



Consultation Document on Listing Eligibility and Conservation Actions

***Atrichornis clamosus* (noisy scrub-bird)**

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

- 1) the eligibility of *Atrichornis clamosus* (noisy scrub-bird) 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/nominations/forms-and-guidelines>.

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.

Atrichornis clamosus

noisy scrub-bird

Taxonomy

Conventionally accepted as *Atrichornis clamosus* (Gould 1844).

Species Information

Description

The Noisy Scrub-bird (*Atrichornis clamosus* (Gould 1844)) is a small solidly built bird with a strong pointed bill, powerful legs, graduated tail and short round wings. They are brown above with dark cross barring extending from the head to the tip of the tail. The dark bars are very fine on the head, broader and more obvious on the back and form irregular bands on the tail feathers. The underparts are paler with a buff coloured abdomen grading to bright rufous around the vent. The species is sexually dimorphic in size and plumage. During the breeding season, females have a mean weight of 34.6 g (n = 42, range = 31.5 g - 39.2 g) while males have a mean weight of 51.8 g (n = 56, range = 47.0 g - 57.0 g). Adult males have a dark grey band of variable width across the off-white throat and prominent white side flashes. Females have cream coloured throats and lack the dark band (Danks et al. 1996).

Distribution

The noisy scrub-bird is endemic to south-west Western Australia (Garnett et al. 2011).

The species was recorded from three main areas across the south-west of Western Australia in the 19th century, these being: near Waroona on the west coast, the Margaret River-Augusta area, and around Albany (Whittell 1943). No confirmed records for the species were recorded from 1889 to 1961. In 1961 a small population (less than 100 individuals) was discovered at Two Peoples Bay Nature Reserve, east of Albany (Webster 1962; Danks et al. 1996; BirdLife International 2017). The current mainland population occurs as a single extensive subpopulation at a handful of locations from Two Peoples Bay to Cheyne Beach (Danks et al. 1996; Gilfillan et al. 2009; SEWPaC 2011). Within this largely connected region, there are a number of areas where the species occurs: these being the Mount Manypeaks, Waychinicup and Mermaid region; the area around Moates Lake and Gardner Lake; Mt Gardner; and the Angove River-Normans Inlet region. These areas are contiguous, and from a management perspective effectively comprise one single population.

There is also an introduced subpopulation at Bald Island, off the coast of Cheyne Beach (BirdLife International 2017), which is isolated from the other locations.

Relevant Biology/Ecology

Good noisy scrub-bird habitat comprises dense vegetation, particularly in the understorey and shrub layers (Danks 1991; Danks et al. 1996). Sedges or piles of debris used for nesting are interspersed with small open areas with a thick accumulation of leaf-litter and a well-developed litter fauna used for feeding (Danks 1991; Danks et al. 1996). The female lays a single egg in a domed nest, which is usually built in a clump of sedge. The main food is terrestrial arthropods (Danks & Calver 1993).

Most occupied sites have not been burnt for more than ten years. The sites on Mt Gardner have a post-fire age of more than 50 years and sites on Bald Island have a post-fire age of more than 120 years (Garnett et al. 2011). All habitat on Manypeaks was burnt in a wildfire in 2004, and

some territories were recolonised by 2006, but recolonization only occurred in areas where the fire was intense and vegetation regeneration was rapid (Garnett et al. 2011).

Noisy scrub-birds have limited capacity for flight, being unable to sustain flight for more than a few metres. However, they frequently use their small wings to assist in rapid manoeuvring and short runs on the ground and in leaping from shrub to shrub. They are also agile climbers, moving quickly from shrubs and sedges to the low canopy (Department of Parks and Wildlife 2014).

Historically, the species may have occupied the ecotone between swamp vegetation and forest dominated by *Eucalyptus marginate* (Jarrah) and *Corymbria calophylla* (Marri) (Smith 1985). However, such habitat is rare within the species' current range. Dispersal patterns appear to be along corridors of closed vegetation, with birds readily crossing roads but not crossing cleared land (Danks 1991).

A generation time of six years is derived from an average age at first breeding of two years and a maximum longevity of banded birds of ten years (Garnett et al. 2011).

Threats

Extensive high-intensity bushfire is the major threat to the noisy scrub-bird. The species depends on long unburnt habitat and has limited dispersal abilities (Garnett et al. 2011).

Table 1 – Threats impacting the noisy scrub-bird 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	Noisy scrub-birds require long unburnt habitat to breed, although the optimal fire frequency is unknown (Department of Parks and Wildlife 2014). A series of large fires in the Two Peoples Bay and Mount Manypeaks areas between 2000 and 2004, and between 2015 and 2016, has caused declines in population size and habitat quality on the mainland (BirdLife International 2017). Over time, the threat from bushfires is likely to increase for the noisy scrub-bird, 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).
Habitat loss and fragmentation		
Loss of dispersal corridors from habitat clearance	potential future	Most of the population occurs on protected land, but habitat clearance on private land could cut habitat corridors, preventing dispersal and fragmenting subpopulations (Garnett et al. 2011).
Invasive species		
Predation by cats (<i>Felis catus</i>) and foxes (<i>Vulpes vulpes</i>)	known present	The impact of predation by feral predators on populations of noisy scrub-birds is poorly understood. Noisy scrub-bird feathers have been detected in the gut of one cat at Two Peoples Bay (D. Algar pers. comm. 2012; as reported in Department of Parks and Wildlife 2014) and cats have been observed in significant numbers at Two Peoples Bay, Mount Manypeaks and Waychinicup regions where noisy scrub-birds occur. (Department of Parks and Wildlife 2014).). Feral cats have been implicated in failed translocation events (S Comer pers com).

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%
<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>	<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 		

Evidence:

The noisy scrub-bird population is currently estimated to contain 1000-1500 mature individuals, with a total population of 1500-2300 individuals (BirdLife International 2017). The population was estimated at approximately 1500 breeding birds by Garnett and Crowley in 2000 and approximately 950 mature individuals in 2010 (Garnett et al. 2011). Population estimates from the South Coast Threatened Birds Recovery Plan (Department of Parks and Wildlife 2014) suggest there were 379 singing males in the mainland subpopulation in 2011 and 115 singing males in the translocated Bald Islands population in 2012. Using the rule of thumb of 2.5 birds for every singing male (Danks et al. 1996), this suggests there were likely around 1200 adult birds at the time the recovery plan was developed. Fires in 2015 and early 2016 impacted the population at Mt Gardner and the western end of Manypeaks (S Comer *in litt.* 2016, as reported in Birdlife International 2017), although it is unlikely this will have resulted in past, current or future population declines that exceeded 30 percent in any 3-generation period.

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 noisy scrub-bird population is estimated to have an extent of occurrence (EOO) of approximately 584 km² and area of occupancy (AOO) of 184 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).

There are two known subpopulations of noisy scrub-bird, one on the mainland between Two Peoples Bay and Cheyne Beach and the other on Bald Island. While the mainland population is largely connected, there are possibly up to four separate locations where the species is found: these being the Mount Manypeaks, Waychinicup and Mermaid region; the area around Moates Lake and Gardner Lake; Mt Gardner; and the Angove River-Normans Inlet region. In all, noisy scrub-birds occur at no more than five locations, and possibly less depending how the mainland populations are delineated.

While the range of the noisy scrub-bird has increased since it was re-discovered in 1961 through natural dispersal and targeted translocations, significant areas within this newly expanded range have been considerably impacted through large wildfires, particularly between 2000 and 2004 and more recently in 2015 and 2016. The 2015 and early 2016 fires occurred in habitat between Mt Manypeaks and Two Peoples Bay, and Mt Gardner (the original parent population), and over 90 percent of known habitat was lost in the latter (S. Comer pers. com.). As noisy scrub-birds rely on areas of long unburnt habitat, too frequent fires within their range pose a significant threat.

As the extent of occurrence and area of occupancy for the noisy scrub-bird are restricted, there are only five known locations where the species occurs and there has been a continuing decline in the area 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 last complete census of the noisy scrub-bird population was done in 2011/2012. Population estimates from that survey found a total of 494 singing birds, of which 156 were in the translocated Bald Island population and about 148 were in the largest of the mainland populations at Mt Gardner (S Comer Pers Com.). Based on a ratio of 2.5 birds for every singing male (Danks et al. 1996), this suggests there were likely around 1235 adult birds at the time of the surveys. The Action Plan for Australian Birds 2010 estimated there were 950 mature individuals (Garnett et al. 2011).

The total number of mature individuals is considered low (<2500) and there is possibly a limited number of mature individuals in each subpopulation (<1000). However, the percentage of mature individuals in any one subpopulation is not very low, low or limited and there is no information to suggest that there have been extreme fluctuations in the number of mature individuals.

The data presented above appear to suggest that 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 last complete census of the noisy scrub-bird population was done in 2011/2012. Population estimates from that survey found a total of 494 singing birds (S Comer Pers Com.). Based on a ratio of 2.5 birds for every singing male (Danks et al. 1996), this suggests there were likely around 1235 adult birds at the time of the surveys.

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 no population viability analysis has been undertaken, there are 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 noisy scrub-bird 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 locations where noisy-scrub birds are confirmed or suspected to be present.

Conservation and Management Priorities

Fire

- Fires must be managed to ensure that prevailing fire regimes do not disrupt the life cycle of the noisy scrub-bird, 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 noisy scrub-bird habitat 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 noisy scrub-bird habitat.

Habitat loss disturbance and modifications

- Continue habitat management and threat abatement of all occupied areas.
- Ensure land managers are aware of the species' occurrence and provide protection measures against key and potential threats.
- Encourage land-owners to protect habitat corridors that may provide dispersal routes for noisy scrub-birds.

Invasive species

- Consider implementing a control program if predation by invasive species, including cats and foxes, is found to be impacting upon noisy scrub-birds.

Breeding, propagation and other ex situ recovery action

- Continue to implement the translocation program for noisy scrub-birds where translocation is identified as being beneficial to the species.

Survey and Monitoring priorities

- Regularly undertake monitoring to assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Continue monitoring all known populations to ensure any future declines 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 noisy scrub-bird.

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 noisy scrub-bird, 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 noisy scrub-birds.

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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