

Flora & Fauna Guarantee Action Statement

#8

This Action Statement was first published in 1992 and remains current. This version has been prepared for web publication. It retains the original text of the action statement, although contact information, the distribution map and the illustration may have been updated.

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Helmeted Honeyeater *Lichenostomus melanops cassidix*



Helmeted Honeyeater
(*Lichenostomus melanops cassidix*)



Distribution in Victoria (DSE 2002)

Description and Distribution

The Helmeted Honeyeater (*Lichenostomus melanops cassidix* Gould 1867) is a songbird with striking black, yellow and olive plumage. It is the largest of the four subspecies of the Yellow-tufted Honeyeater (*L. melanops*): the average total length and weight of mature males is in excess of 200 mm and 32 g. It is very similar to the race *L. m. gippslandicus*, except that in the Helmeted Honeyeater the forehead tuft of feathers is more conspicuous and the transition is abrupt between the colours of the crown, nape and back.

The Helmeted Honeyeater's former range covered the tributaries of the upper Yarra River and Western Port Bay drainages (Backhouse 1987). It is now known only from a small portion of the Yarra River drainage basin, approximately 50 km east of Melbourne in southern Victoria. In 1990-91 there were about 15 breeding pairs occupying three very small sites: two on Cockatoo Creek in the Yellingbo State Nature Reserve, and another on Macclesfield Creek just outside the reserve.

The birds move between the three sites. The three coastal subspecies of the Yellow-tufted Honeyeater are thought to have become geographically and genetically isolated from each other as a result of their sedentary habits. However, geographic isolation and genetic differentiation between *L. m. cassidix* and *L. m. gippslandicus* has yet to be demonstrated conclusively. *L. m. gippslandicus* ranges from near Warburton in Victoria, south and east of the Great Dividing Range to Merrimbula, New South Wales. The third coastal subspecies, *L. m. melanops*, ranges through New South Wales from Narooma to Newcastle. The fourth subspecies is *L. m. meltoni*, which lives west of the Great Dividing Range and ranges from about Rockhampton in Queensland, through New South Wales and Victoria, and just into South Australia (Crome 1975).

The Helmeted Honeyeater depends on the vegetation of streamsides and swamps, where Manna Gum (*Eucalyptus viminalis*), Mountain Swamp Gum (*E. camphora*) and Swamp Gum (*E. ovata*) are the dominant tree species and where a dense shrub layer

provides nest sites. The Helmeted Honeyeater is a specialist forager on vegetation, particularly the foliage and branches of eucalypts. Its diet is a variety of arthropods and sugars; the latter being derived from nectar, manna and honeydew (Wykes 1985).

Helmeted Honeyeater social groups consist of a number of adult pairs that occupy adjacent territories and cooperate in site defence. Most pairs remain together on the same territory for successive years (Smales *et al.* 1990).

Individuals can probably live for at least ten years.

Nesting takes place from July to February, with a peak in November and December; the average clutch size is two.

Nests that fail are often replaced. Adult pairs may successfully fledge young from as many as four nests during a favourable season.

Conservation Status

Current Status

<i>Wildlife Act 1975</i>	Endangered
Baker-Gabb 1990	Endangered

The Helmeted Honeyeater has been listed as a threatened taxon on Schedule 2 of the *Flora and Fauna Guarantee Act 1988*.

Reasons for Conservation Status

About 200 Helmeted Honeyeaters existed in 1963; this number has continued to decrease. The 'Ash Wednesday' wildfires of February 1983 eliminated two separate populations at Cockatoo and Upper Beaconsfield. In January 1991 there were approximately 60 birds surviving in the wild, of which about half were breeding birds. Their range has contracted and they now inhabit only one area of the state, mostly within the boundaries of the 560 ha Yellingbo State Nature Reserve.

The marked decline in numbers of the Helmeted Honeyeater was originally caused by loss of viable habitat as native vegetation was cleared for agriculture. Clearing has probably contributed to the current cumulative threats: psyllid insect infestations of remnant eucalypt; deteriorating health and reduced flowering of important autumn and winter nectar sources such as the Swamp Gum; and the presence of very high numbers of territorial Bell Miners (*Manorina melanophrys*), which compete aggressively with Helmeted Honeyeaters (Smales *et al.* 1990). The very low number of birds means that they are liable to lose genetic variation and become inbred.

Additionally, being confined to one locality means that they are vulnerable to local disasters such as wildfires or disease. The Scientific Advisory Committee has determined that the Helmeted Honeyeater is:

- in a demonstrable state of decline which is likely to result in extinction;
- significantly prone to future threats which are likely to result in extinction; and
- extremely rare in terms of abundance and distribution.

Major Conservation Objective

The major conservation objective is to double the number of breeding adult Helmeted Honeyeaters in the wild in the five years from 1989, the year in which the Recovery Team was formed. This can be achieved through a combination of improving and expanding habitat by 5% per year, introducing captive-bred birds to new sites in the wild, controlling competitors and reducing adult and immature mortality to about 25% per year (Population Viability Analysis, P. Menkhorst pers. comm.). Thereafter, the long-term aim will be to attain a total population of 1000 Helmeted Honeyeaters at five or more widely distributed sites. This will ensure that the subspecies is self-sustaining, despite the foreseeable influences of demographic, environmental and genetic variables and natural catastrophes (Franklin 1980, Shaffer 1981)

Management Issues

Ecological Issues Specific to the Taxon

- Surveys in 1990 revealed several populations of Yellow-tufted Honeyeaters 25 to 40 km north and east of Yellingbo along the Acheron, O'Shannassy, Yarra and Ada River systems (Blackney 1991). From measurements, these birds appear to be *L. m. gippslanicus*, but more work is required to confirm whether or not they are genetically distinct from *L. m. cassidix*. The results of genetic studies will influence the priorities for work at Yellingbo and the choice of future release sites for captive-bred Helmeted Honeyeaters.
- The Yellingbo State Nature Reserve covers about 560 ha with 50 km of boundary. It is long and thin with much cleared private land on either side. Conservation theory predicts that this is an undesirable configuration for a reserve harbouring an endangered taxon because of the high edge-to-area ratio (Wilson & Willis 1975), which allows weed species and vertebrate pests to penetrate and establish rapidly.
- There has been at least one case of clearing of forest on private land adjacent to the reserve, despite this being contrary to the relevant planning scheme. A major honeyeater colony subsequently declined within the reserve near this cleared area. One of the remaining three colonies is on private land.
- There may be insufficient healthy trees and flowering shrubs on the reserve for overwintering birds. During winter, Helmeted Honeyeaters may once have extended their foraging activities into nearby forests that are now mostly cleared farmland.
- Extensive clearing and habitat fragmentation may have favoured the expansion of Bell Miners at the expense of Helmeted Honeyeaters through two or more possible mechanisms. Firstly, fertiliser run-off has increased nitrate levels in eucalypt leaves, rendering them more nutritious and more susceptible to attack by defoliating psyllid insects, which are in turn a food source that Bell Miners actively defend. Secondly, linear habitats may be more easily defended by aggressive Bell Miners, which then find it easier to exclude honeyeaters from an area.

- There is good evidence that dense colonies of Bell Miners can actively exclude Helmeted Honeyeaters from an area. When colonies of Bell Miners have been experimentally removed, adjacent Helmeted Honeyeaters have rapidly occupied these areas and used them for foraging and, in several cases, included them in their nesting territories (Menkhorst & Middleton 1991).
- Isolated wildlife populations in remnant habitat are vulnerable to catastrophic events such as wildfires.

Wider Conservation Implications

Conservation of the Helmeted Honeyeater, one of the State's two faunal emblems, is seen by many as indicating the community's will to retain Victoria's biodiversity. In addition to Helmeted Honeyeaters, the Yellingbo State Nature reserve also contains the only known lowland population of Victoria's other faunal emblem, the endangered Leadbeater's Possum (*Gymnobelideus leadbeateri*). The reserve contains a rare lizard, the Swamp Skink (*Egernia coventryi*) and its native vegetation is of state significance, containing, among other things, one of the most extensive stands of Mountain Swamp Gum left in Victoria. There is no conflict anticipated in successfully co-managing these threatened taxa.

Social and Economic Issues

Pressures to clear more native vegetation on private land near Yellingbo State Nature Reserve are not great. However, the few isolated instances need to be countered through planning controls and positive encouragement and assistance to nearby landowners from schemes such as Land for Wildlife or Tree Victoria.

A management plan is being prepared for the Yellingbo State Nature Reserve in consultation with community groups and adjoining landowners. At present, some people ride horses in the reserve, which can promote the spread of weeds, and some dig the stream banks for live bait. These activities should not be permitted at all in a reserve of such conservation importance; there are ample opportunities to pursue them in the Yellingbo area outside the reserve. The Bell Miner is a widespread and abundant native species in lowland south-eastern Victoria. Culling colonies of this aggressive species at Yellingbo has allowed a rapid expansion of the area occupied by the Helmeted Honeyeater. The culling program has not met with any opposition during discussions with bird clubs, local landowners and the Friends of the Helmeted Honeyeater Incorporated.

The reserve has considerable educational value for schools and community groups in the Shires of Sherbrooke and Lillydale, who have been active in tree planting and other hands-on work in the reserve. The Friends of the Helmeted Honeyeater Incorporated have established a plant nursery with funds from Tree Victoria and have planted many trees and shrubs on the private properties near the reserve.

Management Action

Previous Action

- Concern about the decline of the Helmeted Honeyeater was expressed in the early 1900s in the wake of widespread habitat destruction throughout its range. Since then, over 25 papers have been published, many of them documenting the decline of the subspecies, others providing detailed information on its ecology and behaviour.
- A group called 'Survey Cassidix' was formed in 1952. It carried out searches for the bird over much of eastern Victoria and monitored populations until the mid-1960s.
- In 1965 the Government of Victoria, reacting to public concern, designated 170 ha of crown land near the township of Yellingbo as a 'Site for Public Purposes (Conservation and Wildlife)'. The reserve contained populations of Helmeted Honeyeaters and spread along three creeks.
- Management of the reserve became the responsibility of the Victorian Fisheries and Wildlife Service, and regulations were made in 1967 to give legal backing to its protection.
- In 1971 the Helmeted Honeyeater was declared Victoria's state avifaunal emblem.
- An interim management plan centred on the remaining habitat at Yellingbo. It covered publicity, land purchase, staffing, access, habitat management, fire protection, external influences, and research. With assistance from the Federal Government, land purchase began in 1975. The reserve increased from 170 to 560 ha and a ranger and two support staff were appointed. An advisory committee was formed of government and non-government members.
- Between 1978 and 1987 about 80 000 trees and shrubs were planted on the reserve. Fire protection, weed and pest animal control works are ongoing.
- In 1989, Wildlife Branch, DCE, began a major three-year initiative, costing \$250 000 per year. A recovery team was formed to oversee captive breeding (Healesville Sanctuary); population monitoring, vegetation surveys and the production of a management plan for the reserve (Dandenong Region); genetic studies (La Trobe University); surveys, Bell Miner studies and scientific coordination (Wildlife Branch, DCE); and community education and publicity (DCE, Healesville Sanctuary, and Friends of the Helmeted Honeyeater Inc.).

Recovery Plan

The Helmeted Honeyeater recovery plan was published in 1991.

Intended Management Action

(These actions are already included in Department of Conservation and Environment programs.)

Captive Breeding

Complete the establishment of a captive colony containing 15 pairs of Helmeted Honeyeaters at Healesville Sanctuary by early 1992. In January 1991 there were 10 pairs in captivity. The prime aim is to release healthy honeyeaters into areas of habitat within and away from Yellingbo State Nature Reserve. This colony provides some insurance against the very real possibility of catastrophe, such as a wildfire, eliminating the only known wild population.

Release Protocol

During 1992 develop a protocol for the release of captive-bred Helmeted Honeyeaters at suitable sites where the subspecies formerly occurred. Test the release protocol during 1992-93.

Removal of Competitors

Monitor the response of Helmeted Honeyeaters to the further removal of Bell Miners during 1992 and incorporate the results into the recovery effort.

Revegetation Study and Management Plan

Complete the management plan for the Yellingbo State Nature Reserve and a study of its vegetation and revegetation needs in 1992. This information will also assist in identifying areas away from the reserve where captive-bred birds will be released. Studies of the causes of eucalypt dieback will be completed by 1992.

Genetics Research

Complete studies of the genetics of *L. m. cassidix* and *L. m. gippslandicus* in 1992. These studies will assess the evolutionary potential of the Helmeted Honeyeater and provide data for detecting interbreeding in any areas of contact with other subspecies.

Critical Habitat

Determine the critical habitat of the Helmeted Honeyeater and then secure it through voluntary conservation agreements or planning controls. Tree and shrub clearance controls on private land near Yellingbo State Nature Reserve must be strictly enforced because such vegetation can provide a winter food source for the Helmeted Honeyeater. It also provides a buffer for the reserve and its removal can precipitate the demise of active Helmeted Honeyeater colonies within the reserve. Habitat restoration in and around the reserve will continue. Horse riding and digging of stream banks for fishing bait will not be permitted in the reserve.

Monitoring

Monitor the numbers and breeding success of Helmeted Honeyeaters until the major conservation objective is achieved.

Other Desirable Management Action

- Undertake small mosaic burning in some areas of psyllid infested Swamp Gum outside the Yellingbo State Nature Reserve to see if this will

destroy the infestation and so reduce the area's attraction for Bell Miners.

Legislative Powers Operating

Legislation

- *Wildlife Act 1975*-covers State Nature Reserves, and controls research, management and taking of protected wildlife.
- *Flora and Fauna Guarantee Act 1988*-provides legal powers for the protection of Victoria's native wildlife.
- *Planning and Environment Act 1987*-enables appropriate planning controls to be extended

Licence or Permit Conditions

A permit for live trapping will only be issued by the Director, Flora and Fauna, if the proposed work falls within the framework of the recovery plan for the taxon. Birds collected as eggs, nestlings or fledglings by DCE staff may be transported to Healesville Sanctuary to contribute to a captive colony for the propagation of the taxon and eventual release to the wild. Dead or non-viable birds and eggs may be taken to Healesville Sanctuary for post mortem, and injured birds may be taken there for treatment and convalescence. No other trading nor possession is permitted.

Consultation and Community Participation

Efforts to conserve the Helmeted Honeyeater have brought together DCE and a range of community groups. Among these have been landholders, the Bird Observers Club of Australia, the Royal Australasian Ornithologists Union, the Victorian Ornithological Research Group, the Society for Growing Native Plants, and the Friends of the Helmeted Honeyeater Inc. People from these groups have jointly conducted the previous management actions, and are involved in implementing the recovery plan.

Implementation, Evaluation and Review

The conservation status of the Helmeted Honeyeater and the effectiveness of management tasks in this Action Statement should be revised two years from the date of publication.

Contacts

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Captive Breeding

D. Middleton, Healesville Sanctuary.

Community Participation

The Secretary, Friends of the Helmeted Honeyeater Inc.

Compiler

David Baker-Gabb

Further information

Further information can be obtained from Department of Sustainability and Environment Customer Service Centre on 136 186.

Flora and Fauna Guarantee Action

Statements are available from the Department of Sustainability and Environment website:
<http://www.dse.vic.gov.au>

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