



Australian Government

Department of Agriculture, Water and the Environment

Draft National Recovery Plan for the Painted Honeyeater

Grantiella picta



The Species Profile and Threats Database pages linked to this recovery plan is obtainable from:
<http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>

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Summary

Painted Honeyeater (*Grantiella picta*)

Family: Meliphagidae

Current status of taxon:

Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth): Vulnerable

Nature Conservation Act 2014 (Australian Capital Territory): Vulnerable

Territory Parks and Wildlife Conservation Act 2000 (Northern Territory): Vulnerable

Nature Conservation Act 1992 (Queensland): Vulnerable

Biodiversity Conservation Act 2016 (New South Wales): Vulnerable

Flora and Fauna Guarantee Act 1988 (Victoria): Threatened

National Parks and Wildlife Act 1972 (South Australia): Rare

Description, distribution and habitat:

The Painted Honeyeater is small (16 cm) and distinctive, with a black head and back and white underparts with dark streaks on the flanks. The wings and tail are black with bright yellow edgings. The distinctive bill is pink with a dark tip. The female is greyer on the upperparts and has less streaking on the flanks.

The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of individuals and almost all breeding occurs on the inland slopes of the Great Dividing Range in New South Wales, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution.

The species' key habitats include Boree/Weeping Myall (*Acacia pendula*), Brigalow (*A. harpophylla*) woodlands, box-gum woodlands and box-ironbark forests. The species is a specialist feeder on the fruits of mistletoes growing on eucalypts and acacias. Painted Honeyeaters prefer to feed on mistletoes of the genus *Amyema*.

Recovery plan vision, objectives and strategies:

Long-term Vision

The Painted Honeyeater population has increased in size to such an extent that the species no longer qualifies for listing as threatened under any of the *Environment Protection and Biodiversity Conservation Act 1999* listing criteria.

Recovery Plan Objective

By 2031, measure and sustain a positive population trend (compared to 2020 baseline counts) in the number of mature individuals of the Painted Honeyeater.

By 2031, maintain or improve the extent, condition and connectivity of habitat of the Painted Honeyeater.

This will be achieved by implementing the actions set out in this Recovery Plan that minimise threats while protecting and enhancing the species' habitat throughout its range, adequately monitoring the species, generating new knowledge to guide recovery and increasing public awareness.

Strategies to achieve objective

1. Protect, manage and restore Painted Honeyeater breeding and foraging habitats at the local, regional and landscape scales
2. Monitor, reduce and manage threats and sources of mortality
3. Develop and apply techniques to measure changes in population trajectory in order to measure the success of recovery actions
4. Improve understanding of habitat use at a landscape scale in order to better target protection and restoration measures
5. Engage local communities and stakeholders in Painted Honeyeater conservation
6. Coordinate, review and report on recovery progress

Criteria for success:

This recovery plan will be deemed successful if, by 2031, all of the following have been achieved:

- The Painted Honeyeater population has increased from 2020 baseline counts, as a result of recovery actions.
- Threats within the range of Painted Honeyeater are managed to avoid and mitigate impacts on their habitats.
- There has been an improvement in the quality and extent of Painted Honeyeater habitat throughout the species' range.
- Understanding of the species' ecology has increased, in particular knowledge of movement patterns, habitat use and post-breeding dispersal.
- There is increased participation by key stakeholders and the public in recovery efforts and monitoring.

Recovery team:

Recovery teams provide advice and assist in coordinating actions described in recovery plans. They include representatives from organisations with a direct interest in the recovery of the species, including those involved in funding and those participating in actions that support the recovery of the species. The national Painted Honeyeater Recovery Team has the responsibility of providing advice, coordinating and directing the implementation of the recovery actions outlined in this recovery plan. The membership of the national Recovery Team includes individuals from relevant government agencies, non-government organisations, industry groups and expertise from independent researchers and community groups.

Introduction

This document constitutes the 'National Recovery Plan for the Painted Honeyeater'. The plan considers the conservation requirements of the species across its range and identifies the actions to be taken to ensure the species' long-term viability in nature, and the responsible agencies that will undertake those actions. This recovery plan is the first national plan to be developed for the Painted Honeyeater.

The Painted Honeyeater was listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) on 8 July 2015. At the time of listing it was thought that there were fewer than 10,000 mature individuals remaining in the population and the total population had undergone a suspected decline of 20 – 29 per cent over three generations based on monitoring, a reduced area of occupancy and deteriorating habitat quality (Garnett et al. 2011; Department of the Environment 2015a).

Principal threats to the Painted Honeyeater covered by this plan include habitat loss and degradation, competition from Noisy (*Manorina melanocephala*) and Yellow-throated Miner (*M. flavigula*) and Australia's changing climate. Other potential threats to the species may include predation by invasive species (e.g. Black Rats *Rattus rattus*); destruction of mistletoe in production forests; exacerbation of tree decline through pasture improvement activities; collision with road vehicles; and nest predation by native predators Pied Currawongs (*Strepera graculina*), Pied and Grey Butcherbirds (*Cracticus nigrogularis* and *Cracticus torquatus*), and crows and ravens (Corvidae) (Lindsay, pers. comm. 2014; DEPI, 2014).

Threats to the species' already fragmented habitat are not abating, with habitat continuing to be cleared for agriculture, industrial development and degraded by over-grazing (Garnett et al. 2011; Department of the Environment 2015a, b). This suggests that the population is likely to continue to decline at a substantial rate without appropriate management interventions. The Painted Honeyeater's geographic distribution is precarious for its survival as 100 per cent of mature individuals exist in one subpopulation (Garnett et al. 2011).

Accompanying Species Profile and Threats Database (SPRAT) pages provide background information on the biology, population status and threats to the Painted Honeyeater. SPRAT pages are available from: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>.

2.1 Conservation status

The Painted Honeyeater is listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and under state legislation (Table 1) in all parts of its range.

Table 1: National and state conservation status of the Painted Honeyeater.

Legislation	Conservation Status
<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)	Vulnerable
<i>Nature Conservation Act 2014</i> (Australian Capital Territory)	Vulnerable
<i>Territory Parks and Wildlife Conservation Act 2000</i> (Northern Territory)	Vulnerable
<i>Nature Conservation Act 1992</i> (Queensland)	Vulnerable

<i>Biodiversity Conservation Act 2016</i> (New South Wales)	Vulnerable
<i>Flora and Fauna Guarantee Act 1988</i> (Victoria)	Threatened
<i>National Parks and Wildlife Act 1972</i> (South Australia)	Rare

2.2 Taxonomy

Generally accepted as *Grantiella picta*, Gould, 1838. The species is endemic to mainland Australia. Taxonomic uniqueness is high, the species is the only one in its genus and there are no subspecies.

A member of the family Meliphagidae, Painted Honeyeater was first described in 1838 by John Gould and given the name *Entomophila picta*, but it was renamed *Grantiella picta* in 1911. Its genus name is in reference to Robert Grant, a Scottish-born taxidermist and collector, while the species name originates from the Latin word for painted, *pictus*, and refers to the yellow markings on the tail and wing feathers.

2.3 Species description

The Painted Honeyeater has black upperparts, white underparts, black spots on its flanks and yellow edges to the flight and tail feathers. The bill is a deep pink and the eye red. The females are smaller and browner on the back than the male, frequently with fewer streaks or spots on their breast and flanks (Higgins et al. 2001). Juveniles are even paler than the female, appearing more brown than black, with fainter yellow colouring to feathers and with a grey bill rather than the pink seen on adults (Higgins et al. 2001).

The Painted Honeyeater is the only small to medium honeyeater with a wholly or mostly pink bill, and the only yellow-winged honeyeater with almost wholly white underparts (marked only with sparse, fine and short black streaks) (Higgins et al. 2001).

2.4 Species distribution

The Painted Honeyeater is endemic to Australia. The species is sparsely distributed from south-eastern Australia to north-western Queensland and eastern Northern Territory (Figure 1). The greatest concentrations and almost all records of breeding come from south of 26°S, on inland slopes of the Great Dividing Range between the Grampians, Victoria and Roma, Queensland (Higgins et al. 2001).

The species exhibits seasonal north-south movements governed principally by the fruiting of mistletoe, with which its breeding season is closely aligned (Barea and Watson 2007). Many birds move after breeding to semi-arid regions such as north-eastern South Australia, central and western Queensland, and central Northern Territory. Considering its dispersive, nomadic habits, the species is considered to comprise a single population (Garnett et al. 2011).

2.5 Population size and trends

Estimating population size is difficult given the species' rarity in most of its range. Garnett et al. (2011) estimated the total number of individuals at <10 000, based on an extrapolation of counts undertaken in areas of New South Wales and Victoria. It is thought that the population has undergone long-term decline, likely to have been accelerated by clearance of trees for agriculture, and lack of regeneration resulting from grazing by introduced herbivores. Much of its breeding habitat has become degraded, although it may have benefited from an increase in abundance of mistletoe in some degraded woodlands (Higgins et al. 2001). The species' population decline was previously suspected to be 20-29

per cent over the last three generations (17 years), based on monitoring, a reduced area of occupancy and deteriorating habitat quality (Garnett et al. 2011).

2.6 Biology and ecology

Habitat

The Painted Honeyeater is the most specialised of Australia's honeyeaters. Its diet mainly consists of mistletoe fruits, but also includes nectar (from flowering mistletoe, eucalypts and possibly banksias) and arthropods, especially in the non-breeding season (Higgins et al. 2001; Garnett et al. 2011). Arthropods are an important part of the diet provided to nestlings (Barea and Watson 2007; Barea 2008a; Barea and Herrera 2009).

The species inhabits mistletoes in eucalypt forests, woodlands, riparian woodlands of Black Box (*Eucalyptus largiflorens*) and River Red Gum (*E. camaldulensis*), box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature trees, as these host more mistletoes. It is more common in wider blocks of remnant woodland than in narrower strips (Garnett et al. 2011), although it breeds in quite narrow roadside strips if ample mistletoe fruit is available.

Studies have confirmed that habitat areas which have undergone less fragmentation and land clearing may support a greater number of Painted Honeyeaters present (Oliver et al. 2003). Painted Honeyeaters have also been found to be more abundant in locations where there are a large number of trees present and a high percentage of canopy cover (Oliver et al. 2003).

Breeding biology

The species often occurs singly or in pairs, and less often in small flocks. Breeding occurs from October to March when mistletoe fruits are widely available. Usually 2-3 eggs are laid, and both parents incubate the eggs, brood and feed young (Barea 2008b; Higgins et al. 2001; Garnett et al. 2011; Barea 2012).

The species builds a flimsy cup nest made of plant-fibre, spiders' webs and rootlets in the outer foliage of trees anywhere from 3 m to 20 m above the ground. Although Painted Honeyeaters build nests in a variety of tree species including *Eucalyptus* spp., many favour Yarran (*Acacia homalophylla*) and White Cypress-pine (*Callitris glaucophylla*), both of which are hosts of the hemiparasitic Grey Mistletoe (*Amyema quandang*) (Barea 2008a; Barea 2012).

Male Painted Honeyeaters generally arrive at the nesting site several weeks before the female. Both sexes leave around the same time about 5 months later when mistletoe berry numbers begin to decline (Barea and Watson 2013). Although the fruit is available all year, it is more plentiful over the warmer months, and dwindles as the temperature drops (Barea and Watson 2013).

Painted Honeyeaters use environmental cues to determine the timing of nesting ensuring that they arrive at sites as food resources are beginning to increase (Barea and Watson 2007; Barea and Watson 2013). The overlap of breeding activity with mistletoe fruiting has additional benefits, as Painted Honeyeaters often display a preference to nest near or amongst mistletoe (Barea and Watson 2007; Barea and Watson 2013).

The species appears to prefer mistletoe as a nest substrate and selects nest sites in habitats where mistletoe prevalence and parasitism rates are high (Barea 2008b). Nesting success is relatively low; in the foliage of trees it is approximately 43 percent and within mistletoe clumps it is only 17 percent, with 83 percent of nest failures caused by predation (Barea and Watson 2013).

Generation time is estimated at 5.8 years, with a maximum longevity in the wild estimated at 10.1 years (Garnett et al. 2011).

Diet and foraging

Most honeyeaters have a mixed diet, consuming nectar, fruits and insects from a range of sources and locations (Oliver 2000). The Painted Honeyeater is a frugivore, a dietary specialist dependent on the presence of mistletoe plants and their fruit. Painted Honeyeater abundance can usually be determined by the availability of this food source (Oliver et al. 2003).

At least five species of *Amyema* have been documented as being a food source for the Painted Honeyeater, which in turn assists in dispersal of the mistletoe by excreting the seed (Reid 1987). Fruit of the Grey Mistletoe (*Amyema quandang*) is a source of carbohydrates, protein and water, and accounts for a significant amount of their diet (Barea and Watson 2013).

Painted Honeyeaters consume nectar and insects when mistletoe fruit is not available (Oliver et al. 2003; Barea and Watson 2007; Barea and Watson 2013). They may also require insects and nectar to compensate for low availability of certain nutrients in the fruits (Barea and Herrera 2009). Mistletoe fruit is known to be low in amino acids and protein, so Painted Honeyeaters must rely on these other food sources to make up the remainder of their dietary requirements (Barea and Herrera 2009).

2.7 Key Biodiversity Areas

The Key Biodiversity Area (KBA) programme aims to identify, map, monitor and conserve the critical sites for global biodiversity across the planet. This process is guided by a Global Standard for the Identification of Key Biodiversity Areas, the KBA Standard (IUCN 2016). It establishes a consultative, science-based process for the identification of globally important sites for biodiversity worldwide. Sites qualify as KBAs of global importance if they meet one or more of 11 criteria in five categories: threatened biodiversity; geographically restricted biodiversity; ecological integrity; biological processes; and, irreplaceability. The KBA criteria have quantitative thresholds and can be applied to species and ecosystems in terrestrial, inland water and marine environments. These thresholds ensure that only those sites with significant populations of a species or extent of an ecosystem are identified as global KBAs. Species or ecosystems that are the basis for identifying a KBA are referred to as Trigger species.

The global KBA partnership supports nations to identify KBAs within their country by working with a range of governmental and non-governmental organisations scientific species experts and conservation planners. Defining KBAs and their management within protected areas or through Other Effective Area-based Conservation Measures (OECMS) will assist the Australian Government to meet its obligations to international treaties, such as the Convention on Biological Diversity. KBAs are also integrated in industry standards such as those applied by the Forest Stewardship Council or the Equator Principles adopted by financial institutions to determine environmental risk in projects.

The initial identification of a site as a KBA is tenure-blind and unrelated to its legal status as it is determined primarily based on the distribution of one or more Trigger species at the site. However, existing protected areas or other delineations such as military training area or a commercial salt works will often inform the final KBA delineation, because KBAs are defined with site management in mind (KBA Standards and Appeals Committee, 2019). In practice, if an existing protected area or other designation roughly matches a KBA, it will generally be used for delineating the KBA. Many KBAs overlap wholly with existing protected area boundaries, including sites designated under international conventions (e.g. Ramsar and World Heritage) and areas protected at national and local levels (e.g. national parks, Indigenous or community conserved areas). However, not all KBAs are protected areas and not all protected areas are KBAs. It is recognised that other management approaches may also be appropriate to safeguard KBAs. In fact, research from Australia and elsewhere demonstrates the value of Other Effective Area-based Conservation measures in conserving KBAs and their Trigger species (Donald et al., 2019) if the site is managed appropriately. The identification of a site as a KBA highlights the sites exceptional status and critical importance on a global scale for the persistence of the biodiversity values for which it has been declared for (particular Trigger species or habitats) and implies that the site should be managed in ways that ensure the persistence of these elements. For more information on KBAs visit - <http://www.keybiodiversityareas.org/home>

The global KBA partnership currently recognises seven Key Biodiversity Areas as important for Painted Honeyeater conservation and to support the long-term persistence of the species. KBAs are also

undergoing a regular revision to ensure changes in IUCN red list status, taxonomic changes, local population trends as well as increased knowledge of the species are reflected accurately in the KBA network. As such, over time, additional KBAs may be recognised for their importance for Painted Honeyeater or new KBAs may be declared for this and other taxa. Detailed KBA Factsheets, including boundary maps, population estimates of trigger species and scientific references are for these seven areas (and other KBAs) are available from the World Database of Key Biodiversity Areas (BirdLife International 2020). The seven KBAs with Painted Honeyeater as one of their Trigger species were also recognised prior to the introduction of the KBA standard as Important Bird Areas for the species in 2009 based on the analysis BirdLife Australia. They include:

Queensland

- Boodjamulla – Boodjamulla National Park, formally known as Lawn Hill National Park, is a national park in the Shire of Burke. The Riversleigh World Heritage Area is within the national park.

New South Wales

- Binya and Cocoparra – The Cocoparra National Park is a protected national park that is located in the Riverina region of New South Wales. The 8,357 hectare (20,650 acre) national park is situated 25 kilometres northeast of Griffith.
- Capertee Valley – The Capertee Valley is the second largest canyon (by width) in the world and largest valley in New South Wales, 135 km north-west of Sydney. One of the most prominent features of the valley is Pantony's Crown, a sandstone butte that is now part of the Gardens of Stone National Park. Parts of the valley are also included in the Wollemi National Park, the second-largest national park in New South Wales.
- Goonoo - The Goonoo Key Biodiversity Area is a 1,034 km² tract of wooded land in New South Wales. It lies between the towns of Dubbo, Gilgandra and Dunedoo, about 200 km north-west of Sydney. Formerly the Goonoo State Forest, much of the land is now within the Goonoo State Conservation Area (538 km²) and the adjacent Goonoo National Park (91 km²). The KBA also includes (18 km²) of the Coolbaggie Nature Reserve. Goonoo KBA is mainly box-ironbark-callitris woodland with patches of mallee. It is surrounded by farmland. Past forest management involved logging the larger box trees to promote the growth of cypress pine and ironbark, but the site is now managed primarily for conservation. Much of the area was burned in bushfires in 2007.
- Pilliga - The Pilliga Forests, sometimes known as the Pilliga Scrub, constitute over 5,000 km² of semi-arid woodland in temperate north-central New South Wales. It is the largest such continuous remnant in New South Wales. The forest is located near the towns of Baradine and Narrabri and the villages of Pilliga and Gwabegar. Most land within the Pilliga is in crown tenure, either as State Forest (2,416 km²), Nature Reserve, State Conservation Area or National Park (2,770 km²). A 4,909 km² tract of land, including the forest and the nearby Warrumbungle National Park, has been identified as a KBA because it supports populations of Painted Honeyeaters and Diamond Firetails (*Stagonopleura guttata*). It also experiences irregular occurrences of critically endangered Swift Parrots (*Lathamus discolor*) and Regent Honeyeaters (*Anthochaera phrygia*), and several other near threatened woodland birds.
- South-west Slopes of New South Wales - An area of 25,653 km², largely coincident with the bioregion, has been identified as a KBA because it supports a significant wintering population of the Critically Endangered Swift Parrots and Vulnerable Superb Parrots (*Polytelis swainsonii*), as well as populations of Painted Honeyeaters and Diamond Firetails. Most of the site is modified wheat-growing and sheep-grazing country with only vestiges of its original vegetation. Remnant patches of woodland and scattered large trees, especially of Mugga Ironbark (*E. sideroxylon*), Apple Box (*E. bridgesiana*), Grey Box (*E. microcarpa*), White Box (*E. albens*), Yellow Box (*E. melliodora*), Red Box (*E. polyanthemos*), Yellow Gum (*E. leucoxylon*), River Red Gum and Blakely's Red Gum (*E. blakelyi*), still provide habitat for the Painted Honeyeaters. Protected areas within the site include several nature reserves and state forests, as well as the Livingstone and Weddin Mountains National Parks, and Tarcutta Hills Reserve.

Victoria

- Warby-Chiltern Box-Ironbark Region - The Warby–Chiltern Box–Ironbark Region comprises a cluster of separate blocks of remnant box-ironbark forest habitat, with a collective area of 253 km², in north eastern Victoria. This site lies to the east of the Rushworth Box-Ironbark Region KBA. It includes the Reef Hills and Warby-Ovens National Parks, Killawarra Forest, Chesney Hills, Mount Meg Reserves, Winton Wetlands Reserve, the Boweya Flora and Fauna Reserve, Rutherglen Conservation Reserve, Mount Lady Franklin Reserve and Chiltern-Mount Pilot National Park. Most of it lies within protected areas or state forests, encompassing only small blocks of private land. The site has been identified as an KBA because it provides feeding habitat for relatively large numbers of non-breeding Swift Parrots when flowering conditions are suitable, as well as the Critically Endangered Regent Honeyeaters. It also supports small numbers of Painted Honeyeaters, Diamond Firetails and Flame Robins (*Petroica phoenicea*). Declining woodland birds still present in the KBA include Brown Treecreepers (*Climacteris picumnus*), Speckled Warblers (*Pyrrholaemus sagittatus*), Hooded Robins (*Melanodryas cucullata*), Grey-crowned Babblers (*Pomatostomus temporalis*), Gilbert's Whistler (*Pachycephala inornata*) and, occasionally, migrant Black Honeyeaters (*Sugomel nigrum*). Crested Bellbirds (*Oreoica gutturalis*) are locally extinct.

2.8 Habitat critical to the survival of the Painted Honeyeater

Habitat critical to the survival of a species or ecological community refers to areas that are necessary:

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

Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the Minister under the EPBC Act.

Habitat critical to the survival of the Painted Honeyeater includes:

Breeding habitat

- Known or likely breeding habitat in Boree/Weeping Myall (*Acacia pendula*), Brigalow (*A. harpophylla*) woodlands, box-gum woodlands and box-ironbark forests on the inland slopes of the Great Dividing Range in New South Wales, Victoria and southern Queensland.

Foraging habitat

- All preferred foraging species within known and likely foraging habitat particularly mistletoes of the genus *Amyema* growing on forest and woodland eucalypts and acacias.

Habitat for the long-term maintenance of the species

- All Key Biodiversity Areas with Painted Honeyeater as a Trigger species.

Habitat critical to the survival of the Painted Honeyeater occurs across a wide range of land tenures, including on freehold land, travelling stock routes and reserves, publicly owned forests and state

reserves, and national parks. It is essential that protection is provided to these areas and that enhancement and protection measures target these productive sites.

When considering habitat loss, alteration or significant impacts to habitat in any part of the Painted Honeyeater's range, including in areas where the species 'may occur', surveys for occupancy at the appropriate times of the year and identifying preferred foraging species remain an important tool in refining understanding of the area's relative importance for Painted Honeyeaters. In addition, it is also important to note that Painted Honeyeaters opportunistically use areas depending on the occurrence of eucalypt flowering and mistletoe flowering/fruitleing. This means that areas that constitute important habitat might not have birds in any one given year. This pattern of habitat use means that both recent survey data and historical records need to be considered when assessing the relative importance of a local area or region for Painted Honeyeaters.

Indicative distribution of the Painted Honeyeater (*Grantiella picta*)

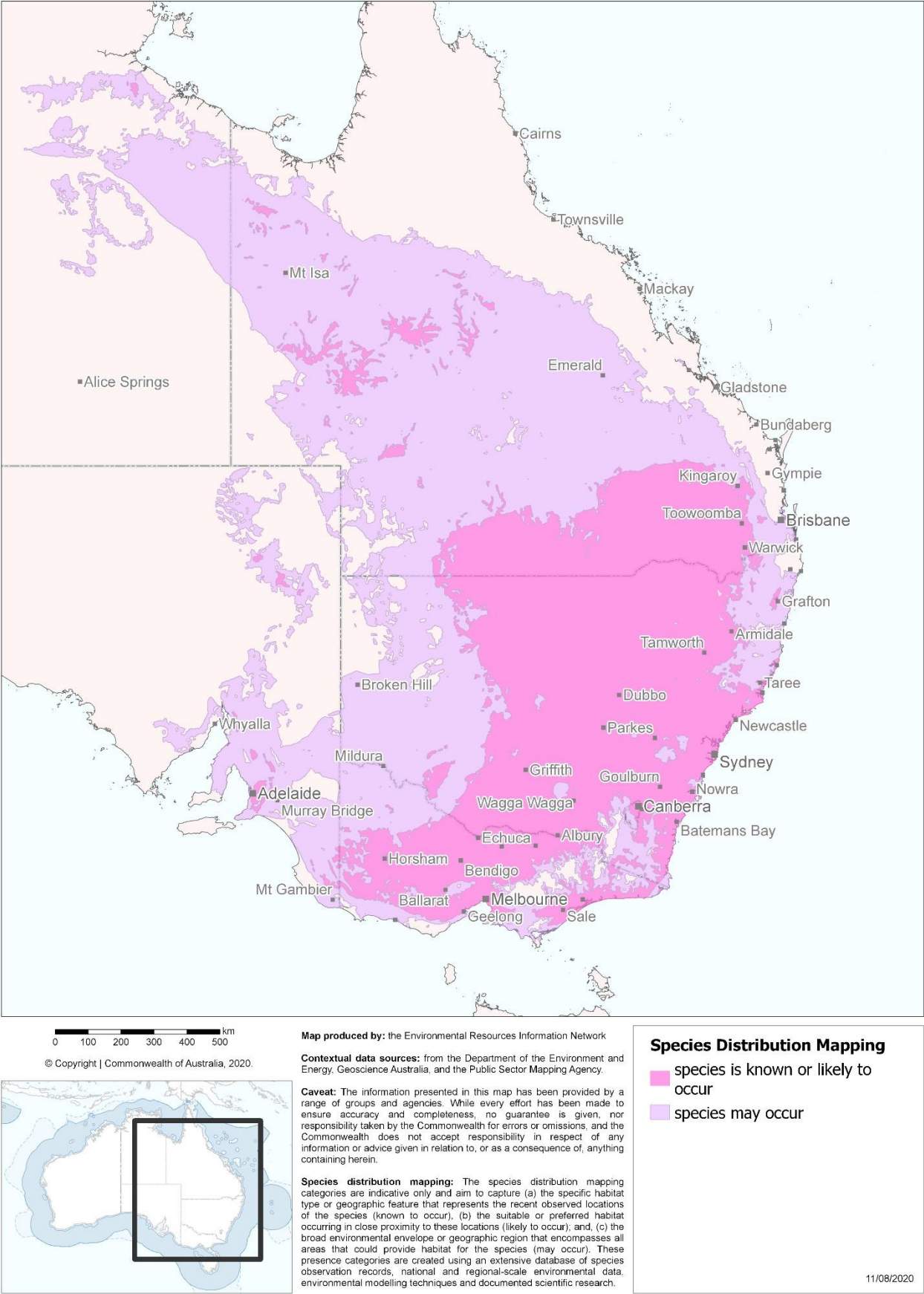


Figure 1: Modelled distribution of Painted Honeyeater.

Threats

3.1 Historical causes of decline

Habitat loss and degradation have been the key drivers of declines in the abundance of the Painted Honeyeater. Much of its breeding habitat has been cleared or has been reduced to ageing, widely-spaced trees, particularly in box-ironbark and boree woodlands of New South Wales and Victoria. Its non-breeding habitat also continues to be cleared for agriculture (Barea 2008a). Some acacia and casuarina woodlands (e.g. brigalow and buloke) in which the species occurs, have been heavily cleared and degraded to the extent that they are now nationally endangered ecological communities (Department of the Environment 2015a; Garnett et al. 2011).

3.2 Current threatening processes

Habitat loss is the key threat to this species. In its breeding strongholds of south-eastern Australia, woodlands are being cleared at a greater rate than they are being restored. Regrowth woodland in particular, is viewed as having little conservation value and is being cleared at an unsustainable rate (Lindsay, pers. comm., 2014). This is a particular issue for the Painted Honeyeater as regrowth woodland contains similar or higher densities of mistletoe than remnant woodland.

3.2.1 Habitat loss

Ongoing clearing of woodland and forest containing the key acacia and eucalypt species preferred by Painted Honeyeaters is a major threat. For example, 83 percent of box-ironbark habitat has been cleared in Victoria, and 70 percent has been cleared in New South Wales (Siversten 1993; Robinson and Traill 1996; Environment Conservation Council 2001). White Box-Yellow Gum-Blakely's Red Gum woodland, another important habitat in New South Wales, has been reduced to less than 4 percent of its pre-European extent on the south-western slopes and southern tablelands of New South Wales (Saunders 2003). The historical clearance of foraging and nesting habitat has been extensive and dramatic in many areas of Victoria and New South Wales, reducing the available nesting and foraging habitat to small remnants. These remnants continue to decline in size as a result of residential, agricultural and industrial developments.

Impacts on woodland bird habitat in New South Wales have been so severe that only 5 to 30 percent of the original vegetation now remains and what is left is often degraded (Saunders and Russell 2016). With such extensive losses of habitat there is an increased risk that the remaining areas may fail to produce the necessary food resources in any one year, which may lead to rapid population decline of woodland birds due to the accumulated extinction debt (Saunders and Russell 2016). Habitat clearance could increase nest predation as individuals could be forced to nest near habitat edges (Boulton and Clarke 2003).

The widespread loss of mature paddock trees throughout agricultural areas of the Painted Honeyeater's range represents another threat to the species. Many records of the species are from scattered paddock trees or stands, and loss of these from the landscape will likely impact the ability of the birds to disperse.

3.2.2 Habitat degradation

Remaining Painted Honeyeater habitat faces ongoing degradation, particularly on agricultural land in central and north-east Victoria and on the western slopes of New South Wales. Loss of mature trees occurs through senescence, eucalypt dieback, harvesting for fence posts or firewood, or drought-induced stress. Illegal felling of key species for firewood and fence posts has been noted in travelling stock reserves and important remnant blocks (Tzaros 2005).

Most of the Painted Honeyeater's remaining habitat is on private land which continues to be degraded by grazing by livestock, native macropods and rabbits (*Oryctolagus cuniculus*) (Garnett et al. 2011).

Grazing inhibits tree recruitment through the consumption of seedlings and suckers, meaning that when mature trees die there is insufficient recruitment to replace them (Lindsay pers. comm. 2014). Grazing therefore results in an uneven age structure of mistletoe host trees and promotion of future collapse of mistletoe resources. Grazing thresholds supporting non-significant effects to mistletoe resources are unknown but may be very low (Barea pers. comm. 2014). Additionally, many landholders remove mistletoes from trees as they view it as a pest. Mistletoe becomes more abundant on trees that have become isolated as a result of land disturbance or clearing (Lindsay pers. comm. 2014).

Even with no further loss or degradation of habitat, the species is likely to continue to decline at some of the edges of its distribution (Ford et al. 2009). It is likely that numbers of Painted Honeyeaters breeding in southern and central Queensland are already extremely low, and the species is also becoming increasingly uncommon in north-west Queensland. Under current trends, the Painted Honeyeater may become extinct or absent from the extremes of its northern distribution (Lindsay, pers. comm. 2014).

3.2.3 Competition

Painted Honeyeaters compete for food resources with larger and/or more aggressive honeyeaters such as the Noisy Miner, Yellow-throated Miner, Noisy Friarbird and the Red Wattlebird. While the impacts from greater levels of competition with these other aggressive honeyeaters is unclear, anecdotal evidence of their impact on other woodland birds suggests it is likely to negatively affect Painted Honeyeater breeding success and survival.

Red Wattlebirds appear to be increasing in numbers across their eastern Australian range (Birds Australia 2008), which may effectively reduce habitat availability for Painted Honeyeaters. The Noisy Miner is common in fragmented and degraded habitat due to its preference for open areas adjoining eucalypt woodland, and may occupy areas up to 300 m from a forest edge. In areas occupied by Noisy Miners, the abundance and species richness of other bird species are about half that recorded at nearby areas unoccupied by Noisy Miners (Piper and Catterall 2003; Clarke and Oldland 2007; Maron et al. 2013; Thomson et al. 2015). Aggressive exclusion of other birds by Noisy Miners is now listed as a Key Threatening Process under the EPBC Act, as well as in Victoria and New South Wales under the respective state legislation, and their impact on woodland birds was one of the factors in those determinations.

Honeybees may also compete with woodland birds such as the Painted Honeyeater for nectar (Menkhurst 1993), although the significance of this for the Painted Honeyeater is unknown and requires further investigation. Competition from feral honeybees (*Apis mellifera*) is listed as a 'Key Threatening Process' for nectivorous species in New South Wales and Victoria.

3.2.4 Climate variability and change

Australia's changing climate threatens the Painted Honeyeater's habitat through both increased risk of drought, fire and altered flowering or fruiting phenology, potentially leading to further habitat loss and degradation. Threats from climate change can be addressed through efforts to make Painted Honeyeater populations and their habitat more resilient by identifying and protecting important drought refuges.

Climate change limitation, adaptation and management requires both domestic and international action to prevent further accumulation of anthropogenic greenhouse gases. Although management of this global issue is beyond the scope of this plan, long-term monitoring of the Painted Honeyeater and its habitat in relation to climate data may assist in mitigating the impacts on the species. A long-term monitoring program would allow better understanding of the specific sensitivities of the Painted Honeyeater as a nomadic species to climate change, and provide a basis for future adaptive conservation management strategies. Furthermore, the cumulative effects of other threats together with climate change need to be considered for effective and adaptive long-term management of the Painted Honeyeater.

3.2.5 Other potential threatening process

Other threats to the Painted Honeyeater include predation by invasive species (e.g. Black Rats *Rattus rattus*); deliberate destruction of mistletoe in production forests; exacerbation of tree decline through pasture improvement activities; collision with road vehicles; and nest predation by over-abundant Pied Currawongs (*Strepera graculina*), Pied and Grey Butcherbirds (*Cracticus nigrogularis* and *Cracticus torquatus*), and crows and ravens (Corvidae) (Lindsay, pers. comm. 2014; DEPI 2014).

The scale and severity of these potential threats are generally unknown and form the basis of important research questions. If, during the life of this recovery plan, new or emerging threats are identified, then additional actions should be developed to address these threatening processes.

3.3 Threat prioritisation

Each of the threats outlined above has been assessed to determine the risk posed to the Painted Honeyeater population using a risk matrix. This, in turn, determines the priority for actions outlined below. The risk matrix considers the likelihood of an incident occurring and the consequences of that incident. Threats may act differently in different parts of the species range and at different times of year, but the precautionary principle dictates that the threat category is determined by the subpopulation at highest risk. Population-wide threats are generally considered to present a higher risk.

The risk matrix uses a qualitative assessment drawing on peer reviewed literature and expert opinion. In some cases the consequences of activities are unknown. In these cases, the precautionary principle has been applied. Levels of risk and the associated priority for action are defined as follows:

Very High - immediate mitigation action required

High - mitigation action and an adaptive management plan required, the precautionary principle should be applied

Moderate – obtain additional information and develop mitigation action if required

Low – monitor the threat occurrence and reassess threat level if likelihood or consequences change

Table 2. Risk Prioritisation

Likelihood of occurrence	Consequences				
	Not significant	Minor	Moderate	Major	Catastrophic
Almost certain	Low	Moderate	Very High	Very High	Very High
Likely	Low	Moderate	High	Very High	Very High
Possible	Low	Moderate	High	Very High	Very High
Unlikely	Low	Low	Moderate	High	Very High
Rare or Unknown	Low	Low	Moderate	High	Very High

Categories for likelihood are defined as follows:

Almost certain – expected to occur every year

Likely – expected to occur at least once every five years

Possible – might occur at some time

Unlikely – such events are known to have occurred on a worldwide basis but only a few times

Rare or Unknown – may occur only in exceptional circumstances; OR it is currently unknown how often the incident will occur

Categories for consequences are defined as follows:

Not significant – no long-term effect on individuals or populations

Minor – individuals are adversely affected but no effect at population level

Moderate – population recovery stalls or reduces

Major – population decreases

Catastrophic – population extinction

Table 3. Painted Honeyeater Risk Matrix

Likelihood of occurrence	Consequences				
	Not significant	Minor	Moderate	Major	Catastrophic
Almost certain			Habitat degradation	Habitat loss Climate variability and change	
Likely			Competition		
Possible					
Unlikely					
Rare or Unknown					

Populations under particular pressure

The Painted Honeyeater's geographic distribution is precarious for its survival, as 100 per cent of mature individuals exist in one subpopulation (Garnett et al. 2011). The actions described in this

recovery plan are designed to provide ongoing protection for the Painted Honeyeater throughout its range.

Recovery Plan Vision, Objectives and Strategies

Long-term Vision

The Painted Honeyeater population has increased in size to such an extent that the species no longer qualifies for listing as threatened under any of the *Environment Protection and Biodiversity Conservation Act 1999* listing criteria.

Recovery Plan Objective

By 2031, measure and sustain a positive population trend (compared to 2020 baseline counts) in the number of mature individuals of the Painted Honeyeater.

By 2031, maintain or improve the extent, condition and connectivity of habitat of the Painted Honeyeater.

This will be achieved by implementing the actions set out in this Recovery Plan that minimise threats while protecting and enhancing the species' habitat throughout its range, adequately monitoring the species, generating new knowledge to guide recovery and increasing public awareness.

Strategies to achieve objective

1. Protect, manage and restore Painted Honeyeater breeding and foraging habitats at the local, regional and landscape scales
2. Monitor, reduce and manage threats and sources of mortality
3. Develop and apply techniques to measure changes in population trajectory in order to measure the success of recovery actions
4. Improve understanding of habitat use at a landscape scale in order to better target protection and restoration measures
5. Engage local communities and stakeholders in Painted Honeyeater conservation
6. Coordinate, review and report on recovery progress

Actions to achieve the specific objectives

Actions identified for the recovery of Painted Honeyeater are described below. It should be noted that some of the objectives are long-term and may not be achieved prior to the scheduled five-year review of the Recovery Plan. Priorities assigned to actions should be interpreted as follows:

Priority 1:	Taking prompt action is necessary in order to mitigate the key threats to Painted Honeyeater and also provide valuable information to help identify long-term population trends.
Priority 2:	Action would provide a more informed basis for the long-term management and recovery of Painted Honeyeater.
Priority 3:	Action is desirable, but not critical to the recovery of Painted Honeyeater or assessment of trends in that recovery.

Strategy 1 – Protect, manage and restore Painted Honeyeater breeding and foraging habitats at the local, regional and landscape scales

Action		Priority	Performance Criteria	Responsible Agencies and potential partners	Indicative Cost
1.1	Identify areas of high conservation significance for Painted Honeyeater	1	<ul style="list-style-type: none"> Existing and new information has been reviewed, mapped and used to identify regions of conservation significance New knowledge has been used to target increased protection or restoration activities New knowledge has been used to refine the definition of 'habitat critical to the survival' Key Biodiversity Areas have been reviewed and updated as new information becomes available 	Recovery Team State governments Research agencies NGOs Academic institutions BirdLife Australia	\$150,000 pa
1.2	Protect and manage areas of 'habitat critical to the survival' not currently managed for nature conservation	1	<ul style="list-style-type: none"> Unprotected Commonwealth, state and privately owned lands in areas of 'habitat critical to the survival' for Painted Honeyeater have been identified Local management plans have been developed and implemented to maximise conservation values of the identified sites Consideration has been given to formal protection for sites where appropriate (i.e. through new conservation reserves, national parks) 	Australian Government State governments Local government NRM regional bodies Private landholders NGOs Academic institutions BirdLife Australia	\$100,000 pa

1.3	Conduct strategic planting of acacia species (particularly <i>A. pendula</i> or <i>A. homalophylla</i>) to restore Brigalow, Boree and Yarran woodlands and connect fragmented patches, particularly in areas where Painted Honeyeaters are known to occur and breed	1	<ul style="list-style-type: none"> Biodiversity funding and investment programs have included Brigalow, Boree and Yarran woodlands as priority areas for restoration An increase in the condition, extent and connectivity of Brigalow, Boree and Yarran woodlands can be demonstrated 	Australian Government State governments Local government NRM regional bodies Private landholders NGOs	\$350,000 pa
1.4	Encourage relevant landholders to enter into agreements, particularly in-perpetuity covenants or stewardship agreements, that promote the protection, maintenance and recruitment of acacia (<i>A. pendula</i> or <i>A. homalophylla</i>) woodland with mistletoe	1	<ul style="list-style-type: none"> Existing mechanisms have been used to encourage the protection, maintenance and recruitment of acacia woodlands with mistletoe Agreements have also incorporated sensitive grazing regimes that allow for the rehabilitation of woodland habitat An increase in the number of landholder agreements can be demonstrated 	Australian Government State governments Local government NRM regional bodies Private landholders NGOs	\$150,000 pa
1.5	Target areas of box-gum woodlands and box-ironbark forests for restoration particularly on the inland slopes of the Great Dividing Range in New South Wales, Victoria and southern Queensland	1	<ul style="list-style-type: none"> Biodiversity funding and investment programs have included box-gum woodlands and box-ironbark forests as priority areas for restoration An increase in the condition, extent and connectivity of box-gum woodlands and box-ironbark forests can be demonstrated 	Australian Government State governments Local government NRM regional bodies Private landholders NGOs	\$350,000 pa

1.6	Encourage landholders to protect ground layer and midstorey vegetation by implementing sensitive grazing practices and avoiding slashing or underscrubbing, and to promote the retention of a floristically and structurally diverse and spatially variable understorey	1	<ul style="list-style-type: none"> Biodiversity funding and investment programs have included the restoration of midstorey and ground layer vegetation as priorities Educational resources have been developed to promote the benefits of woodland restoration and includes guidelines for sensitive grazing practices, slashing and underscrubbing Workshops and field days have been undertaken to educate landholders and promote the management of remnant woodlands and forests Workshop and field days have been undertaken to educate the public especially land holders on the importance of mistletoe for biodiversity and discourage removal of mistletoe from agricultural landscapes 	Australian Government State governments Local government NRM regional bodies Private landholders NGOs	\$250,000 pa
1.7	Within NRM regions, prioritise sites that may function as drought refuges, corridors to facilitate dispersal or source populations (e.g. floodplain riparian woodlands) in programs that aim to protect, manage or restore habitat	1	<ul style="list-style-type: none"> Existing and new information has been reviewed and used to identify NRM regions of conservation significance Biodiversity funding and investment programs have included the restoration of floodplain riparian woodlands as priorities An increase in the condition, extent and connectivity of floodplain riparian woodlands can be demonstrated 	Australian Government State governments Local government NRM regional bodies Private landholders NGOs	\$75,000 pa

Strategy 2 – Monitor, reduce and manage threats and sources of mortality

Action		Priority	Performance Criteria	Responsible Agencies and potential partners	Indicative Cost
2.1	Incorporate Painted Honeyeater conservation priorities into state and local government biodiversity legislation, policies, plans and regulations	1	<ul style="list-style-type: none"> New information on conservation measures for the Painted Honeyeater have been incorporated into existing biodiversity policies, programs, management plans, regulations, code of practice and planning tools to better manage the population across its range A reduction of habitat loss and degradation can be demonstrated by 2025 	State governments Local government NRM regions bodies Research agencies NGOs	Core government business
2.2	Measure the abundance and impact of Noisy Miners on Painted Honeyeater populations and habitat, and implement appropriate management actions with demonstrated effectiveness (e.g. direct control, habitat restoration) to reduce the impacts of Noisy Miners, if/where required	1	<ul style="list-style-type: none"> Research into the impacts of Noisy Miners on Painted Honeyeaters has been supported Trials of appropriate management actions have been undertaken at multiple sites and regions The effectiveness of management actions have been critically evaluated New information has been incorporated into management plans Management plans have been adequately resourced and implemented 	State governments Local government NRM regions bodies Research agencies NGOs Academic institutions BirdLife Australia	\$150,000 pa

2.3	Target removal of weeds significantly compromising habitat values (e.g. invasive perennial grasses) and restore native vegetation	2	<ul style="list-style-type: none"> Priority sites for weed removal have been identified Funding has been secured and treatments applied at all priority sites The condition of all priority sites have improved with supplementary restoration activities Sites are regularly monitored for recolonization of weeds and follow up remediation has occurred 	State governments Local government NRM regions bodies Research agencies NGOs	\$250,000 pa
2.4	Use climate modelling techniques to investigate the potential influence of climate change on breeding and non-breeding habitats	2	<ul style="list-style-type: none"> An improved understanding of the effects of climate change on Painted Honeyeater populations and their habitats can be demonstrated New knowledge has been incorporated into relevant policies and management plans Management plans have been adequately resourced and implemented Consideration has been given to expanding the National Reserve Network to incorporate the future needs of Painted Honeyeater in response to Australia's changing climate 	Australian Government State governments Local government NRM regional bodies Academic institutions NGOs	\$150,000 pa
2.5	Undertake research into new or emerging threats and develop recovery actions, if required	3	<ul style="list-style-type: none"> Research into, nest predation, deliberate destruction of mistletoe, tree decline through pasture improvement activities, and collision with road vehicles, has been supported Recovery actions have been developed for new or emerging threats, if required, and implemented New and emerging threats have been considered in the 5- 	Australian Government State governments Local government NRM regional bodies Academic institutions NGOs	\$75,000 pa

			year statutory review of the recovery plan		
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Strategy 3 – Develop and apply techniques to measure changes in population trajectory in order to measure the success of recovery actions

Action		Priority	Performance Criteria	Responsible Agencies and potential partners	Indicative Cost
3.1	Design and implement a long-term monitoring program for Painted Honeyeater	1	<ul style="list-style-type: none"> A standardised survey technique has been developed that is suitable across the species' range Monitoring has incorporated information on habitat use Monitoring has occurred annually at key locations and at a minimum of every two years at other locations, using a standardised surveying protocol and survey effort 	Recovery Team State governments Research agencies NGOs Academic institutions BirdLife Australia	\$150,000 pa
3.2	Asses national and regional population size and trends	1	<ul style="list-style-type: none"> Population size and trends have been determined in high priority regions and at the national level Population size and trends are reported to the Recovery Team annually A central, freely available, repository for reporting observations has been identified and used to capture data 	Australian Government State governments Recovery Team NGOs Academic institutions BirdLife Australia	\$75,000 pa
3.3	Undertake a Population Viability Analysis	2	<ul style="list-style-type: none"> Where data exists, a Population Viability Analysis has been undertaken and results have been used to inform local, regional and national management actions and priorities 	Academic institutions Research agencies	\$75,000

Strategy 4 - Improve understanding of use at a landscape scale in order to better target protection and restoration measures

Action		Priority	Performance Criteria	Responsible Agencies and potential partners	Indicative Cost
4.1	Accurately identify and map available habitat and assess habitat condition and connectivity	1	<ul style="list-style-type: none"> Habitat used by Painted Honeyeater has been identified, mapped and attributes described Habitat condition and connectivity assessments have been prepared and disseminated to relevant stakeholders Sites with good or very good condition scores are targeted for greater protection Sites with moderate or poor condition scores have been targeted for on-ground action and restoration 	Australian Government State governments Local government NRM regional bodies Recovery Team Academic institutions NGOs BirdLife Australia	\$125,000 pa
4.2	Undertake research on breeding success, survival and causes of mortality across the range of the species	2	<ul style="list-style-type: none"> Knowledge of breeding success, survival at different stages of the life cycle and causes of mortality has improved New information has been generated from multiple regions New information has been generated to better understand the relative impacts of threats and the most successful interventions for mitigating those threats 	State governments Recovery Team Academic institutions NGOs BirdLife Australia	\$125,000 pa
4.3	Undertake research to identify movement between breeding and non-breeding habitats, post-	2	<ul style="list-style-type: none"> Knowledge of movements throughout different stages of the breeding and non-breeding periods and habitat use has improved 	State governments Recovery Team	\$125,000 pa

	breeding dispersal and habitat use		<ul style="list-style-type: none"> New information has been generated for multiple regions 	Academic institutions NGOs BirdLife Australia	
4.4	Undertake diet analysis over multiple spatial and temporal scales	3	<ul style="list-style-type: none"> Knowledge of key foraging species and relative importance has improved New information has been generated from multiple regions 	State governments Recovery Team Academic institutions NGOs BirdLife Australia	\$125,000 pa
4.5	Conduct targeted research into identifying different practical methods for restoring the structure and function of the ground layer in degraded habitat, including soil biota and its functionality	3	<ul style="list-style-type: none"> Knowledge of restoring woodlands and forests, including the structure and function of the ground layer in degraded habitats has improved New information has been generated from multiple regions New information has been incorporated into restoration management plans Management plans have been adequately resourced and implemented 	State governments Recovery Team Academic institutions NGOs BirdLife Australia	\$75,000 pa

Strategy 5 - Engage local communities and stakeholders in Painted Honeyeater conservation

Action		Priority	Performance Criteria	Responsible Agencies and potential partners	Indicative Cost
5.1	Develop and implement a broad strategy to raise awareness and educate the general public about Painted Honeyeater conservation and their habitats	2	<ul style="list-style-type: none"> Popular articles about Painted Honeyeater conservation, including important habitats, threats and recovery actions have been published online and in community newsletters, local bulletins and newspapers Informative displays have been developed to educate the broader community about Painted Honeyeater conservation at key breeding and non-breeding sites Educational resources have been developed that target key user groups and communities where Painted Honeyeater breed Regular workshops have been undertaken to inform the public and raise awareness of threatened woodland birds 	State governments NRM regional bodies Recovery Team NGOs BirdLife Australia	\$50,000 pa
5.2	Develop and implement a targeted strategy to promote the use of citizen science in relation to Painted Honeyeaters	2	<ul style="list-style-type: none"> Popular articles have been published online and in relevant community newsletters and magazines to recruit citizen scientists for training and involvement in Painted Honeyeater and woodland bird conservation 	State governments NRM regional bodies Recovery Team NGOs BirdLife Australia	\$50,000 pa
5.3	Raise awareness among agricultural landholders of the importance of mistletoe as a resource for Painted	2	<ul style="list-style-type: none"> Educational resources have been developed that target landholders where Painted Honeyeater breed Regular workshops have been undertaken to inform of the 	State governments Local government	\$50,000 pa

	Honeyeaters (and other species) and the fact that it is not harmful to healthy trees		importance of mistletoe to Painted Honeyeaters and woodland biodiversity	NRM regional bodies Recovery Team Academic institutions NGOs BirdLife Australia	
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Strategy 6 - Coordinate, review and report on recovery progress

Action		Priority	Performance Criteria	Responsible Agencies and potential partners	Indicative Cost
6.1	Establish a Recovery Team that effectively organises, implements, reviews and reports on recovery outcomes	1	<ul style="list-style-type: none"> A National Painted Honeyeater Recovery Team is established within the first six months of the making of the Recovery Plan The Recovery Team has coordinated, reviewed and reported on the recovery outcomes for the life of this plan 	All	\$30,000 pa
6.2	Approve Recovery Team governance arrangements	1	<ul style="list-style-type: none"> Terms of Reference for the Recovery Team have been approved in accordance with national best practise guidelines The Recovery Team has been registered nationally 	Recovery Team	Core government business
6.3	Submit annual reports on progress against recovery actions	1	<ul style="list-style-type: none"> Recovery Team annual reports have been submitted each year in accordance with the national reporting framework 	Recovery Team	Core government business
6.4	Review the Recovery Plan five years after making	1	<ul style="list-style-type: none"> In consultation with relevant stakeholders, a five review of the recovery plan has been endorsed by the Recovery Team The conservation status of Painted Honeyeater has been reviewed every 5 years in conjunction with the recovery plan review 	Recovery Team	\$10,000
6.5	Facilitate knowledge exchange and awareness between relevant threatened species land managers,	1	<ul style="list-style-type: none"> A communication network between interested stakeholders has been established Meetings between land managers and researchers 	Recovery Team	\$30,000

	researchers and decision makers		has occurred at least biennially to share knowledge and experience of woodland birds and their habitats		
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Duration and cost of the recovery process

It is anticipated that the recovery process will not be achieved prior to the scheduled five-year review of the recovery plan. The cost of implementation of this plan should be incorporated into the core business expenditure of the affected organisations and through additional funds obtained for the explicit purpose of implementing this recovery plan. It is expected that state and Commonwealth agencies will use this plan to prioritise actions to protect the species and enhance their recovery, and that projects will be undertaken according to agency priorities and available resources. All actions are considered important steps towards ensuring the long-term survival of the species. The indicative cost of recovery actions was derived from expert elicitation and public comments received in 2020.

Table 3: Summary of recovery actions and estimated costs in for the first five years of implementation (these estimated costs do not take into account inflation over time).

Action	Cost					
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Strategy 1	\$1,425,000	\$1,425,000	\$1,425,000	\$1,425,000	\$1,425,000	\$7,125,000
Strategy 2	\$625,000	\$625,000	\$625,000	\$625,000	\$625,000	\$3,125,000
Strategy 3	\$225,000	\$225,000	\$225,000	\$225,000	\$300,000	\$1,200,000
Strategy 4	\$575,000	\$575,000	\$575,000	\$575,000	\$575,000	\$2,875,000
Strategy 5	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000
Strategy 6	\$30,000	\$30,000	\$60,000	\$30,000	\$40,000	\$190,000
TOTAL	\$3,030,000	\$3,030,000	\$3,060,000	\$3,030,000	\$3,115,000	\$15,265,000

Effects on other native species and biodiversity benefits

The management of fragmented landscapes with a high concentration of mistletoe is vitally important for the conservation of the Painted Honeyeater, as its breeding success is affected by mistletoe abundance (Watson 2002; Bowen et al. 2009). Conserving mistletoe in remnant vegetation will also benefit a wide range of other species. Although mistletoe is perceived as a pest in agricultural landscapes and remnant vegetation, it plays an important role in helping to maintain the populations of many threatened and declining species as well as increasing overall biodiversity (Watson 2002; Bowen et al. 2009).

The conservation and management of woodland habitats which support species such as the Critically Endangered Regent Honeyeater (*Anthochaera phrygia*) and Swift Parrot (*Lathamus discolor*) may also aid in the conservation of the Painted Honeyeater (Oliver 2000). Similarly, protection of areas relevant for Painted Honeyeater conservation are likely to benefit other threatened native species. The Key Biodiversity Areas triggered by Painted Honeyeaters for instance list a total of 21 other species as Triggers.

Threatened Ecological Communities listed under the EPBC Act that are of importance to the Painted Honeyeater include White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, Grey Box Grassy Woodlands and Derived Native Grasslands of South-eastern Australia and Grassy Eucalypt Woodland of the Victorian Volcanic Plain. There are also a number of Ecological Communities listed at the state level that will benefit from increased efforts to protect and conserve Painted Honeyeater habitat. Many mammals, invertebrates and plants will also receive benefits as a result of measures put in place to protect and rejuvenate Painted Honeyeater habitat.

Social and economic considerations

The major social and economic impacts of this recovery plan will be on those who require approval to remove or modify Painted Honeyeater habitat and are prevented from doing so, or are required to modify their proposal by a consent authority. This may include increased costs due to the assessment processes, requirement to provide offset funding, to secure or rehabilitate habitat, or for other threat mitigation work.

Restrictions on further clearing of Painted Honeyeater habitat may impact some landowners, managers and developers. These restrictions may not significantly impact agricultural industries, however, since many of the more fertile areas have already been cleared and remnant vegetation is generally located on less fertile soils that are relatively less attractive for grazing or cropping.

A large network of community volunteers across eastern Australia actively participate in BirdLife Australia's coordinated surveys for woodland birds. Involvement can provide social benefits with community members and engaged groups having a sense of achievement, inclusion, community spirit and pride whilst gaining enjoyment and appreciation of their surrounding natural environment. The community education components of the program also promote community ownership, provide community support and encourage active involvement in protecting local natural resources.

In addition, there is the potential for financial gains through ecotourism ventures and holiday accommodation operators in areas where Painted Honeyeaters are reliably seen. Such areas are more likely to be in regional areas of New South Wales and Victoria through the summer breeding season. Additional social benefits include encouraging passive recreation, appreciation of natural aesthetic values and increased awareness and appreciation of Indigenous cultural values.

Affected interests

Organisations and individuals likely to be affected by the actions proposed in this plan include government agencies (Commonwealth, state and territory, local), particularly those involved with woodland and forest environments and conservation programs; private landholders; Indigenous land management groups (including ranger programmes); researchers; bird watching groups; conservation groups; wildlife interest groups; camping, 4WD and fishing groups; environmental consulting companies; tourism operators; industry and commercial bodies; and, proponents of agricultural development in the vicinity of important habitat. However, this list should not be considered exhaustive, as there may be other interest groups that may like to be included in the future or need to be considered when specialised tasks are required.

The following table lists some of the interest groups, how they could contribute to the success of the plan and the potential benefits/impacts that may emerge from the Plan's implementation:

Table 4. Affected interests and their contribution to the Recovery Plan

Interest Group	Contribution	Impacts/Benefits
Australian Government	Responsible for development, coordination and evaluation of the plan Responsible for implementation of the plan in Commonwealth areas Subject to available resources, providing financial support for implementation of the plan	Informed decision making regarding the EPBC Act referral and assessment process Greater ability to deliver on domestic and international obligations regarding biodiversity conservation Increased knowledge of the Painted Honeyeater and its habitats – increased exchange of information between decision makers and the community
State and territory government agencies	Contributing to the development of the plan Potential implementation of the plan within jurisdictional boundaries	Greater ability to deliver on state obligations regarding biodiversity conservation Increased knowledge of the Painted Honeyeater and its habitats – increased exchange of information
Local Government	Contributing to the development of the plan and taking the plan into consideration when reviewing planning schemes Potential implementation of on ground activities within jurisdictions	Increased knowledge of the Painted Honeyeater and its habitats – increased exchange of information Enhanced ability to deliver obligations regarding biodiversity conservation Supports local tourism industry
Natural Resource Management (NRM) regional bodies	Integrating the plan into NRM regional plans Opportunity to deliver on-ground activities	Increased awareness of regional importance of important habitat sites. Informing managers of biodiversity values Opportunity to seek funding for conservation projects under biodiversity conservation programs
Land councils and Traditional Owners Including those that have co-management or sole management responsibilities for important habitats.	Contributing to the development of the plan and development and implementation of site management plans – research and monitoring activities – contributing traditional knowledge	Increased knowledge of the Painted Honeyeater and its habitats – increased exchange of information Opportunity to seek funding for conservation projects and achieve ownership of projects Develop research partnerships with scientists and the community Develop traditional burning practices that consider the ecological requirements of Painted Honeyeater

Interest Group	Contribution	Impacts/Benefits
Conservation Groups	Contributing to the implementation and evaluation of the plan, particularly in conducting research and monitoring programs – implementing on ground activities	Opportunity to seek funding for conservation and awareness projects under biodiversity conservation programs Greater coordination of targeted conservation projects Delivering on charitable/not-for-profit goals benefiting the public
Community and Special Interest groups	Contributing to the plan and volunteering for conservation activities – implementing on ground activities Adding to the knowledge of the Painted Honeyeater via contribution to datasets	More Painted Honeyeaters to enjoy Opportunity to participate in conservation projects
Researchers	Contributing to the implementation and evaluation of the plan	Increased exchange of information – opportunity to seek funding for research Opportunity to establish collaborations within Australia and internationally
Recreational users of sites – camping, 4WD, recreational fishers, field and game groups.	Contributing to the development of the plan	Some leisure activities that affect important habitat sites may need to be managed These groups will be one of the main recipients for education and awareness activities that focus on how they may continue their activities and contribute to the conservation of woodland birds at the same time
Landholders	Contributing to the development and implementation of the plan	These groups will be the target of education and awareness activities. Particularly on how site management plans may be implemented by landholders Opportunity to build voluntary incentives into the plan for landholders to comply with recommendations Enhance certainty regarding EPBC referrals
Commercial users of sites or surrounding area – agriculture, mining, farmers (surrounding land use), airports, forestry, renewable energy infrastructure, tourism operators	Contributing to the Plan and implementing measures that minimise the impact of their operations on threatened woodland birds	These groups will also be some of the main recipients for education and awareness activities, although theirs will focus on minimising the impacts of their operations on the threatened woodland birds and the habitats on which they depend Enhance certainty regarding EPBC referrals

Consultation

The *National Recovery Plan for the Painted Honeyeater* has been developed through extensive consultation with a broad range of stakeholders. The consultation process brought together key species experts and conservation managers, from a range of different organizations, to categorize ongoing threats to the Painted Honeyeater, and identify knowledge gaps and potential management options. Consultation included representatives from government agencies, non-government organisations, researchers and local community groups. During the drafting process the Department of Agriculture, Water and the Environment (Cwlth) continued to work closely with key stakeholders.

Notice of the draft plan was made available for public comment for a minimum of three months between xxxx and xxxx. Any comments received that were relevant to the survival of the species were considered by the Threatened Species Scientific Committee as part of its assessment process.

Organisations/persons involved in evaluating the performance of the plan

This plan should be reviewed no later than five years from when it was endorsed and made publicly available. The review will determine the performance of the plan and assess:

- whether the plan continues unchanged, is varied to remove completed actions, or varied to include new conservation priorities
- whether a recovery plan is no longer necessary for the species' as either conservation advice will suffice, or the species' are removed from the threatened species list.

As part of this review, the listing status of the species' will be assessed against the EPBC Act species listing criteria.

The review will be coordinated by the Department of Agriculture, Water and the Environment in association with relevant Australian and state government agencies and key stakeholder groups such as non-governmental organisations, local community groups and scientific research organisations.

Key stakeholders who may be involved in the review of the performance of the National Recovery Plan for the Painted Honeyeater, include organisations likely to be affected by the actions proposed in this plan and are expected to include:

Australian Government

Department of Agriculture, Water and the Environment

State/territory governments

Victoria – Department of Environment, Land, Water and Planning

New South Wales – Department of Planning, Industry and Environment

Queensland – Department of Environment and Science

South Australia – Department for Environment and Water

Northern Territory – Department of Environment and Natural Resources

Australian Capital Territory – Environment, Planning and Sustainable Development Directorate

Natural Resource Management bodies

Local government

Non-government organisations

BirdLife Australia

Local conservation groups

Local communities

Private landholders

Indigenous communities

Industry

Universities and other research organisations

Painted Honeyeater Recovery Team

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