

Australian Capital Territory

Nature Conservation (Hooded Robin) Conservation Advice 2024

Notifiable instrument NI2024-255

made under the

Nature Conservation Act 2014, s 90C (Conservation advice)

1 Name of instrument

This instrument is the *Nature Conservation (Hooded Robin) Conservation Advice 2024*.

2 Commencement

This instrument commences on the day after its notification day.

3 Conservation advice for Hooded Robin

Schedule 1 sets out the conservation advice for Hooded Robin (*Melanodryas cucullata cucullata*).

4 Revocation

The *Nature Conservation (Hooded Robin) Conservation Advice 2019* (NI2019-249) is revoked.

Arthur Georges
Chair, Scientific Committee
21 May 2024

Schedule 1

(see s 3)



ACT
Government

Environment, Planning and
Sustainable Development



ACT Scientific
Committee

CONSERVATION ADVICE

HOODED ROBIN (SOUTH-EASTERN)

Melanodryas cucullata cucullata

CONSERVATION STATUS

The Hooded Robin *Melanodryas cucullata cucullata* (Latham, 1801) is recognised as threatened in the following jurisdictions:

National	Endangered , <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) Vulnerable , Action Plan for Australian Birds 2010
ACT	Endangered , <i>Nature Conservation Act 2014</i>
NSW	Endangered , <i>Biodiversity Conservation Act 2016</i>
Victoria	Vulnerable , <i>Flora and Fauna Guarantee Act 1988</i>
SA	Rare , <i>National Parks and Wildlife Act 1972</i>

ELIGIBILITY

The Hooded Robin (South-eastern) is listed as Endangered in the ACT Threatened Native Species List under IUCN Criterion A— A2bce due to a greater than 50% reduction in the national population size over the last 10 years (Ford et al. 2021 and Attachment A - DCCEEW 2023). Decline of Hooded Robins (South-eastern) is due to the combined threats such as: ongoing increased predation from introduced mammals (cats and foxes), invasive weeds, and competition with Noisy Miners (*Manorina melanocephala*); over-grazing by domestic stock, rabbits and overabundant kangaroos preventing regeneration of native vegetation; combined with habitat loss and fragmentation, climate change, inappropriate fire regimes, and inappropriate firewood collection and tidying of farmland that have not ceased and may not be reversible (DCCEEW 2023).

DESCRIPTION AND ECOLOGY

Melanodryas cucullata cucullata is the sub-species of the Hooded Robin resident in the ACT. It is a medium-large robin, measuring 14–17 cm in length, with a rather short slender bill and a moderately long tail which is square-tipped. Adult males are pied (black and white) with a black hood and back, white underparts, black wings, white shoulder bar and wing stripe. Females are similar to males but greyer with a brown-grey head and a dark brown wing with a white stripe. Juveniles are



Adult male Hooded Robin (David Cook – Canberra Birds)

dark brown with off-white speckling, white markings on the upper body and white underneath (Birdlife Australia 2018).

Flight is short and swiftly undulating. The adult male is unmistakable but the female and young males may be confused with other species, such as the Jacky Winter (*Microeca fascians*). Hooded Robins are distinguished from aesthetically similar species by their larger size, distinctive white wing bar and different 'hourglass' shaped tail markings (OEH 2017).

The Hooded Robin is a shy and largely sedentary bird. Hooded Robins are often quiet during the day, especially in the afternoon, but are one of the first birds to call in the morning, when they vigorously add their far-carrying song to the dawn chorus (Birdlife Australia 2018). The call is a series of descending, fading, mellow notes. They are never numerous, do not flock but are frequently observed in pairs or small groups. They hunt for invertebrates by 'perch and pounce' in grassy clearings where rocks and fallen timber litter the ground (Sullivan 1993).

Hooded Robins breed in monogamous pairs, prefer a particular breeding site and the female incubates the eggs. Pairs occupy territories of between five and fifty hectares. Small territories are defended in the breeding season (August to December) and the species occupy larger home ranges in the non-breeding season (Bell 1984; Blakers et al. 1984; Schodde and Tidemann 1986; Fitri 1993; Graham 1995). The species builds open cup nests from bark strips, leaves, grass and spiders' web placed on stumps or in a cavity in a broken trunk or horizontal fork or branch 1–6 m above ground (Pizzey and Knight 1998). Generation length is estimated as 5.3 years (Garnett et al. 2011).

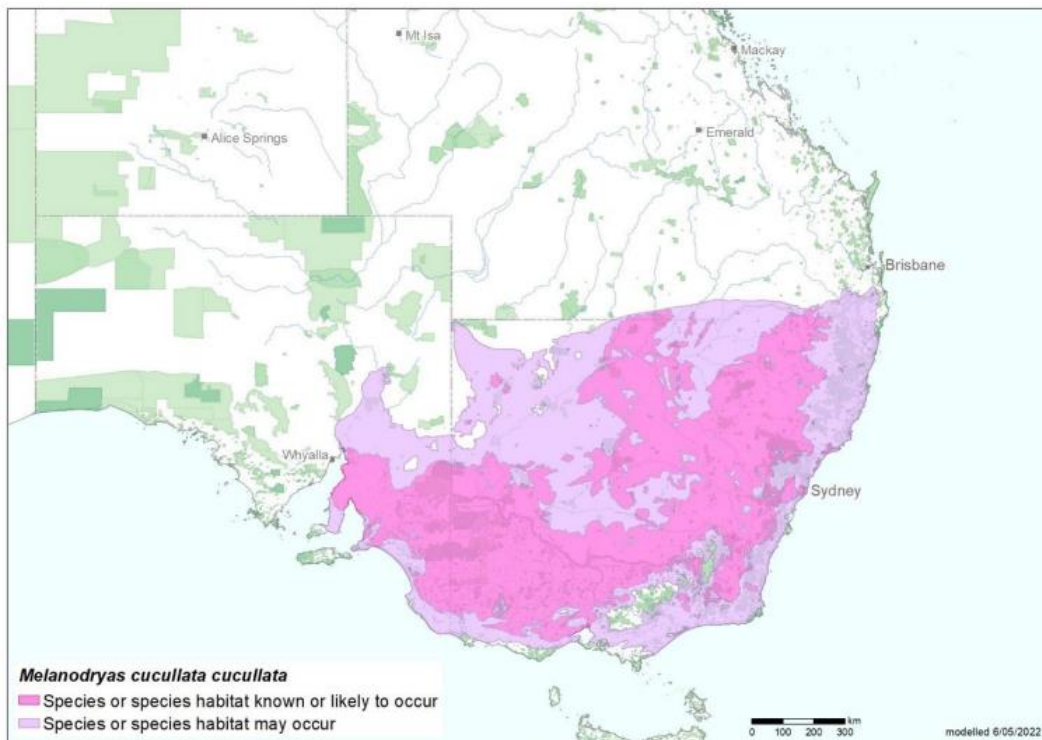
DISTRIBUTION AND HABITAT

Four intraspecific taxa of the Hooded Robin (*Melanodryas cucullata*) are recognized, together distributed across most of mainland Australia: *M. c. melvillensis* (Tiwi Islands, NT); *M. c. westralensis* (South-western arid zone); *M. c. picata* (Northern inland); and *M. c. cucullata* (South-eastern) (Schodde and Mason 1999; Garnett and Crowley 2000).

The south-eastern sub-species *M. c. cucullata* occurs (hereafter Hooded Robin) from Mundubbera in Queensland to the Spencer Gulf in South Australia, intergrading with the other sub-species through the northern Murray-Darling basin as shown in Map 1. This is the sub-species that is the breeding resident of the ACT and it has a total estimated extent of occurrence of 1.2 million km² and area of occupancy of 30,000 km² (Ford et al. 2021). The sub-species, however, is either declining or has vanished entirely from many habitat fragments and regions across its range, particularly in eucalypt-dominated woodlands and wetter areas of the south and east (Robinson 1993; Barrett et al. 1994; Paton et al. 1994; Fitri and Ford 1996; Robinson and Traill 1996; Olsen et al. 2005; Priday 2010; Ford 2011; Garnett et al. 2011).

In the ACT, small groups have been observed in grassy woodlands in the north and open areas in valleys in the south (ACT Government 1999). Taylor and Canberra Ornithologists Group (COG) (1992) stated that Hooded Robins were once common close to the city, however, local disappearances have been documented at a number of sites including Black Mountain, Campbell Park, Mt Ainslie and Tuggeranong Homestead. There were 40 active territories (or pairs) estimated in the ACT in 1991 (Graham 1995).

Map 1: Modelled distribution of the Hooded Robin (South-eastern) (Source: DCCEEW 2023)



Source: Base map Geoscience Australia; species distribution data [Species of National Environmental Significance](#) database.

In a study on the largest woodland corridor in the ACT from Hall to Newline, Bounds (2006) estimated there were only four to six Hooded Robin territories in the Mulligans Flat/Goorooyarroo Nature Reserve complex of around 1500 hectares including two territories in Mulligans Flat on the eastern side of the reserve and two to three territories in Goorooyarroo, in the northern part of the reserve. It was also thought that there were only one or two territories in the Kinlyside woodlands near Hall (three records of one to two birds, 2002–2003) and possibly 2–3 territories in the Majura Field Range (11 records of one to five birds, 1998–2006) (N Taws, A Rowell pers comm, in Bounds 2006).

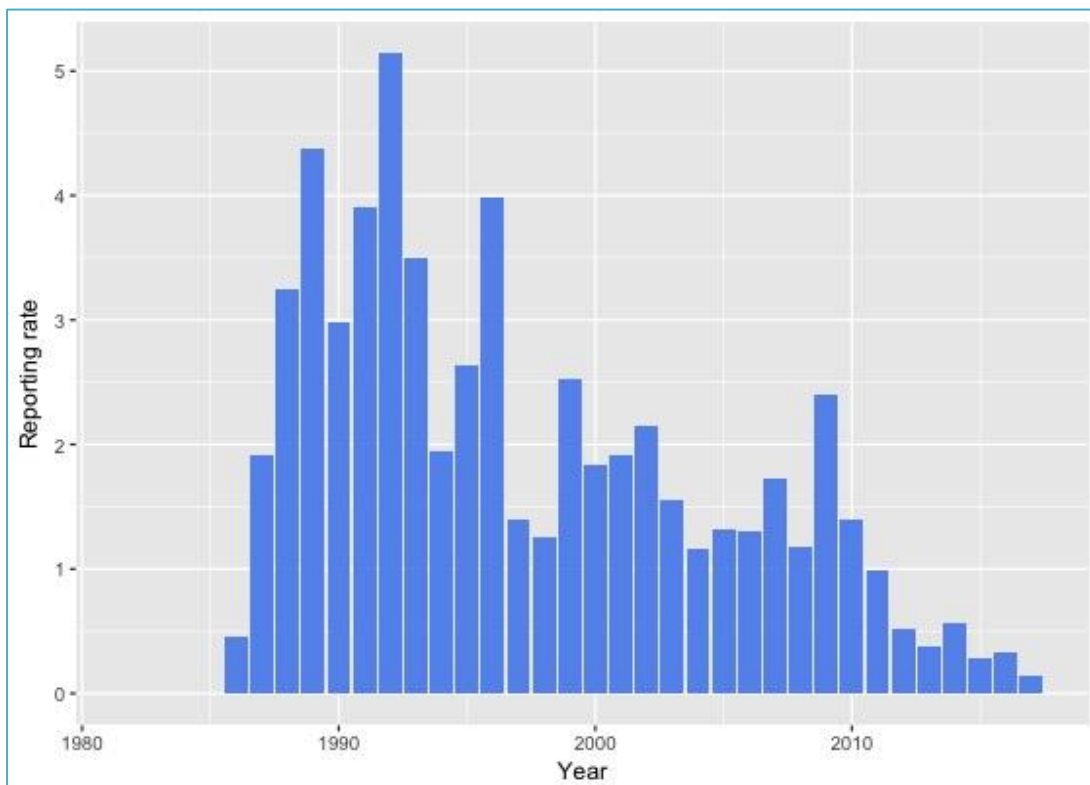
Data analysis of COG’s woodland surveys between 1995 and 2003 at eleven key woodland sites indicated a decline in abundance of the Hooded Robin, including Mulligans Flat Nature Reserve. The species was also recorded at: the Newline quarry; the southern part of Majura Field firing range; and north of Tharwa (Cunningham 2003 in ACT Government 2004). Analysis from surveys conducted between 1998 and 2005 as part of the COG Woodland Project, indicated that the Hooded Robin decreased in occupancy rate (detection rate) across the project’s fourteen locations by 24% (Bounds et al. 2007). In further analyses in 2008 (Bounds et al. 2010) and 2010, the rate of Hooded Robin occupancy was too low for meaningful statistical analysis. Further analysis of reporting in this study at selected grassy woodland locations in the ACT showed a significant steady decline 1998–2014 after which there were no longer resident breeding groups and no records at these sites (Bounds et al. 2021).

There have been further fluctuations and continuing declines in sightings of Hooded Robins in the ACT (COG 2018) (Figure 1 and 2). Sightings of 42 birds were recorded in 2016–2017 (82 in 2015–2016) in the ACT region with most occurring in open woodland in nearby NSW to the east of the ACT (Figure 2) (COG 2018). The numbers reported remained very low through to 2018–19 (43 total birds) and the reporting rate (0.2%) was much less than 2017–18 (0.5%), and closer to the 2016–17 lowest ever (0.1%) (COG 2020).

The habitat critical to the survival of the species is identified in the Commonwealth Conservation Advice (DCCEEW 2023) and corresponds with all known or likely habitat in Map 1 and includes areas of:

- dry eucalypt and acacia woodland and shrubland remnants with an open understorey, some grassy areas and a complex ground layer, often in or near clearings or open areas
- structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses
- standing dead or live trees and tree stumps are also essential for nesting, roosting and foraging
- moderately deep to deep soils, rocks and fallen timber which provides essential foraging habitat.

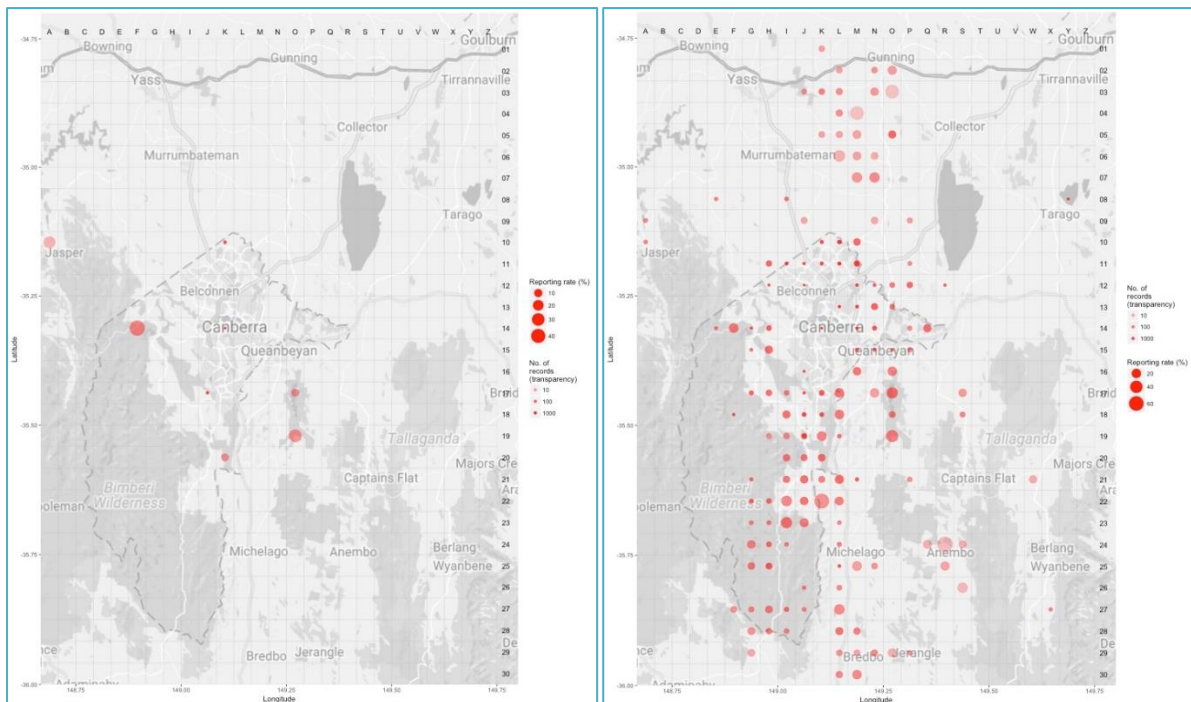
Figure 1: Hooded Robin records in the ACT region – 1982–2017



Source: *Canberrabirds.org.au*. (2018). The 2018-19 reporting rate (0.2%) was much less than 2017–18 (0.5%), and closer to the 2016–17 lowest ever (0.1%) (COG 2020).

Note: Reporting rate (%) is the proportion of all surveys in which the species was present. These data were collected by volunteer birdwatchers using various survey methods and, on some occasions, more than one person may have recorded bird sightings on the same day, which may skew the data.

Figure 2: Hooded Robin distribution in the ACT region – 2017 and 1982–2017



Source: *Canberrabirds.org.au*. (2018). Note: Reporting rate (%) is the proportion of all surveys in which the species was present. These data were collected by volunteer birdwatchers using various survey methods and, on some occasions, more than one person may have recorded bird sightings on the same day, day, which may skew the data.

Hooded Robin territories usually have some patches of eucalypt regrowth. The species requires more vegetation cover in the breeding season, as nests are typically built in saplings and small trees. The results of research on the species near Armidale suggested that nesting habitat, including small patches of eucalypt regrowth, may be in shorter supply than foraging areas (Fitri 1993). The distribution of the Hooded Robin in the ACT is restricted to habitats that contain a mixture of woodland and native grassland away from urban areas (Graham 1990).

THREATS

In common with many other threatened bird species, the principal threat to the Hooded Robin is loss of its woodland habitat. The modification of the structure of grassy woodland habitat has contributed to the decline of the Hooded Robin. The loss of perching sites essential for foraging may alone be sufficient to make otherwise suitable habitat unsuitable (Graham 1990). Therefore, the removal of timber for firewood is likely to result in local reduction of Hooded Robin numbers.

Nevertheless, nesting habitat, including small patches of eucalypt regrowth, may be in shorter supply than in foraging areas (Fitri 1993; ACT Government 1999). The species requires more vegetation cover in the breeding season as nests are typically built in saplings and small trees. High levels of nest predation leading to poor recruitment was suggested to be the likely cause of decline in Hooded Robins (Ford 2011) and it is possible that habitat degradation such as the removal of understory species and tree cover has exposed the Hooded Robin to higher rates of predation.

Ongoing climate change, including predicted increases in the frequency and intensity of extreme heat events are a threat, especially given evidence of heatwave-related reproductive failure and adult mortality in the closely related Jacky Winter (Sharpe et al. 2019, 2021, 2022). The negative effects of heat-related mortality appear widespread across bird communities in semi-arid woodlands and threaten

population persistence (Gardner et al. 2022). The ACT is expected to face similar climate conditions in coming decades.

Threats to the Hooded Robin (ACT Government 2004) include:

- removal of fallen timber and litter and inappropriate fire regimes
- predation by feral and/or uncontrolled domestic animals (foxes, dogs and cats)
- invasion of key habitats by introduced pasture and weeds
- uncontrolled grazing by livestock
- clearing of both living and dead trees
- rural tree dieback
- inappropriate fire regimes.

MAJOR CONSERVATION OBJECTIVES

The primary objective in the ACT is to protect Hooded Robin habitat through limiting clearance of suitable woodland habitat and prioritising conservation management to woodland patches, particularly those that are large or have complex habitat structure.

CONSERVATION PRIORITIES

Conservation priorities are detailed in the Commonwealth Conservation Advice (DCCEEW 2023). The conservation actions relevant to the Hooded Robin in the *ACT Lowland Woodland Conservation Strategy* (ACT Government 2004) remain relevant including to:

- protect habitat
- maintain and enhance connectivity
- limit removal of live and dead timber
- reduce intensive grazing
- maintain patches of shrubs or eucalypt regrowth
- regenerate habitat
- minimise adverse effects of fire.

Other priorities for the Hooded Robin in the ACT should be to:

- monitor long-term trends and the effectiveness of management actions
- identify fire regimes suitable to habitat requirements and highlight the ecological needs of the species in fire management guidelines
- investigate the potential impact of climate change on the subspecies and its habitat
- characterise the nature and use of thermal refuges used during heatwaves
- target removal of invasive perennial grasses and careful replacement of beneficial exotic woody vegetation
- determine the impacts of Noisy Miners and mange as required through re-establishing a structurally complex understory
- actively seek opportunities to involve members of local indigenous communities in on ground activities
- encourage responsible pet ownership
- encourage and support the continuation and further development of community-based conservation activities.

CONSERVATION ISSUES

It is recommended that quantitative targets and resourcing requirements are clearly identified in any Action Plan or other related projects/programs relevant to this species. Broader conservation issues for this and other declining woodland birds need to be considered in developing and implementing actions arising from this advice and the species listing assessment (DCCEEW 2023).

Critical Habitat

The temperate woodlands of the northern ACT and the bordering NSW region have been extensively disturbed by agriculture and urbanization and small patches of woodland are now embedded in a pastoral or suburban matrix. Consequently, birds are threatened by a reduction in habitat area, increased isolation, and declining habitat condition emphasising the importance and need of large, structurally complex, connected, high quality woodland patches to accommodate existing woodland birds (Watson et al. 2002, Watson et al. 2008). Watson et al. (2002) predicted that the decline of woodland bird species will continue unless appropriate habitat conservation strategies are applied as suggested (Watson et al. 2008).

The Commonwealth Conservation Advice (DCCEEW 2023) identifies ‘habitat critical to the survival’ or important habitats of a species refers to areas that are necessary:

- for activities such as foraging, breeding, roosting, or dispersal
- for the long-term maintenance of the species (including the maintenance of species essential to the survival of the species, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development
- for the reintroduction of populations or recovery of the species.

Habitat critical to the survival should not be cleared, fragmented or degraded. Any known or likely habitat (Map 1) should be considered as habitat critical to the survival of the species. Additionally, areas that are not currently occupied by the species due to recent disturbance (e.g fire, grazing or human activity), but should become suitable again in the future, should also be considered habitat critical to the survival of the species. It is essential that the highest level of protection is provided to these areas, across all tenures, and that enhancement and protection measures target these productive sites. No Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat under the EPBC Act.

Climate Change

Climate change impacts are inevitable and will affect the likelihood of persistence, within the ACT, of many species. Amongst the most vulnerable in this regard are those species that occupy highly fragmented habitat with highly restricted distributions. Capacity must be developed to model the impact on this species and its habitat under likely climate change scenarios if we are to anticipate and manage the impacts of climate change. This will require a combination of research and the development of in-house capacity for the collection of relevant data and its application in climate change modelling. New developments in biophysical models can provide a predictive understanding of the habitats required for persistence in the face of climate change and other stressors (see review by Briscoe et al. 2023). Such models integrate physical data on climate and terrain with measures of morphology, behaviour, physiology and life history of the species in question. Ensuring collection of relevant data to provide the necessary information to parameterize models that can explore population persistence and species distributions is critical. Given increases in the frequency and intensity of extreme heat events are widely predicted it will be important to characterise the nature and use of thermal refuges used by birds under

such conditions to quantify the importance of refuges for survival, and to preserve/regenerate such habitat.

Population Viability

An understanding of demographic rates, dispersal and behaviour is necessary for assessing responses to environmental changes and to inform population modelling (e.g., PVA, Biophysical Models), which can predict likelihoods of viability over the longer term. This will inform management options which may include assessment of genetic diversity and the possibility of genetic rescue. It is possible for the viability of species/population to be compromised such that they are unable to rebound if conditions improve and/or respond to suitable management. For example, loss of genetic diversity and associated genetic problems, such as inbreeding depression, in small populations can reduce survival and reproductive rates such that the population cannot respond to improved conditions.

Jurisdictional Collaboration

Many woodland birds have large distributions and while the ACT makes up a small component, in terms of area, it can play an important role in informing conservation due to its location, local expertise and community interest. Developing policies and recovery plans across several jurisdictions with many stakeholders requires ongoing discussion/negotiations across many stakeholders and jurisdictional entities.

Ngunnawal Community Engagement

The ACT Government should actively facilitate, the inclusion of the Ngunnawal people in the conservation of this species and its habitat as part of Ngunnawal Country. Reference to the draft Cultural Resource Management Plan (ACT Government in prep.) would be useful to inform culturally appropriate resource management including of native species that aligns with achieving conservation outcomes for the species.

OTHER RELEVANT ADVICE, PLANS OR PRESCRIPTIONS

- Commonwealth Conservation Advice (DCCEEW 2023)
- ACT Woodland Conservation Strategy (ACT Government 2004)
- ACT Woodland Conservation Strategy (ACT Government 2019)

LISTING BACKGROUND

The Hooded Robin was initially listed in the ACT as *Melanodryas cucullata* as a Vulnerable species on 30 May 1997 in accordance with section 38 of the *Nature Conservation Act 1980*.

The Flora and Fauna Committee (now Scientific Committee) concluded that at that time the assessment satisfied the criteria:

- 2.2 The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by:
 - 2.2.1 Current serious decline in population or distribution from evidence based on:
 - 2.2.1.1 Direct observation, including comparison of historical and current records; and
 - 2.2.1.3 Serious decline in quality or quantity of habitat.
 - 2.2.5 Continuing decline or serious fragmentation in population, for species with a moderately small current population.

The Hooded Robin (South-eastern) is listed as an Endangered sub-species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), effective 31 March 2023. It is eligible to be

listed as Endangered under Criterion 1 (A2bce) of the EPBC Act. In response, the ACT Scientific Committee recommended the Hooded Robin (South-eastern) be transferred to the Endangered category in the ACT Threatened Native Species List under the Nature Conservation Act 2014, to align with the EPBC Act listing.

ACTION PLAN DECISION

The ACT Scientific Committee does not recommend that the Minister for the Environment should make the decision to have an individual action plan for the sub-species in the ACT under the *Nature Conservation Act 2014* at this time but proposes that an Action Plan for (threatened) Woodland birds (including specific requirements for the Hooded Robin) should be developed and implemented by the Conservator. Previous action plans have not addressed key threats or implemented appropriate on-ground actions for the Hooded Robin and the last action plan requirement for the sub-species ended in 2019. There are several woodland birds, including the Hooded Robin, for which there are actions that are designed to provide for the conservation and management of the habitat of these birds collectively in the Woodland Strategy (ACT Government 2019), however a targeted Action Plan for (threatened) Woodland Birds and their habitat in the ACT is necessary to understand and help address the declines and support recovery.

A National Recovery Plan is required to be prepared for the sub-species (DCCEEW 2023) but there are likely to be ACT specific questions that need to be answered that a National Recovery Plan may not address. For example, as the decline in the ACT is not fully understood and is likely fully attributed to urbanisation we could reduce further losses through better urban planning.

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FURTHER INFORMATION

Further information on the related Woodland Strategy or other threatened species and ecological communities can be obtained from the Environment, Planning and Sustainable Development Directorate (EPSDD). EPSDD Website: <https://www.environment.act.gov.au/nature-conservation>

ATTACHMENT A: NATIONAL LISTING ASSESSMENT ([DCCEEW 2023](#))

Attachment A: Listing Assessment for *Melanodryas cucullata cucullata*

Reason for assessment

Prioritisation of a nomination from the TSSC.

Assessment of eligibility for listing

This assessment uses the criteria set out in the [EPBC Regulations](#). The thresholds used correspond with those in the [IUCN Red List criteria](#) except where noted in criterion 4, sub-criterion D2. The IUCN criteria are used by Australian jurisdictions to achieve consistent listing assessments through the Common Assessment Method (CAM).

Key assessment parameters

Table 4 includes the key assessment parameters used in the assessment of eligibility for listing against the criteria.

Table 4 Key assessment parameters

Metric	Estimate used in the assessment	Minimum plausible value	Maximum plausible value	Justification
Number of mature individuals	68,000	36,000	113,000	The population estimate of hooded robin (south-eastern) is the product of the three measures of AOO and the average density of birds in 2 ha 20 min surveys in which counts were undertaken (1.8 birds/2 ha; SD 1.1, 1327 plots) (Ford et al. 2021). Studies by Ford and others have shown that hooded robins tend to persist only in substantial areas of remnant habitat, so it is assumed that, if they are present at all, there must have been at least 20 ha of suitable habitat within the patch where they were observed (S Garnett pers. comms. 9 Nov 2021). Therefore, each 2x2 km square contributing to the AOO is assumed to indicate 20 ha of suitable habitat (S Garnett pers. comm. 9 Nov 2021). The reliability of this population estimate is low (Ford et al. 2021).
Trend	Declining			Numbers of this subspecies have been declining in agricultural landscapes for many decades (Robinson 1993; Robinson & Traill 1996; Reid 1999; Olsen et al. 2005; Ford et al. 2021). The reliability of this estimate is high (Ford et al. 2021).
Generation time (years)	3.0	2.7	3.3	Bird et al. (2020). The reliability of this estimate is medium (Ford et al. 2021).

Metric	Estimate used in the assessment	Minimum plausible value	Maximum plausible value	Justification
Extent of occurrence	1,200,000 km ²	1,100,000 km ²	1,400,000 km ²	Ford et al. (2021). The reliability of this estimate is high.
Trend	Contracting			Ford et al. (2021). The reliability of this estimate is high.
Area of Occupancy	30,000 km ²	16,000 km ²	50,000 km ²	The minimum AOO is the number of 2x2 km squares within the subspecies have been recorded since 1990 (Ford et al. 2021). But, given the remoteness of much of the distribution, the real AOO is assumed to be at least twice that and probably substantially greater (Ford et al. 2021). The reliability of this estimate is low (Ford et al. 2021; S Garnett pers. comm. 9 Nov 2021).
Trend	Contracting			Ford et al. (2021). The reliability of this estimate is high.
Number of subpopulations	100			Due to widespread distribution of the subspecies, fragmentation of woodland habitat, and low dispersal distances there are likely to be many subpopulations of hooded robin (south-eastern). For the purpose of this assessment there are estimated to be 100 subpopulations (Ford et al. 2021). However, the reliability of this estimate is low (Ford et al. 2021).
Trend	Declining			Ford et al. (2021). The reliability of this estimate is high.
Basis of assessment of subpopulation number	Fragmented populations are assumed to be genetically isolated, and there are many fragments (Ford et al. 2021).			
No. locations	>10			Ford et al. (2021)
Trend	Not calculated			Ford et al. (2021)
Basis of assessment of location number	Fragmented populations are assumed to be genetically isolated, and there are many fragments (Ford et al. 2021).			
Fragmentation	Not severely fragmented (Ford et al. 2021).			
Fluctuations	Not subject to extreme fluctuations in EOO, AOO, number of subpopulations, locations or mature individuals (Ford et al. 2021).			

Criterion 1 Population size reduction

Reduction in total numbers (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>	Based on any of the following		<p>(a) direct observation [except A3]</p> <p>(b) an index of abundance appropriate to the taxon</p> <p>(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat</p> <p>(d) actual or potential levels of exploitation</p> <p>(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites</p>

Criterion 1 evidence

Eligible under Criterion 1 A2bce for listing as Endangered

Hooded robins (south-eastern) occur in south-eastern Australia from far south-east Queensland to Yorke Peninsula, South Australia, intergrading with *M. c. picata* in the southern Murray-Darling basin (Schodde & Mason 1999). The subspecies has been recognised as a declining member of the woodland avifauna (Ford et al. 2021), and are now absent from many formerly occupied sites, particularly in the wetter areas of the south and east (Barrett et al. 1994; Paton et al. 1994; Ford et al. 2009).

Reporting rate data can be used to determine bird species abundance. Data used in trend analyses are limited to standardised bird surveys drawn from discrete (spatially separated) sites which have multiple repeat observations over time. Based on reporting rate data, it appears that the hooded robin (south-eastern) population has undergone a significant reduction in size (>50%) over ten years (one generation 3.0 years) (Ford et al. 2021). While there is no dedicated range-wide monitoring, the subspecies is still sufficiently common that reporting rate trends are likely to reflect changes in abundance (Ford et al. 2021). Across the range from 2000–2018, reporting rates from 2 ha 20 min surveys and 500 m radius area searches declined by 65% and 63% respectively (1999–2008: declines of 14% and 55%; 2009–2018: declines of 51% and 49%).

At a local level, the reporting rate in the Australian Capital Territory declined by 93.3% from 1987–2017 with a 94% decline in the final decade (Canberra Ornithologists Group 2020); while

a trend analysis over the 21-year period 1998-2019 showed a statistically significant overall decline, consistent every year over that period (Bounds et al. 2021). The reporting rate has declined from low to very low, and the species only occurs in very small sub-populations in some rural locations. In southern New South Wales, abundance declined by 66% from 2002–2015 (Lindenmayer et al. 2018) and in north-east New South Wales reporting rates at 41 sites declined from 52% in 1977–1980 to 13% in 2004–2006 (Gosper & Gosper 2016) and zero in 2020 (DG and CR Gosper pers comm cited in Ford et al. 2021).

Additionally, numbers of this subspecies have been declining in agricultural landscapes for many decades (Robinson 1993; Robinson & Traill 1996; Reid 1999; Olsen et al. 2005); the reporting rate declined by 41% in New South Wales between the 1977–1981 and 1998–2002 BirdLife Australia Atlases, with no variation between bioregions (Barrett et al. 2007). The declining trend has been continuing (Ford et al. 2021).

Decline of hooded robins (south-eastern) is partially attributed to such ongoing threats as: over-grazing by domestic stock, introduced rabbits (*Oryctolagus cuniculus*), and overabundant kangaroos (*Macropus* spp.) (all of which prevent regeneration of native vegetation (Willson & Bignall 2009); increased predation from introduced mammals (cats and foxes), invasive weeds, and competition with noisy miners (*Manorina melanocephala*) (Maron & Lill 2005). The effect of these threats, combined with habitat loss and fragmentation for large-scale agriculture, climate change, inappropriate fire regimes, and inappropriate firewood collection and tidying of farmland, have not ceased and may not be reversible.

The Committee considers that the species has undergone a severe reduction in numbers over ten years (one generation 3.0 years), which is equivalent to <50% and the reduction has not ceased, the cause has not ceased and is not understood. Therefore, the species has met the relevant elements of Criterion 1 to make it eligible for listing as Endangered.

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:			
(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			

Criterion 2 evidence

Not eligible

Hooded robin (south-eastern) EOO is estimated at 1,200,000 km² (range 1,100,000–1,400,000 km²) and AOO is estimated to be 30,000 km² (16,000–50,000 km²) (Ford et al. 2021). The minimum AOO is the number of 2x2 km squares within they have been recorded since 1990 but, given the remoteness of much of the distribution, the real AOO is assumed to be at least twice that and probably substantially greater (Ford et al. 2021). Both the EOO and AOO for the subspecies are contracting (Ford et al. 2021). There are estimated to be 68,000 (36,000–113,000) mature individuals in the wild (S Garnett pers. comms. 9 Nov 2021). The population is not severely fragmented, and the number of locations is greater than 10. However, fragmented populations are assumed to be genetically isolated, and there are many fragments (Ford et al. 2021). The number of subpopulations is likely declining. The subspecies is not subject to extreme fluctuations in EOO, AOO, number of subpopulations, locations or mature individuals (Ford et al. 2021).

Following assessment of the data the Committee has determined that the subspecies' geographic distribution is not precarious for its survival. Therefore, the subspecies has not met this required element of this criterion.

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			

Criterion 3 evidence

Not eligible

The total number of mature individuals is estimated to be 68,000 (36,000–113,000), however the reliability of this estimate is low (S Garnett pers. comms. 9 Nov 2021). There are estimated to be approximately 100 subpopulations (low reliability) with a declining trend (high reliability) (Ford et al. 2021). The number of mature individuals in the largest subpopulation is estimated to be 50,000 (30,000–100,000). The subspecies' distribution is not precarious for its survival. The subspecies is not subject to extreme fluctuations in the number of mature individuals (Ford et al. 2021).

The total number of mature individuals is not considered low. Therefore, the subspecies does not meet the required element of this criterion.

Criterion 4 Number of mature individuals

	Critically Endangered Extremely low	Endangered Very Low	Vulnerable Low
D. Number of mature individuals	< 50	< 250	< 1,000
D2. ¹ Only applies to the Vulnerable category Restricted area of occupancy or number of locations with a plausible future threat that could drive the species to critically endangered or Extinct in a very short time			D2. Typically: area of occupancy < 20 km ² or number of locations ≤ 5

¹ The IUCN Red List Criterion D allows for species to be listed as Vulnerable under Criterion D2. The corresponding Criterion 4 in the EPBC Regulations does not currently include the provision for listing a species under D2. As such, a species cannot currently be listed under the EPBC Act under Criterion D2 only. However, assessments may include information relevant to D2. This information will not be considered by the Committee in making its recommendation of the species' eligibility for listing under the EPBC Act, but may assist other jurisdictions to adopt the assessment outcome under the [common assessment method](#).

Criterion 4 evidence

Not eligible

The estimated total number of mature individuals is 68,000 (36,000–113,000) (S Garnett pers. comms. 9 Nov 2021). The population of hooded robins (south-eastern) is the product of the three measures of AOO and the average density of birds in 2 ha 20 min surveys in which counts were undertaken (1.8 birds/2 ha; SD 1.1, 1327 plots) assuming, given that hooded robins tend to persist in larger habitat patches, that each 2x2 km of AOO is associated with 20 ha of habitat.

The total number of mature individuals is not considered low. Therefore, the subspecies does not meet the required elements of this criterion.

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

Criterion 5 evidence

Insufficient data to determine eligibility

Population viability analysis has not been undertaken. Therefore, there is insufficient information to determine the eligibility of the subspecies for listing in any category under this criterion.

Adequacy of survey

The survey effort has been considered adequate and there is sufficient scientific evidence to support the assessment.

Public consultation

Notice of the proposed amendment and a consultation document was made available for public comment for 49 business days between 28 January 2022 and 18 March 2022.

Listing and Recovery Plan Recommendations

The Threatened Species Scientific Committee recommends:

- (i) that the list referred to in section 178 of the EPBC Act be amended by **including** *Melanodryas cucullata cucullata* in the list in the Endangered category.
- (ii) that there should be a recovery plan for this species.