ACTION PLAN No. 15

In accordance with section 21 of the *Nature Conservation Act 1980*, the **Hooded Robin (*Melanodryas cucullata*)** was declared a vulnerable species on 19 May 1997 (formerly Instrument No. 89 of 1997 and currently Instrument No. 192 of 1998). Section 23 of the Act requires the Conservator of Flora and Fauna to prepare an Action Plan in response to each declaration. This is the Action Plan for the:

Hooded Robin
Melanodryas cucullata

Preamble

The *Nature Conservation Act 1980* establishes the ACT Flora and Fauna Committee with responsibilities for assessing the conservation status of the ACT's flora and fauna and the ecological significance of potentially threatening processes. Where the Committee believes that a species or ecological community is threatened with extinction or a process is an ecological threat, it is required to advise the responsible Minister and recommend that a declaration be made accordingly.

Flora and Fauna Committee assessments are made on nature conservation grounds only and are guided by specified criteria as set out in its publication *"Threatened Species and Communities in the ACT* July 1995".

In making its assessment of the Hooded Robin, the Committee concluded that it satisfied the criteria indicated in the adjacent table.

An Action Plan is required in response to each declaration. It must include proposals for the identification, protection and survival of a threatened species or ecological community, or, in the case of a threatening process, proposals to minimise its effect.

This Action Plan was prepared by the Conservator of Flora and Fauna in accordance with the requirements of the Nature Conservation Act, in consultation with the Flora and Fauna Committee and after the statutory period for public comment.

While the legal authority of this Action Plan is confined to the Australian Capital Territory, management considerations are addressed in a regional context.

Criteria Satisfied

2.2 The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by:

- 2.2.1 Current serious decline in population or distribution from evidence based on:
  - 2.2.1.1 Direct observation, including comparison of historical and current records; and
  - 2.2.1.3 Serious decline in quality or quantity of habitat.
- 2.2.5 Continuing decline or serious fragmentation in population, for species with a moderately small current population.

Links with Other Action Plans

Measures proposed in this Action Plan complement those proposed in the Action Plan for Yellow Box/Red Gum Grassy Woodland (Action Plan No. 10) and in the Action Plans for other threatened birds in the ACT (Action Plan Nos. 16, 17, 18, 19, and 20). Action Plans are listed at the end of this document.

Species Description and Ecology

DESCRIPTION

The Hooded Robin, *Melanodryas cucullata* is larger than the more common Australian red-breasted robins, reaching up to 170 mm in length. The adult male is a strikingly marked black and white bird; the bold black hood points down into the white breast (Figure 1). There is a distinct white shoulder and wing bar and its tail is black with prominent white side panels. The female is duller, with light brownish-grey upper parts. Immature birds have mottled plumage and look like shadowy adults (Schodde and Tidemann 1986; Pizzey and Knight 1997).

Figure 1: Male Hooded Robin, *Melanodryas cucullata.*
Scale: Approximately two-thirds actual size.

DISTRIBUTION AND ABUNDANCE

M. cucullata occurs throughout Australia except Cape York Peninsula, Tasmania, wetter coastal areas and the driest deserts. Throughout its range, the species is uncommon to rare, and is usually observed as an isolated pair or sometimes in small family groups.

In Victoria, South Australia and the ACT, *M. cucullata* has been reported as declining (Robinson 1993; Lenz 1995; Graham pers. comm.; Nix pers. comm.). The species was also reported as one of several declining woodland bird species in the 1994 and 1995 ACT State of the Environment Reports (Office of Commissioner for the Environment 1994; 1995).

In the ACT, small groups have been observed in grassy woodlands in the north and in the open areas in valleys in the south (Taylor and Canberra Ornithologists Group (COG) 1992). Graham (1995) surveyed sites at Mulligans Flat, Yalgum (on the Kings Highway between Queanbeyan and Bungendore), Gigerline (four kilometres south-east of Tharwa), Malcolmvale (north of Canberra Airport) and Enchanted Hill (east of Theodore), and estimated there were approximately 40 breeding pairs in the ACT at that time (Taylor and COG 1992; Graham 1993; 1995). Small numbers were also observed in the Murrumbidgee, Naas, Gudgenby and Paddys River valleys during data collection for the ACT Bird Atlas (1986-89) (Taylor and COG 1992) (Figure 2). The current total ACT population of *M. cucullata* is estimated at between 100 and 200 individuals (Graham in Taylor and COG 1992).

M. cucullata has also been recorded in areas surrounding the ACT including at Gunning, Gundaroo, Sutton and south of Boorowa to the north, and Mt Jerrabomberra, Googong Foreshores, Michelago and Anembo to the south.

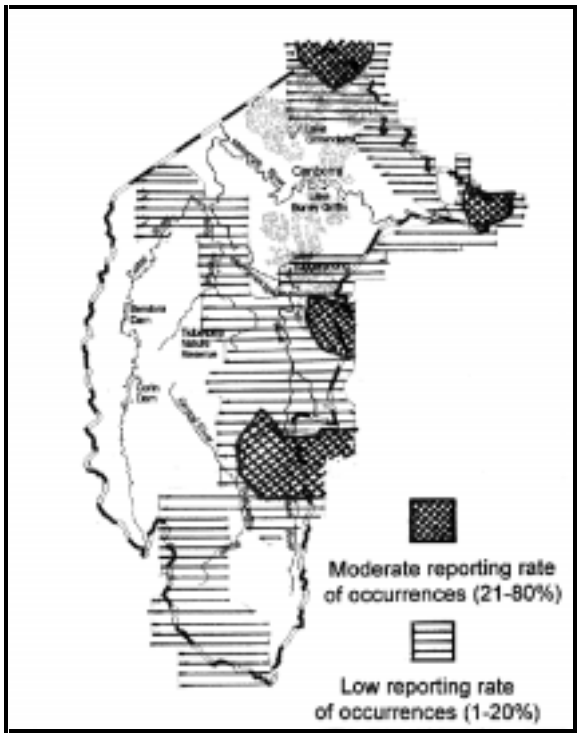

Figure 2: Distribution of *M. cucullata* in the ACT, redrawn from Taylor & COG (1992).

There have been local extinctions of the species at Black Mountain, Black Mountain Peninsula, Duntroon, and Mt Mugga Mugga, all since the mid 1970's (Graham 1990; 1995). Local extinctions have occurred since 1992 at Campbell Park, Mt Ainslie, Mt Majura, and Tuggeranong Homestead, (Lenz 1995; Graham pers. comm.).

HABITAT

M. cucullata occupies drier eucalypt forest, woodland and scrub, grasses and low shrubs, as well as cleared paddocks with regrowth or stumps. It uses stumps, posts or fallen timber from which to locate prey on the ground. *M. cucullata* avoids dense forests and urban areas and is not observed in suburban gardens in Canberra. In the ACT region, it is found in woodland, often with scattered Yellow Box *Eucalyptus melliodora* or Blakely's Red Gum *E. blakelyi*, with long grass and low shrubs, or fallen logs.

BEHAVIOUR AND BIOLOGY

M. cucullata is a quiet, shy and largely sedentary bird. It is frequently observed in pairs or small groups, and often perches on low branches, stumps or fallen timber, sitting hunched and still for a long time. It hunts for invertebrates by 'perch and pounce' in grassy clearings where rocks and fallen timber litter the ground where it darts from one object to the next between feeds (Sullivan 1993). *M. cucullata* uses two types of foraging behaviour, described by Brooker *et al*. (1990); these are sallying (defined as a direct flight towards prey sighted in a section of the substrate, other than air, that is remote from the bird); and the little used hovering (fluttering in the air in one place then dropping to prey). Perching sites often determine where *M. cucullata* forages (Boles 1988). Graham (1990) found that sometimes *M. cucullata* uses stalks of the exotic Great Mullein *Verbascum thapsus* as perches. Fallen trees with horizontal branches and trunks provide juvenile *M. cucullata* with excellent perches and cover (Graham 1990). Graham (1990) found that *M. cucullata* also used perches to observe intruders.

The size of *M. cucullata* territories throughout Australia has been estimated as between 5 to 50 hectares. Small territories are defended in the breeding season (between August and December) and the birds occupy larger home ranges in the non-breeding season (Bell 1984; Blakers *et al.* 1984; Schodde and Tidemann 1986; Fitri 1993; Graham 1995). Established pairs keep to their territory year round, banding into family groups only briefly after breeding (Schodde and Tidemann 1986). Dow (1980), Bell (1984) and Boles (1988) suggested that *M. cucullata* is an opportunistic cooperative breeder. First year males may stay on with the parents, particularly if there is no unoccupied territory available (Bell 1984). Courtney and Marchant (1971) noted that, in the ACT, breeding pairs of *M. cucullata* were attended by an additional male, either fully plumaged or beginning to assume full plumage.

M. cucullata does not flock (Schodde and Tidemann 1986), although Bell (1984) stated that, near Armidale, the species entered woodlands when following mixed-species feeding flocks, usually based on the Buff-rumped Thornbill *Acanthiza reguloides*. In more open woodland or largely cleared areas *M. cucullata* regularly followed flocks based on Yellow-rumped Thornbill *Acanthiza chrysorrhoa* or Brown Treecreeper *Climacteris picumnus*.

The flight of *M. cucullata* is strongly undulating. During breeding, both sexes defend the nest with tumbling displays of injury-feigning. The species builds its nest from bark strips, grass and spiders' web, often placed on stumps, in a cavity in a broken trunk, or horizontal fork or branch 1-6 m above the ground (Pizzey and Knight 1997). It lays a clutch of 2-3.

Conservation Status

M. cucullata is recognised as a threatened species in the following source:

Australian Capital Territory

Vulnerable. - Section 21 of the *Nature Conservation Act 1980,* Instrument No. 192 of 1998 (formerly Instrument No. 89 of 1997).

Threats to Populations in the ACT Region

In common with other threatened bird species the principal threat to *M. cucullata* is loss of its woodland habitat.

Since European settlement in the ACT region, several major environmental changes have occurred that are likely to have seriously disadvantaged the species. These are:

- **clearing of once widespread open forest and woodland**, particularly box woodlands; and
- **urban development** - rapid spread of urban areas puts increasing pressure on remnant woodland patches; leading to:
- **fragmentation, separation and degradation** of remaining viable habitat areas.

Suburban gardens are unsuitable as habitat for the species.

It is possible that only as little as 3-4% of the original extent of Yellow Box/Red Gum Grassy Woodlands remains in something like its natural state (J. Landsberg pers. comm.). The current intact area of the adjoining White Box woodlands in NSW is considered to be less than 0.01% of its original extent (Prober and Thiele 1995).

Although *M. cucullata* tends to prefer woodland associations that contain Yellow Box *Eucalyptus melliodora*, it appears to be the structure of particular woodlands that is important to the species, rather than a specific eucalypt association. The modification of the structure of grassy woodland habitat has contributed to the decline of *M. cucullata*.

Continuing threats to the species' woodland habitat include:

- **clearing of both living and dead trees** (for agricultural expansion, urban development and firewood collection);
- **removal of fallen timber and litter** for fire fuel hazard reduction. This has resulted in loss of foraging habitat and nesting sites;
- **overgrazing by livestock.** This results in further loss of foraging habitat.
- **use of chemicals** such as fertilisers and pesticides;
- **inappropriate fire regimes**;
- **other causes of rural tree dieback** (see Action Plan No 10 for discussion); and
- **predation by introduced foxes, cats and dogs**. This may be a problem because the species feeds and often nests near the ground.

Major Conservation Objectives

The main objective of this Action Plan is to maintain in the long term, viable, wild populations of *M. cucullata* as components of the indigenous biological resources of the ACT.

Implementation of conservation actions outlined in the Action Plan for Yellow Box/Red Gum Grassy Woodland (Action Plan No. 10) will be fundamental to making progress towards achievement of this objective. Other actions which will assist are:

- encouraging research, monitoring and experimental management programs aimed at identifying and managing the causes of population decline;
- negotiating with rural lessees for cooperative management arrangements for major sites of conservation value on leased land. Much of the habitat of the species within the ACT region is found on private land;
- developing cooperative management arrangements between Commonwealth agencies and Environment ACT as sites of conservation significance may occur on Commonwealth owned or occupied land;
- cooperating with surrounding shires in NSW for conservation of road reserves and travelling stock routes; and
- increasing community awareness of the need to protect the species and its habitat.

The paucity of records of the species in high quality grassy woodland remnants to the NW and NE of the ACT highlights the urgency of coordinated regional conservation action. It is a feature of agricultural areas in and surrounding the ACT that many remnants exist as isolated islands surrounded by highly modified grazing or cropping lands.

Conservation Issues and Intended Management Actions

OVERVIEW

The key to conservation of this species in the ACT region lies with the conservation of its principal habitat, open or grassy woodlands, including eucalypt woodland associations containing Yellow Box. *M. cucullata* is one of five bird species which are listed as threatened in the ACT region and which inhabit woodlands, particularly the endangered Yellow Box/Red Gum Grassy Woodland community. Any management prescriptions aimed at enhancing the conservation status of these woodlands will be beneficial to their associated fauna species.

Critical habitat features required by *M. cucullata* include:

- large trees for protective cover;
- areas of grass that support insects and other invertebrates on which the species feeds;
- perching sites within these grassy areas; and
- trees (either standing or fallen) to provide sites for nesting (Graham 1990).

Fitri (1993) found that *M. cucullata* territories also usually have some patches of eucalypt regrowth.

These requirements are met by drier woodlands (Wilson 1969; Boles 1988), for example Yellow Box/Red Gum Grassy Woodland and other woodlands containing Yellow Box. Indeed, the distribution of *M. cucullata* in the ACT is restricted to habitats that contain a mixture of woodland and native grassland away from urban areas (Graham 1990).

The loss of perching sites essential for feeding behaviour may alone be sufficient to make otherwise suitable habitat unsuitable for *M. cucullata* (Graham 1990). Thus the removal of timber for firewood is likely to result in local reduction of *M. cucullata* numbers.

It is possible that habitat degradation such as removal of understorey species and tree cover has exposed *M. cucullata* to higher rates of predation (Fitri 1993). The species requires more vegetation cover in the breeding season, as nests are typically built in saplings and small trees (Fitri 1993). Fitri (1993), in her work near Armidale, suggested that nesting habitat, including small patches of eucalypt regrowth, may be in shorter supply than foraging areas.

MANAGEMENT STRATEGIES

Protection of woodland that is known habitat for the species is essential and will be achieved through the following management strategies:

- **Examination of *M. cucullata* records.** Records from the database of COG, Graham (1995) and other sources need to be examined to determine what habitat types are being used. The locations identified from previous surveys should be resurveyed to determine whether the species is still present.
- **Identification of potential habitat.** Woodland patches, particularly those that contain the key community Yellow Box/Red Gum Grassy Woodland (an endangered ecological community) have been identified in surveys undertaken by Environment ACT. Other woodlands inhabited by *M. cucullata* need to be identified.
- **Protection of areas of identified habitat.** Where feasible, patches of Yellow Box/Red Gum Grassy Woodland and other woodland types known to be inhabited by *M. cucullata* should be protected from disturbance or development. Areas of high conservation value may be considered for incorporation into existing reserves during reviews of planning arrangements foreshadowed in the Action Plan for Yellow Box/Red Gum Grassy Woodland (Action Plan No. 10). Those patches of woodland that are identified as being habitat for *M. cucullata* should receive high priority for conservation management including negotiation of Property Management Agreements (PMAs) with leaseholders.
- **Enhancement of significant woodlands.** Where possible, stands of woodlands that are identified as having the highest conservation values should be managed to conserve these values. Protection of woodlands surrounding or connecting known habitat areas should be encouraged. Regeneration should be enhanced through the careful management of grazing pressures under PMAs. Maintenance of the understorey, including fallen logs, is a conservation priority. Tree planting will provide further enhancement of degraded woodland patches. Care will need to be taken to ensure that the open woodland habitat, particularly the structure favoured by the species, is maintained.

  Connectivity of remnant patches of suitable woodland habitat will be considered to allow for dispersal into new grassy woodland territories.
- **Limitation on removal of live and dead timber.**
  M. cucullata depends on standing living and dead trees for survival. The presence of fallen timber is also crucial. Measures should be taken to ensure the protection of standing living and dead timber, particularly where other land uses, such as rural activities, road and service easements, and public land that is managed for recreation or other intensive uses, may be contemplated. Removal of dead timber (both standing and fallen) for sale as firewood is an issue of particular regional concern and it should not be permitted in known *M. cucullata* habitat. In the ACT, native timber is protected under the *Nature Conservation Act 1980.* The felling or removal of native timber for sale as firewood is subject to authorisation by licence and generally is not permitted, although a rural lessee may fell timber for use on the lease. Education of lessees about the habitat value of timber is important.
- **Prevention of intensive grazing.** Areas identified as habitat for *M. cucullata* should be subject to very low grazing pressure or, if feasible, be kept free from grazing. Appropriate levels of stock grazing close to areas used by *M. cucullata* in box woodland will be encouraged through PMAs.
- **Minimisation of adverse effects of fire on known habitats.** Known *M. cucullata* habitats should be given the same protective measures against unplanned fire as are given to other identified areas of faunal significance.

⇒ Environment ACT will seek to implement these conservation management strategies where it has the responsibility to do so. It will also encourage other agencies, individuals and community groups to do likewise.

MONITORING

Local populations of *M. cucullata* should be monitored, ideally as part of a colour banding study of individuals. COG and other birdwatchers may be able to assist with the identification of colour-banded individuals, and in determining habitat use and territory/home range size of pairs. Known pairs of *M. cucullata* remaining at locations such as Castle Hill and Mt Jerrabomberra should be given a high priority for monitoring.

⇒ Environment ACT will liaise with COG to investigate ways in which a standardised monitoring program involving volunteers may be established.

RESEARCH

Research into the biology of *M. cucullata* is a pre-requisite for more informed conservation management of the species. Priority topics include:

- specific habitat requirements, including distribution of key habitats;
- effects of habitat modification, fragmentation and land use practices such as grazing;
- survival and recruitment rates of the breeding population;
- breeding success, particularly over many years;
- dispersal of young birds (particularly in fragmented environments); and
- nest predators and rates of predation.

⇒ Environment ACT will encourage and, where feasible, support research into the ecology and conservation of *M. cucullata* in the ACT region. Results of this research will be applied as appropriate.

Protection

This Action Plan, implemented in conjunction with the Action Plan for Yellow Box/Red Gum Grassy Woodland, is the main instrument by which continued survival of *M. cucullata* and its grassy woodland habitat can be assured in the ACT.

The Action Plan for Yellow Box/Red Gum Grassy Woodland outlines proposed conservation measures for the protection of this endangered community in the ACT. These measures are fundamental to the conservation of *M. cucullata*, as its known occurrence in the ACT is largely within this ecological community.

MEASURES FOR PROTECTION

There are four principal measures for protecting the habitat of *M. cucullata* in the ACT:

1. **Reservation.** Recognised as providing the primary mechanism for ensuring sites of high conservation value are not converted to a land use incompatible with their natural values.

2. **Memorandum of Understanding (MOU).** Memoranda of Understanding between the ACT Government and landholders, particularly the Commonwealth Government, provide another means by which sites with high conservation value will be managed so as to maintain their conservation value, while enabling compatible land uses to occur.

3. **Property Management Agreement (PMA) for leased rural land.** PMAs are being progressively introduced as rural leases are renewed. They establish an agreed framework for sustainable management of the land. Management standards may be agreed in recognition of particular conservation issues. The PMA process is currently under review to improve flexibility and accountability so that advances in knowledge and changes in management requirements can be more satisfactorily accommodated.

   Rural land in the northern part of the ACT contains areas of remnant woodland habitat that is used by several threatened bird species, including *M. cucullata*. Conservation management of potential *M. cucullata* habitat, predominantly Yellow Box/Red Gum Grassy Woodland, on rural leases, will be promoted to rural lessees in the context of the requirements of the *Nature Conservation Act 1980* and the Action Plan for Yellow Box/Red Gum Grassy Woodland. PMAs are the most suitable mechanism for addressing the conservation requirements of threatened species whose habitat occurs in leased rural land. PMAs for leases which contain woodland identified as habitat for threatened species will be required to provide for their conservation, sustainable management and improvement where appropriate.

4. **Off-reserve conservation on Public Land within the urban fabric.** Urban open space varies in status, tenure, land use and management authority. Where appropriate, the Conservator of Flora and Fauna may give directions under Section 47 of the *Nature Conservation Act 1980* for the protection of flora and timber on the land in question. Management Agreements or MOUs may be developed between the Conservator and an agency if management objectives or land use

activities have potential to place conservation values at risk.

⇒ These protection measures will be applied as appropriate to areas in the ACT identified as *M. cucullata* habitat, including during planning reviews of land use as they are undertaken by Planning and Land Management (Urban Services).

Socio-economic Issues

The main social benefit of conserving the Hooded Robin, *M. cucullata,* is that it addresses community concerns that further loss or extinction of significant ecological communities, together with their component native species, be prevented.

Bird watching is a major national recreational pursuit. Thus conservation of bird communities enhances the lifestyle of ACT residents and provides eco-tourism opportunities in keeping with promoting Canberra as the bush capital.

Rural Leasing Aspects

Some of the woodland areas that are potential habitat for *M. cucullata* are within rural leases. The Rural Policy Taskforce has recently reviewed all aspects of rural leases including the recommendation of appropriate lease terms. Two recommendations of the Taskforce which have been accepted by the Government and will affect this Action Plan are that:

- the lease term for some parts of the ACT will be to the year 2020 with significant areas of rural land being available for 99 year leases; and
- there be no withdrawal clauses over any part of a rural lease unless it has been clearly defined for an imminent public work, such as a road, stormwater or other infrastructure, or where a habitat has been identified as needing special conservation status.

This will mean that the Territory would have to withdraw any area of land having conservation significance at the time of an application for a new lease, or acquire it subsequently under the provisions of the *Land Acquisition Act 1994*.

It is expected that it will be later in 1999 before rural lessees are able to take up a new lease under the proposed new arrangements. In the meantime, Environment ACT will need to identify areas requiring special conservation measures before applications for extended lease terms are received. In the event that large areas of a lease are to be withdrawn for conservation purposes, consideration will be given to the viability of the remainder of the lease.

Legislative Provisions

The following legislation is relevant to conservation of flora and fauna in the ACT:

Nature Conservation Act 1980

The Nature Conservation Act provides a mechanism to encourage the protection of native plants and animals (including fish and invertebrates), the identification of threatened species and communities, and management of Public Land reserved for nature conservation purposes. Specified activities are managed via a licensing system.

Native animals and plants may be declared in recognition of a particular conservation concern and increased controls and penalties apply. Species declared as endangered must be declared as having special protection status, the highest level of statutory protection required.

Other Relevant Provisions

The Nature Conservation Act provides authority for the Conservator to manage Public Land reserved for conservation of the natural environment. Activities that are inconsistent with management objectives for nature conservation are controlled. Special measures for conservation of a species or community of concern can be introduced in a reserved area, including restriction of access to important habitat.

Section 47 of the Act allows the Conservator to give the occupier of land directions for protection or conservation of native plants and animals. This provision is relevant to the management of threats to the conservation requirements of a species or community of concern that occurs on leased land.

Part VIA of the Act provides for the Conservator to enter into a Management Agreement with an agency where the agency's activities have potential to conflict with nature conservation objectives. This provision is relevant to management of conservation threats on unleased land.

The Yellow Box/Red Gum Grassy Woodland, which provides habitat for *M. cucullata*, has been declared as an endangered ecological community (formerly Instrument No. 89 of 1997 and currently Instrument No. 192 of 1998). The Conservator of Flora and Fauna has prepared an Action Plan for its conservation (Action Plan No. 10).

Land (Planning and Environment) Act 1991

The Land (Planning and Environment) Act is the primary authority for land planning and administration. It establishes the Territory Plan, which identifies nature reserves, national parks and wilderness areas within the public land estate.

The Land (Planning and Environment) Act establishes the Heritage Places Register. Places of natural heritage significance are to be identified and conservation requirements specified.

Environmental Assessments and Inquiries may be initiated in relation to land use and development proposals.

Consultation and Community Participation

It is appropriate that the conservation of *M. cucullata* and its associated grassy woodland habitat is promoted through suitable information signs, community liaison and public education. The objective of this promotion is to foster the protection of the species.

⇒ Environment ACT will actively participate in consultations with lessees, Commonwealth land managers, surrounding NSW shires and community organisations such as COG concerning management and use of woodlands which are habitat for *M. cucullata*.

Implementation, Evaluation and Review

RESPONSIBILITY FOR IMPLEMENTATION

Environment ACT (Wildlife Research and Monitoring) will have responsibility for coordinating implementation of this Action Plan subject to government priorities and resources.

EVALUATION

The Action Plan will be reviewed after three years. The review will comprise an assessment of progress using the following performance indicators:

- completion of commitments that can reasonably be expected to be finalised within the review timeframe (e.g. introduction of a statutory protection measure for a species, development of a management plan);
- completion of a stage in a process with a time line that exceeds the review period (e.g. design or commencement of a research program);
- commencement of a particular commitment that is of a continuing nature (e.g. design or commencement of a monitoring program for population abundance); and
- expert assessment of achievement of conservation objectives of the Action Plan.

The review will be reported to the ACT Flora and Fauna Committee. This will provide Environment ACT and the Flora and Fauna Committee an opportunity to assess progress, take account of developments in nature conservation knowledge, policy and administration and review directions and priorities for future conservation action.

The following conservation actions will be given priority attention:

⇒ implementation of management prescriptions to enhance the conservation status of the species' principal habitat, the Yellow Box/Red Gum Grassy Woodland;

⇒ identification of other woodland areas as potential habitat; and

⇒ implementation of measures to ensure protection of standing living and dead timber in identified habitat areas.

Acknowledgments

Material for this Action Plan was prepared by Anthony Overs, and Bruce Lindenmayer, a committed amateur ornithologist and conservationist, has provided additional material.

Bill Graham is a science teacher, who as a committed amateur, organised and managed a COG survey of *M. cucullata* in the ACT in 1991.

Dr Jill Landsberg is a Senior Research Scientist with the CSIRO Division of Wildlife & Ecology.

Professor Henry Nix is a former Director of the Centre for Resource and Environmental Studies, ANU. He has conducted much ornithological research over many decades.

The illustration of the species (Figure 1) was prepared for Environment ACT by Fiona Sivyer.

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List of Action Plans - October 1999

In accordance with Section 23 of the *Nature Conservation Act 1980,* the following Action Plans have been prepared by the Conservator of Flora and Fauna:

No. 1: Natural Temperate Grassland - an endangered ecological community.

No. 2: Striped Legless Lizard (*Delma impar*) - a vulnerable species.

No. 3: Eastern Lined Earless Dragon (*Tympanocryptis lineata pinguicolla*) - an endangered species.

No. 4: A leek orchid (*Prasophyllum petilum*) - an endangered species.

No. 5: A subalpine herb (*Gentiana baeuerlenii*) - an endangered species.

No. 6: Northern Corroboree Frog (*Pseudophryne pengilleyi*) - a vulnerable species.

No. 7: Golden Sun Moth (*Synemon plana*) - an endangered species.

No. 8: Button Wrinklewort (*Rutidosis leptorrhynchoides*) - an endangered species.

No. 9: Small Purple Pea (*Swainsona recta*) - an endangered species.

No. 10: Yellow Box/Red Gum Grassy Woodland - an endangered ecological community.

No. 11: Two-spined Blackfish (*Gadopsis bispinosus*) - a vulnerable species.

No. 12: Trout Cod (*Maccullochella macquariensis*) - an endangered species.

No. 13: Macquarie Perch (*Macquaria australasica*) - an endangered species.

No. 14: Murray River Crayfish (*Euastacus armatus*) - a vulnerable species.

No. 15: Hooded Robin (*Melanodryas cucullata*) - a vulnerable species.

No. 16: Swift Parrot (*Lathamus discolor*) - a vulnerable species.

No. 17: Superb Parrot (*Polytelis swainsonii*) - a vulnerable species.

No. 18: Brown Treecreeper (*Climacteris picumnus*) - a vulnerable species.

No. 19: Painted Honeyeater (*Grantiella picta*) - a vulnerable species.

No. 20: Regent Honeyeater (*Xanthomyza phrygia*) - an endangered species.

No. 21: Perunga Grasshopper (*Perunga ochracea*) - a vulnerable species.

No. 22: Brush-tailed Rock-wallaby (*Petrogale penicillata*) - an endangered species.

No. 23: Smoky Mouse (*Pseudomys fumeus*) - an endangered species.

No. 24: Tuggeranong Lignum (*Muehlenbeckia tuggeranong)* - an endangered species.

FURTHER INFORMATION

Further information on this Action Plan or other threatened species and ecological communities can be obtained from:

Environment ACT
(Wildlife Research and Monitoring)
Phone: (02) 6207 2126
Fax: (02) 6207 2122

Environment ACT Homepage:
http://www.act.gov.au/environ

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