



Consultation Document on Listing Eligibility and Conservation Actions

Falcunculus frontatus whitei (crested shrike-tit (northern))

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

- 1) the eligibility of *Falcunculus frontatus whitei* (crested shrike-tit (northern)) for inclusion on the EPBC Act threatened species list in the Vulnerable category; and
- 2) the necessary conservation actions for the above subspecies.

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.

Draft information for your consideration of the eligibility of this subspecies for listing as vulnerable starts at page 4 and information associated with potential conservation actions for this subspecies starts at page 7. To assist with the Committee's assessment, the Committee has identified a series of specific questions on which it seeks your guidance at page 8.

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
PO Box 787
Canberra ACT 2601

Responses are required to be submitted by 22 January 2016.

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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 Threatened Species Scientific Committee (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 Australian Government Minister for the Environment.

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.

Falcunculus frontatus whitei

crested shrike-tit (northern))

Taxonomy

Conventionally accepted as *Falcunculus frontatus whitei* (Campbell 1910).

Subspecies Information

Description

The crested shrike-tit (northern) is an arboreal, medium sized bird, with striking black and white markings, and black crest on the head, with the body green above and yellow below (Woinarski 2004). The male has a black throat, while the female has an olive-green throat (Pizzey & Knight 1999). The bill is conspicuously deep, strong and hooked (Woinarski 2004). The nominate subspecies in the genus (*F. f. frontatus*) measures approximately 17 cm in length with a wingspan of approximately 26 cm (Higgins & Peter 2002). However, the northern subspecies is noticeably smaller than the nominate subspecies, with much shorter wing and tail but relatively large bill and tarsus (Higgins & Peter 2002).

Distribution

The northern subspecies of the crested shrike-tit is endemic to north-western Australia. It occurs in the Kimberley region of Western Australia and in the north of the Northern Territory (Higgins & Peter 2002). Historically, it was distributed from Wotjulum Mission and Beverley Springs Station in the Kimberley, east in a narrow band to Borroloola in the Northern Territory. There are also some isolated records of the crested shrike-tit in Arnhem Land, north to Kapalga (Robinson & Woinarski 1992).

The crested shrike-tit (northern) has not been recorded in the McArthur River-Borroloola area for over 80 years, however it may still occur there (Garnett & Crowley 2000). The subspecies is not known for certain to have disappeared from any area where it was recorded historically. The subspecies appears to have a fragmented distribution. It occurs in very low densities in many isolated subpopulations (Garnett & Crowley 2000).

Relevant Biology/Ecology

Crested shrike-tits have been recorded in eight different woodland types in northern Australia, mainly those that are dominated by Darwin Woollybutt (*Eucalyptus miniata*), Darwin Stringybark (*E. tetrodonta*) or Smooth-stemmed Bloodwood (*E. bleeseri*) (Robinson & Woinarski 1992). The crested shrike-tits of south-eastern Australia characteristically forage for invertebrates in and under the decorticated bark of eucalypt trees (Higgins & Peter 2002), however this microhabitat is not available in the eucalypt forests and savanna woodlands of northern Australia (Woinarski 2004). Instead, the northern subspecies is thought to forage for invertebrates, mostly in foliage, branches, and the trunk and bark across a range of eucalypt and other tree species (Woinarski 2004). Crested shrike-tits lay clutches of 2-3 eggs in cupped nests built in a fork (Beruldsen 1980) or placed high in tree foliage (Higgins & Peter 2002). Eggs of the northern subspecies have been recorded in late January (White 1914) and in March (Storr 1980).

The scarcity of records of northern shrike-tits suggests that populations are at very low density (Woinarski 2004). It is thought that the subspecies typically occurs in small groups of two to five individuals (Woinarski 2004), which may be widely-spaced, possibly up to 20 km apart (Hill 1911; Robinson & Woinarski 1992). Each group probably occupies a large home-range (Woinarski 2004). In the Katherine Region they are believed to defend territories of approximately 20 ha and remain resident in the area throughout the year (Ward 2008).

Threats

The crested shrike-tit (northern) is probably adversely affected by frequent high intensity fires in the late dry season (Garnett & Crowley 2000; Robinson & Woinarski 1992). However, as their nests are placed high in tree foliage (Higgins & Peter 2002) they are unlikely to be affected by low intensity fires (Woinarski 2004).

As the subspecies typically occurs in small groups (2-5 individuals) which probably occupy a large home range (Robinson & Woinarski 1992), it may be adversely affected by habitat fragmentation. In other subspecies of crested shrike-tit, large home ranges have led to the birds being particularly susceptible to habitat fragmentation, and unlikely to survive in smaller remnants (Higgins & Peter 2002).

The subspecies is also impacted by broad-scale environmental changes resulting from altered fire regimes, grazing by livestock and feral animals, and invasion of native woodlands by exotic plants, particularly introduced pasture grasses which can increase the intensity of fires (Woinarski 2004). The relative impacts and intensity of these factors vary across northern Australia in relation to land use, land ownership, human population density and availability of management resources (Yibarbuk et al., 2001; Bowman et al., 2001; Woinarski & Ash 2002).

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> <div> A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased. 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. 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] 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. </div> <div> based on any of the following </div> <div> (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 crested shrike-tit (northern) is difficult to assess as there are few records of the subspecies, there have been no targeted surveys across the entire distribution and it appears to occur at low densities across a broad range of habitats (Ward 2010). In 2000 the *Action Plan for Australian Birds* classified the subspecies as vulnerable due to a low number of mature individuals, suspected ongoing declines and a severely fragmented distribution, however rates of decline were not known (Garnett & Crowley 2000). In 2010, the updated *Action Plan for Australian Birds* classified the subspecies as least concern due to the identification of new records of the subspecies and a lack of evidence to indicate ongoing declines (Garnett et al., 2011).

In the late-2000s, targeted surveys across a small portion of the subspecies distribution recorded birds in some areas where the subspecies was not formerly known, however this increase in records does not indicate an increasing population, but rather a greater focus on the

subspecies (Ward 2010). Conversely, other surveys using play-back methods failed to record birds at sites in which they had previously been recorded (Ward 2008). As crested shrike-tits (northern) are confined to particular areas of habitat within particular regions, and extensive surveys have not been conducted, it is currently not possible to model preferred habitat, population size or trends (Ward 2010). There is a lack of detailed information available to determine rates of decline within the timeframe set out in this criterion (i.e. 10 years or 3 generations).

The data presented above appear to be insufficient to demonstrate if the subspecies is eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies' 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:

In 2000 the *Action Plan for Australian Birds* estimated the subspecies extent of occurrence to be 300 000 km² and the area of occupancy to be 25 000 km², however both of these estimates were considered to be of low reliability (Garnett & Crowley 2000). No more recent estimates are available for extent of occurrence or area of occupancy across the entire range of the subspecies.

The data presented above appear to demonstrate the subspecies is not eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies' 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:

In 2000 the *Action Plan for Australian Birds* estimated the number of mature individuals of crested shrike-tit (northern) to be 2500 and to be decreasing, and considered the subspecies distribution to be severely fragmented, thus assessing it to meet the criteria for listing as Endangered (Garnett & Crowley 2000). However, in 2010 the updated *Action Plan for Australian Birds* assessed, due to the recording of birds at additional sites and the lack of evidence of ongoing declines, the subspecies as being of least concern (Garnett et al., 2011). In 2010 a panel of experts assessing taxon status for the Northern Territory's List of Threatened Species estimated there was likely to be between 1000 and 2000 mature individuals of the subspecies in the Northern Territory, however this estimate was assessed as being of low reliability (Ward 2010). There are no recent estimates of the number of individuals across the subspecies full range.

As surveys conducted in small portions of the subspecies range throughout the 2000s have both recorded birds at additional sites and failed to record birds at sites they are known to have previously occupied (Ward 2008; Ward 2010), it is extremely difficult to assess whether the subspecies has undergone, or is undergoing a decline in numbers.

The data presented above appear to be insufficient to demonstrate if the subspecies is eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies' 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:

In 2000 the *Action Plan for Australian Birds* estimated the number of mature individuals of crested shrike-tit (northern) to be 2500 (Garnett & Crowley, 2000). There are no robust recent estimates of population size for the subspecies.

The data presented above appear to demonstrate the subspecies is not eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies' 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 has not been undertaken, there is insufficient information to demonstrate if the subspecies is eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies' 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

This draft advice indicates that there is not enough information available to assess whether the crested shrike-tit (northern) remains eligible for listing as Vulnerable under the EPBC Act.

If information elicited from this consultation process suggests that the subspecies is recovering and no longer satisfies any of the listing criterion it may qualify for delisting. If delisted, the crested shrike-tit (northern) will not be considered during the assessment of referrals under the EPBC Act, and proponents will not be required to implement specific measures to mitigate against impacts on the subspecies. To date, there have been seven decisions made under the EPBC Act that overlap with the range of the crested shrike-tit (northern). As the subspecies' extent of occurrence covers a large area across northern Australia, the crested shrike-tit (northern) or its habitat may be at risk in the future if development increases within its range.

The crested shrike-tit (northern) was, until recently, covered by the '*National Multi-species Recovery plan for the Partridge Pigeon [eastern subspecies] Geophaps smithii smithii, Crested Shrike-tit [northern (sub)species] Falcunculus (frontatus) whitei, Masked Owl [north Australian mainland subspecies] Tyto novaehollandiae*', however on 1 October 2015 this plan sunsetted under the Legislative Instruments Act. A conservation advice for this subspecies is currently in effect and a review of the decision have a recovery plan for this subspecies will be made following this reassessment of conservation status.

The key threats to the crested shrike-tit (northern) are frequent, high intensity fires and broad-scale environmental changes, resulting from altered fire regimes, grazing by livestock and feral animals, and invasion of native woodlands by exotic plants. If threats to its habitat escalate in the future, to the extent that they significantly impact on breeding and survival, the subspecies may become of conservation concern again.

Conservation Actions

Recovery Plan

A decision cannot be made whether there should be a recovery plan for *Falcunculus frontatus whitei* (crested shrike-tit (northern)) as its listing status is uncertain. The purpose of this consultation draft advice is to elicit additional information to better understand the subspecies status and the types of recovery actions required should it be decided to list the subspecies and have a recovery plan.

The crested shrike-tit (northern) was, until recently, covered by the '*National Multi-species Recovery plan for the Partridge Pigeon [eastern subspecies] Geophaps smithii smithii, Crested Shrike-tit [northern (sub)species] Falcunculus (frontatus) whitei, Masked Owl [north Australian mainland subspecies] Tyto novaehollandiae*', however on 1 October 2015 this plan sunsetted under the Legislative Instruments Act. A conservation advice for crested shrike-tit (northern) is currently in effect.

Conservation and Management Priorities

Fire

- Implement a fire management strategy that minimizes the frequency of extensive, high intensity fires.

Invasive species (including threats from grazing, trampling, predation)

- Implement a strategy to manage feral herbivores in key habitat.
- Implement a weed management strategy to identify, control and reduce the spread of exotic grasses in the subspecies key habitat.

Survey and Monitoring priorities

- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Design and implement a monitoring program.

Information and Research priorities

- More precisely describe the distribution of this subspecies, and more clearly identify the habitat requirements.
- Carry out research to further understand the impacts of varying fire regimes on individuals and populations.
- Determine the impacts of grazing by introduced herbivores on the subspecies.
- Examine impacts of land clearing on the subspecies and use the resulting knowledge to develop guidelines for habitat protection and corridor configuration in landscapes subject to increasingly intensive development.

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 subspecies (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 subspecies 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 subspecies?
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. 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 subspecies?
7. To what degree are the identified threats likely to impact on the subspecies in the future?
8. Can you provide additional or alternative information on threats, past, current or potential, that may adversely affect this subspecies at any stage of its life cycle?
9. Do you agree that the subspecies is eligible for removal from the threatened species list, as proposed by the nomination?
10. Do you have reason to believe that removing this subspecies from the threatened species list would remove protections (such as funding for protective fencing or invasive species management) that would result in the subspecies potentially being eligible for re-listing in the future?
11. Is there evidence to suggest the subspecies' recovery, and hence its consideration for possible delisting, due to protective actions that would not have occurred if the subspecies was not listed?
12. Can you provide additional data or information relevant to this assessment?
13. Can you advise as to whether this subspecies is of cultural significance to Indigenous Australians?

References cited in the advice

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