit additional information to better understand the species' status and what impacts, if any, would likely occur if the princess parrot were to be removed from the list of threatened species.

Conservation Actions

Recovery Plan

There is no recovery plan for the princess parrot and a recovery plan is not required. A conservation advice was approved by the Minister (or Delegate of the Minister) on 3 July 2008.

Primary Conservation Actions

The primary conservation action for the princess parrot is to manage habitat degradation to ensure breeding and foraging conditions remain optimal.

Conservation and Management Priorities

Impacts of domestic and introduced species

- Ensure introduced domestic and feral species (e.g. sheep, cattle and camels) do not degrade princess parrot habitat, primarily by ensuring suitable stocking regimes and managing numbers of animals.
- Monitor changes in habitat use of more water dependent parrots as a result of increased water availability at stock watering points, with a particular focus on detecting changes in long-term distribution and any associated deleterious effects of increased competition on the princess parrot for breeding and feeding resources.

Fire

- Fires must be managed to ensure that prevailing fire regimes do not disrupt the life cycle of princess parrots; promote invasion of exotic species; increase the impacts of grazing on princess parrot habitat or lead to an increase predation levels.
- Physical damage to the habitat and individuals of the threatened species must be avoided during and after fire operations.
- Fire management authorities and land management agencies should use suitable maps and install field markers to avoid damage to the princess parrot habitat.

Disease

- Monitor the population of princess parrot for evidence of Psittacine Beak and Feather disease (PBFD). If PBFD is found to be impacting the population, develop a management strategy.

Survey and Monitoring priorities

- More precisely assess population size, distribution, and ecological requirements of the princess parrot through targeted and regular population surveys.

Information and Research priorities

- Better understand population size, trend, distribution and habitat use of the princess parrot through targeted and regular surveys and population focused studies.

Collective list of questions – your views

1. Do you agree with the current taxonomic position of the Australian Faunal Directory and Birdlife Australia for this species (as identified in the draft conservation advice)?
2. Can you provide any additional references, information or estimates on longevity, age of maturity, average life span and generation length?
3. Has the survey effort for this species been adequate to determine its national distribution and adult population size?
4. Do you accept the estimate provided in the nomination for the current population size of the species?
5. For any population with which you are familiar, do you agree with the population estimate provided? If not, are you able to provide a plausible estimate based on your own knowledge? If so, please provide in the form:
Lower bound (estimated minimum):
Upper bound (estimated maximum):
Best Estimate:
Estimated level of Confidence: %
6. Can you provide any additional data, not contained in the current nomination, on declines in population numbers over the past or next 10 years or 3 generations, whichever is the longer?
7. Is the distribution as described in the nomination valid? Can you provide an estimate of the current geographic distribution (extent of occurrence or area of occupancy in km²) of this species?
8. Has this geographic distribution declined and if so by how much and over what period of time?
9. Do you agree that the species is eligible for inclusion on the threatened species list, in the category listed in the nomination?
10. Do you agree that the threats listed are correct and that their effects on the species are significant?
11. To what degree are the identified threats likely to impact on the species in the future?
12. Can you provide additional or alternative information on past, current or potential threats that may adversely affect this species at any stage of its life cycle?
13. In seeking to facilitate the recovery of this species, can you provide management advice for the following:
 - What individuals or organisations are currently, or need to be, involved in planning to abate threats, and any other relevant planning issues?
 - What threats are impacting on different populations, how variable are the threats and what is the relative importance of the different populations?
 - What recovery actions are currently in place, and can you suggest other actions that would help recover the species? Please provide evidence and background information.
14. Can you provide additional data or information relevant to this assessment?
15. Can you advise as to whether this species is of cultural significance to Indigenous Australians?

References cited in the advice

- Baxter C & Henderson R (2000) A literature summary of the Princess Parrot *Polytelis alexandrae* and a suspected recent breeding event in South Australia. *South Australian Ornithologist*. 33:93-108.
- Blyth J & Burbidge A (1997) What do we know about the Princess Parrot *Polytelis alexandrae*? *Eclectus*. 3:26-29.
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- Higgins, PJ (Ed.) (1999) Handbook of Australian, New Zealand and Antarctic Birds. Vol. 4: Parrots to Dollarbird.' (Oxford University Press: Melbourne.)
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