



Consultation Document on Listing Eligibility and Conservation Actions

***Dasyornis longirostris* (western bristlebird)**

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

- 1) the eligibility of *Dasyornis longirostris* (western bristlebird) for inclusion on the EPBC Act threatened species list in the Endangered category; 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
Marine and 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.

Dasyornis longirostris

western bristlebird

Taxonomy

Conventionally accepted as *Dasyornis longirostris* (Gould 1841).

Species Information

Description

Western bristlebirds are medium-sized birds growing to approximately 20-22 cm and are largely ground-dwelling, usually flying only in response to disturbance and rarely over a distance of more than 10-20 m (Pizzey & Knight 1997). They are coloured dark olive-brown on the upperparts, pale chestnut on the wings, and pale grey to brown on the throat and underparts, with a scalloped or dappled patterning (Pizzey & Knight 1997). They have a pale eyebrow over their red eyes, their wings are short and rounded and their tails, which they sometimes fan or hold erect, are longish with graduated feathers (Pizzey & Knight 1997).

Distribution

The western bristlebird is endemic to coastal south-west Western Australia. The species occurs at Two Peoples Bay Nature Reserve, Betty's Beach, Mount Manypeaks to Bluff Creek, and at multiple sites in the Fitzgerald River National Park (McNee 1986; Comer & McNee 2001). No western bristlebirds have been located in the area between these two locations, a distance of 120 km, despite extensive suitable habitat available (Department of Parks and Wildlife 2014).

Historic records of the western bristlebird suggest that it once occurred in coastal areas from Perth to Augusta and from Albany to Fitzgerald River National Park (Cale & Burbidge 1993). Eighteen birds were translocated in 1999–2000 and 2007 from Two People's Bay to near Walpole, west of Albany, but those translocation attempts failed (Burbidge 2003; Burbidge et al. 2010).

Relevant Biology/Ecology

At Two Peoples Bay Nature Reserve western bristlebirds live in dense closed heath 1–1.5 m high. Near Waychinicup River and in the Fitzgerald River National Park, the species' main habitat is closed heath 0.5–1 m high, sometimes with scattered patches of mallee (*Eucalyptus spp.*) though more open heaths may be used if there are enough patches of dense shrubs in the area (McNee 1986).

Territory size is estimated to be seven hectares, and territories may remain unchanged for at least 30 years (Smith 1987; Garnett et al. 2011). In Fitzgerald River National Park, subpopulations appear to have survived fire where patches of habitat remained unburnt. After fires, unburnt swampy vegetation, predominantly sedges and thickets, may be important as refugia, but severe or large scale fires can destroy all suitable habitat (Smith 1977; McNee 1986; Smith 1987). At Two People's Bay Nature Reserve, moist heaths were reoccupied 2–3 years after fire (Burbidge 2003). Heaths in drier areas may not be reoccupied until 11–14 years after fire (Smith 1987). The species was found in heaths 5–12 years after fire between Boulder Hill and east of Waychinicup River, and 14–28 years after fire in northern Fitzgerald River National Park (McNee 1986).

A generation time of 5.2 years (BirdLife International 2011) is derived from an age at first breeding of 1.5 years, a maximum longevity of 7.3 years and annual adult longevity of 77 percent. All values have been extrapolated from expert estimates for eastern bristlebird (*D. brachypterus*).

Threats

The primary threat to the western bristlebird is increasing fire frequency and intensity and predation by invasive species (Garnett et al. 2011; Department of Parks and Wildlife 2014).

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

Threat factor	Threat type and status	Evidence base
Fire		
Increased fire frequency and intensity	known present	<p>Western bristlebirds are fire sensitive due to their preference for long unburnt habitat (Department of Parks and Wildlife 2014). Given the low population, extensive fire events are considered the most significant threat to the persistence of the species (Department of Parks and Wildlife 2014). Fire frequencies of less than 5–10 year intervals have led to local extinction in some areas (Smith 1987). A series of large wildfires between 2000 and 2004, and in 2005 and 2006 substantially reduced the population size of western bristlebirds and caused reduction in habitat quality (BirdLife International 2017).</p> <p>Over time, the threat from bushfires is likely to increase for western bristlebirds, as fire intensity and frequency are predicted to increase in their primary habitat as a result of climate change (Bradstock 2010; Garnett et al. 2013).</p>
Habitat loss and modification		
Historic land clearing	known past	Past land clearing for grazing and agriculture is considered responsible for the contraction of the western bristlebirds distribution. However, this is no longer a threat as almost all bristlebirds now occur in conservation reserves (SEWPaC 2011).
Invasive species		
Predation by foxes (<i>Vulpes vulpes</i>) and cats (<i>Felis catus</i>)	suspected present	Predation by introduced mammals, particularly foxes and feral cats, is likely to be a significant threat to the western bristlebird (Gilfillan et al. 2009; Burbidge et al. 2010; Department of Parks and Wildlife 2014). The threat of predation by invasive species is inferred from known predation by cats of co-existing species, <i>Atrichornis clamosus</i> (noisy scrub-bird) (Department of Parks and Wildlife 2014). However, the threat of invasive species on the western bristlebird has not been demonstrated.

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%
A1	Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.		(a) direct observation [<i>except A3</i>]
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.		(b) an index of abundance appropriate to the taxon
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]		(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
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.		(d) actual or potential levels of exploitation
			(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites

based on any of the following:

Evidence:

The total population of western bristlebirds decreased from approximately 620 pairs in 2001 to approximately 320 pairs in 2010 as a result of loss of breeding habitat from a series of extensive bushfires (Burbidge et al. 2010). The significance of the threat of large bushfires in this region was demonstrated by a large fire in the Mount Manypeaks region in December 2004, which resulted in the loss of a significant proportion of the western bristlebird population in a single event (Department of Parks and Wildlife 2014).

Over time, the threat from bushfires is likely to increase for western bristlebirds, as fire intensity and frequency are predicted to increase in their primary habitat as a result of the impacts from climate change (Bradstock 2010, Garnett et al. 2013). Too frequent fires in western bristlebird habitat has been identified as a primary threat, with fires at less than 5-10 year intervals leading to local extinction (Smith 1987).

The decline between 2001 and 2010 is greater than 30 percent in just under ten years, and could be considered as a substantial reduction. The increase in fire frequency and intensity within western bristlebird habitat is predicted to occur as a result of climate change and the impacts are likely to continue over time and not be reversible. Considering the decline in numbers and increasing threat from fire, it is likely that the species is eligible for **listing as Vulnerable** 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 7132 km² and area of occupancy (AOO) is estimated as 308 km². 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).

Western bristlebirds currently occur east of Albany at Two Peoples Bay Nature Reserve, Betty's Beach, Mount Manypeaks to Bluff Creek, and at 14 different sites in and near Fitzgerald River National Park (Gilfillan et al. 2009). However, as fire is considered the primary threat to this species, and a large fire has the capacity to burn several of the identified sites in a single event, the total number of separate sites where western bristlebirds occur is estimated to be no more than five.

The incidence and extent of fire frequency throughout the western bristlebird range is thought to be increasing despite increased capacity to manage these fires (Garnett et al. 2011). Given that western bristlebirds require long-unburnt areas of habitat to successfully breed, this change in fire regimes is likely to be leading to a reduction in the area, extent and quality of habitat.

As the area of occupancy for the noisy scrub-bird is restricted, there are only five known locations where the species occurs and there is a continuing decline in the area, extent and quality of habitat, it is likely that the species is **eligible for listing as Endangered** 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 current population size of the western bristlebird is not known with certainty. In 2001 it was considered to be about 620 pairs. However, due to wildfires resulting in a loss of suitable habitat, the population was estimated at only about 320 pairs in 2010, of which 195 were in the Two Peoples Bay, Waychinicup and Mount Manypeaks area, with the remaining 125 in the Fitzgerald River National Park (Burbidge et al. 2010). The Bird Action Plan 2010 estimated the total population to be no more than a 1000 mature individuals, and likely to be declining due to the ongoing impacts caused by habitat loss and degradation through too frequent wildfires.

As the total population size of the western bristlebird is considered low, there is an estimated ongoing population decline and each subpopulation has less than a 1000 birds, it is likely that the species is **eligible for listing as Vulnerable** 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:

It is likely that the total population size of western bristlebirds is less than a 1000 mature individuals (Burbidge 2010, Garnett et al. 2011).

The data presented above appear to demonstrate that the species is **eligible for listing as Vulnerable** 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.

Conservation Actions

Recovery Plan

The western bristlebird is currently included in the South Coast Threatened Birds Recovery Plan (Department of Parks and Wildlife 2014). This recovery plan sunsets in 2024. A decision about whether there should be a recovery plan for this species after that plan has expired has not yet been determined, and should only be made after the current plan is reviewed.

Primary Conservation Actions

The primary conservation action for this species would be to undertake active fire management around all known locations for western bristlebirds.

Conservation and Management Priorities

Fire

- Fires must be managed to ensure that prevailing fire regimes do not disrupt the life cycle of the western bristlebird, that they support rather than degrade the species' habitat, that they do not promote invasion of exotic species, and that they do not increase impacts of predation.
- Physical damage to the habitat and individual western bristlebirds 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 known western bristlebird habitat.

Habitat loss disturbance and modification

- Continue habitat management and threat abatement of all occupied areas.
- Ensure land managers are aware of the occurrence of western bristlebirds and provide protection measures against key and potential threats.
- Encourage land-owners to protect vegetation that may provide habitat for western bristlebirds.

Invasive species

- Consider implementing a control program if predation by feral species is found to be impacting upon western bristlebirds.

Breeding, propagation and other ex situ recovery action

- Continue to implement the translocations for western bristlebirds where identified as being beneficial to the species.

Recovery implementation

- Continue to support coordination of management by the South Coast Threatened Bird Recovery Team.

Survey and Monitoring priorities

- Regularly undertake monitoring to assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Continue monitoring program to ensure any future declines in known populations are detected.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary
- Monitor the response of the population to fire, using an appropriate measure (e.g. occupancy, population abundance, individual mortality, ranging behaviour, breeding success) based on knowledge of the ecology of the species, and with a monitoring design that aims to improve understanding of the species' response to fire.
- Precise fire history records must be kept for the habitat and extant populations (confirmed and suspected) of the western bristlebird.

Information and Research priorities

- Investigate options for linking, enhancing or establishing additional populations.
- Improve understanding of the mechanisms of response to different fire regimes, and identify appropriate fire regimes for conservation of the western bristlebird, by undertaking appropriately designed experiments to assess the effect of fire age on vegetation structure and food availability.
- Continue to investigate habitat requirements, in particular in relation to fire age, vegetation structure, food availability and fox and cat density.
- Assess population trends in all known subpopulations of western bristlebirds.

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

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