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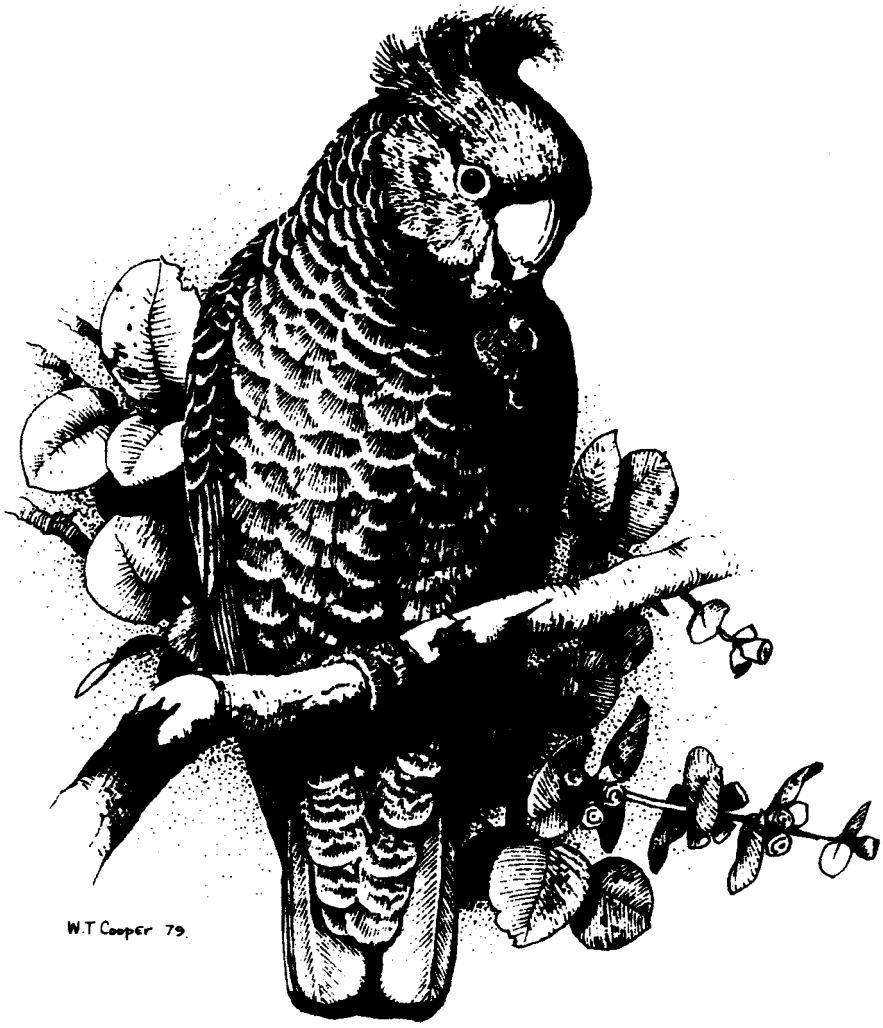

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CANBERRA ORNITHOLOGISTS GROUP WOODLAND BIRD SURVEY: PROGRESS REPORT, 2000-2003

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Prepared originally in April 2004 for COG and Environment ACT, the Report is re-published here in abridged form to make it readily available to the COG membership and the general public. The text is essentially unchanged and the tables have only been reformatted to save space, however, the many maps included with the original report, as well as the detailed survey instructions and sample recording and habitat assessment sheets have been omitted. Limited numbers of the original report are available through COG's Publications Officer or the COG Sales Desk at meetings. Gooroo was officially named Goorooyarroo Nature Reserve on 29 April 2004.

HISTORY OF THE PROJECT

Much of the original grassy woodland in south-eastern Australia has been cleared for cropping and urban development, or substantially modified by pasture improvement and grazing. Yellow Box-Red Gum Grassy Woodland has been declared an endangered ecological community in the ACT. This community supports eight bird and two plant species that are listed as threatened in the ACT, and several other bird species that appear to be declining. Some of the community is in nature reserves and other land tenures that do not permit clearing, and some is on land identified as Broadacre or Rural (ACT Government 2003).

One of the goals of the Draft ACT Lowland Woodland Conservation Strategy (ACT Government 2003) is to 'Conserve in perpetuity, viable, wild populations of all Lowland Woodland flora and fauna species in the ACT and support regional and national efforts towards conservation of these species *(including declared threatened species)'*.

Some of the Key Actions identified in this report relate to threatened and declining woodland birds, and the need for more information on their distribution, abundance, ecology and conservation requirements,

In 1998-99, Environment ACT made the first of a series of grants to COG to carry out monitoring of bird species and numbers at seven lowland grassy woodland sites in the ACT. Similar monitoring had been carried out by COG volunteers from 1995 at Mulligans Flat Nature Reserve, Three new areas were in nature reserves and three on grazing leases, making seven survey sites in total. A working group, including COG members and professionals working in wildlife research, designed the survey. Dr Ross Cunningham of the Statistical Consulting Group, ANU, has provided advice to the project. The survey methods are described below, The project was co-ordinated initially by Anthony Overs, in consultation with a COG steering committee. This role was continued by Alison Rowell from 1999-

2003, and during this period the number of sites being surveyed was increased to eleven.

COG received a further grant which included funding for the analysis, by Dr Ross Cunningham of Statwise Pty Ltd, of data collected up to 2001. This work compared the abundance of birds in reserve and leasehold areas, and included detailed analysis of records for ten woodland bird species (Cunningham 2003).

METHODS

Site selection and installation

Survey sites are referred to by a 3-letter code throughout this report. These site codes are listed in Table 1. Volunteer site co-ordinators marked out sub-sites at sites identified by Environment ACT as threatened Yellow Box *Eucalyptus melliodora* - Blakely's Red Gum *E. blakelyi* Grassy Woodland, and surveys began in September 1998 (Table 1). Surveys are generally carried out within a 9-day period at the end of March, June and September, and the beginning of December each year.

Three of the original sites were on leased land and four were on reserved land. Most sites had nine sub-sites, and more sites were added as the project progressed (Table 1). Sub-sites were selected on a subjective assessment of woodland quality, with three sub-sites each of low, medium and high quality woodland per site. Later, a habitat assessment protocol was developed to measure the complexity of the sub-sites more accurately. This was necessary because the structure/complexity of the sub-sites was not comparable between sites, with a 'low structure' sub-site in some reserves being more like the 'medium structure' on a grazing lease.

Sub-sites were planned to be 200-300 metres apart, to separate sub-site counts and to allow two observers to complete the survey on foot within 2-3 hours. Many sub-sites are further separated than this due to patchiness of the woodland, and most sites are surveyed by one observer only. This has meant that some surveys take longer than 3 hours.

Sub-sites are of 50 metres radius (ca, 0.8 hectares). The centre point has often been marked with a star picket (wooden post at MUL), and its location has been recorded with a GPS unit. Some sites have flagging tape markers 50 metres from the centre point, to assist observers.

A standard set of reference photographs has been taken for each sub-site. These are taken from the centre of the plot, with a 50 mm lens focussed at 50 metres. They are taken facing north (0°), 120° and 240°. This is another way to track habitat changes at sub-sites, and a second series of photographs has been taken for some sites.

Bird survey methods

Surveys are carried out in the morning, following a standardised protocol, with a 10-minute observation period at each sub-site. Numbers of each species seen and heard within, and outside, the sub-sites are recorded on standardised data sheets. After each survey, the data sheets are sent to the fieldwork co-ordinator for checking, then entered in a dedicated Access database by volunteers.

Table 1: Woodland Survey Site details

Site	Land tenure; first survey; co-ordinator & Comments
Campbell Park (CAM)	Nature Reserve and Defence Land; first surveyed Jun 2003; coordinator Michael Lenz. South-eastern part of Mt Ainslie-Mt Majura Nature Reserve, footslopes above Majura Valley.
Castle Hill (CAS)	Rural lease; first surveyed Sep 1998, co-ordinator David McDonald. Grazed by sheep. Extra surveys done Feb, Apr, Oct 2000.
Gooroo (GOO)	Rural lease, became Nature Reserve in early 2004; first surveyed Sep 1998; co-ordinator Nicki Taws. Pasture improvement at some sites.
Gooroo South (GOS)	Rural leases, became Nature Reserve in early 2004; first surveyed Apr 2004; co-ordinators Jenny Bounds, Steve Holliday. Overgrazed in places, especially the southern part, and drought affected when it became reserve. Problem weed areas, eg serrated tussock, thistle (J Bounds pers. comm.).
Hall/Gold Ck (HAL)	Rural lease; first surveyed Jun 2000; co-ordinator Nicki Taws (Malcolm Fyfe to Jun 2003, Alison Rowell Sep 2003-Mar 2004). Lightly grazed.
Lambrigg (LAM)	Rural lease; first surveyed Dec 2001; co-ordinator Nicki Taws. Sub-sites 1, 2, and 9 withdrawn after Dec 2001 survey. New sub-sites 10-12 first surveyed in Mar 2003? All sub-sites (3-8, 10-12) burnt (moderate to hot burn) in Jan 2003. All sub-sites withdrawn after Mar 2003 survey.
Majura Field Firing Range (MJF)	Defence land; first surveyed Aug 1998?; co-ordinator Paul Fennell. Last surveyed Dec 2000, due to problems with access. 10 sub-sites, not all woodland.
Mt Majura (MAJ)	Nature reserve and buffer between houses and reserve; first surveyed Sep 1998; co-ordinator Isobel Crawford (Anthony Overs to Dec 2001). North-western end of Mt Ainslie-Mt Majura Reserve.
Mulligans Flat (MUL)	Nature reserve; first surveyed 1996; co-ordinator Jenny Bounds. Survey methodology changed in 1998 to match COG Woodland Bird Survey. 24 sub-sites, not all woodland.
Newline Quarry (NLN)	Rural lease; first surveyed Jul 2000; co-ordinator Jenny Bounds. Grazed by sheep, cattle. Some pasture improvement.
Red Hill (RED)	Nature reserve; first surveyed Sep 1998; co-ordinator Harvey Perkins. Eight sub-sites burnt or part-burnt, light to moderate burns, Dec 2001. Extra post-fire habitat surveys done in Mar, Jun 2002.
Symonston (SYM)	Rural lease, and hills/ridge/buffer; first surveyed Sep 1998; co-ordinator Geoffrey Dabb. Sub-sites 1-9 grazed. Sub-sites 7-9 surveyed first year only, replaced by 10-12 (East O'Malley area) from Sep 2000. Sub-sites 10-12 soon to be lost to housing.
Tuggeranong Hill (TUG)	Nature reserve, hills/ridge/buffer; first surveyed Sep 2000; co-ordinator Julie McGuiness. Preliminary bird survey in Aug 2000. Sub-sites 8 and 9, cleared for housing between Jun and Sep 2001 surveys, not replaced.

Some surveys ceased or were reduced when leaseholders withdrew permission to carry out surveys at some or all of the sub-sites (see Table 1). Withdrawal of permission to visit sites was for reasons unrelated to any actions of the site co-ordinators. Two sub-sites at TUG were lost to housing expansion. At SYM, three sub-sites were discontinued because they were not considered to be threatened woodland community, and three are on land sold in 2003 for housing (East O'Malley). MJF surveys ceased temporarily when new managers at the Field Firing Range raised concerns about safety issues, and could no longer accommodate weekend surveys.

Regular surveys had been carried out at 24 sub-sites at MUL since 1995. These sites include a range of habitat types including Yellow Box/Red Gum. Survey methods at MUL were changed in 1998, to make the data comparable with the COG Woodland Bird Survey.

The period over which each quarterly survey is to be carried out has varied, but in 2003 it was standardised as a 9-day period (including two weekends). Some flexibility (one week either side) is allowed where site co-ordinators cannot do the surveys within this window.

After considerable discussion between the sub-committee and site co-ordinators, the definition of the area outside the sub-site to be surveyed was altered from June 2003, The original method required birds to be counted if they were detected outside the sub-site but within the same habitat, It was felt that this instruction was imprecise and difficult to carry out, and that it was being interpreted in different ways, leading to inconsistencies in data collection. From the June 2003 survey, birds outside the sub-site were only counted if they were in woodland and between 50 and 100 metres from the centre point of the sub-site.

Tree health

In September 2000, site co-ordinators assessed tree health on their sub-sites. An earlier attempt to assess dieback by estimating percentage foliage cover was not successful, due to variations among observers in using the method. In the second tree health survey observers were asked to assess the percentage of trees that fell into each of four stages of dieback, based on the work of Heatwole and Lowman (1986). Some useful point data were collected, but some observers felt that the method needed refining to adequately describe the situation on their sites. The main result was to confirm that tree health tended to correlate negatively with the proportion of *E. blakelyi* on the sub-site. Simplified data on tree health was later recorded in an overall habitat assessment for each sub-site,

Habitat assessment

A data sheet was developed for recording structural complexity. Site co-ordinators were asked to fill out a qualitative form for each sub-site. They were also provided with a quantitative form that the qualitative version was derived from. Sites were assessed at least twice in different seasons, and Alison Rowell did one of the assessments for most sites. MJF sites were not assessed, as access was not permitted at the time of the habitat surveys. RED and LAM were re-assessed after the December 2001 and January 2003 fires.

The scoring of habitat features was designed so that a low total reflected a structurally simple or uniform habitat, and a high total represented complex and varied habitat. Where any one feature dominated or was lacking, such as very dense/very sparse tall shrub layer, the score was reduced to reflect the reduction of habitat diversity. Thus sites with similar total scores may be very different structurally, and components of the score are more important than the total. Most analysis on associations between habitat and distribution of particular bird species should be done using habitat components (e,g, structure of mid-layer) rather than total scores,

RESULTS

Overview

In 1999 seven sites (79 sub-sites) were being surveyed, and by the end of 2003, 11 sites (110 sub-sites) were being surveyed. No surveys were missed during this period, except where access to the site was denied by the land owner/manager (MJF, LAM), or where sub-sites had been destroyed (TUG).

About 12,000 records were entered into the Woodland Survey database between 2000 and 2002. This information, coupled with earlier records, is a good baseline for detecting trends in woodland bird populations, and analysing the effects of bushfires, drought, habitat fragmentation and degradation.

Threatened species (2000-2002)

There were no records for the Regent Honey eater *Xanthomyza phrygia* or Superb Parrot *Polytelis swainsonii* during the 2000-2002 woodland surveys. A Painted Honeyeater *Grantiella picta* was heard outside sub-sites during the summer 2002 survey.

There were a few records for the other threatened species. Brown Treecreepers *Climacteris picumnus* were seen at four sites. Three were grazing leases, and there was only one record of the species in a reserve (MAJ, 2002). Hooded Robins *Melanodryas cucullata* were seen at six sites, all large woodland areas leased for grazing. Varied Sittella *Daphoenositta chrysoptera* and White-winged Triller *Lalage sueurii* were both recorded at seven sites. These records are summarised in Table 2.

Other species (2000-2002)

Annotated records for 17 other species are in Table 3. Issues for further investigation can be identified by combining the count and habitat data, as demonstrated in the following examples,

Mistletoebirds *Dicaeum hirundinaceum* are absent from RED and rare at CAS, but widespread at other sites. Mistletoes were only recorded at one RED sub-site (1-5 clumps, later lost in the 2001 fire). The Red Hill area suffered an intense bushfire in January 1952. Mistletoes would have been lost at that time, but it is interesting that they are still absent 50 years later, when they are present in the adjacent SYM woodlands, The Mistletoebird records do not correspond exactly with the distribution of mistletoe. There is only one Mistletoebird record from CAS, even though the plant is present at all sub-sites, with 6-20 clumps at most sub-sites.

Speckled Warblers *Chthonicola sagittata* were present at all sites. They were most common at MAJ and RED, which are both reserves. Gardner (1997) recorded 23 Speckled Warblers in a transect survey of Red Hill Reserve, probably representing at least 10 breeding groups. In 2000-2001, Speckled Warblers were recorded at five of the nine RED sub-sites, In December 2001, eight of these sub-sites were burnt. Five were burnt lightly (tree canopy not much affected), and three received a medium-intensity burn (understorey and canopy burnt, but trees survived). In the year following the fires, Speckled Warblers were recorded only from the three sub-sites that had received the more intense fires. The habitat assessments showed that these sub-sites had reduced shrub layers and eucalypt regeneration two and six months after the fire,

Table 2.
Summary of records of threatened species (within sub-sites during surveys, 2000-2002)

Species (status in ACT)	Site/sub-site	records in subsites			Comments
		2000	2001	2002	
Brown Treecreeper (vulnerable)	CAS/1,2,9	7	1	1	Not recorded in large northern woodlands (GOO, MUL, HAL) or sites close to suburbs (TUG, RED). 1 breeding record, Dec 2001 NLN.
	LAM/3,4,5,7		2	3	
	MAJ/6	-	-	1	
	NLN/1,3		1	3	
Hooded Robin (vulnerable)	CAS/2	-	1	-	In large woodland areas, not close to suburbs. None recorded in reserves, no breeding records. Found in sub-sites with varying structure, but most with medium habitat score (10-14).
	GO0/1,2,3,4,8	2	1	3	
	HAL/5	-	-	1	
	LAM/5,8		2	2	
	MJF/3	1			
	NLN/1	-	-	1	
Painted Honeyeater (vulnerable)	-	-	-	-	Heard at MUL, Nov 2002.
Varied Sittella (vulnerable)	GOO/2,8	1	1	-	Widespread but uncommonly recorded.
	HAL/4,6,9	1	3	-	
	MAJ/4	-	-	1	
	MUL/6,12,17	1	1	1	
	NLN/1,8	1	-	1	
	SYM/5,10,11	3	1	-	
	TUG/2,3,4,6	1	2	1	
White-winged Triller (vulnerable)	GOO/7	-	1	1	Al1 records in summer, more in 2001.
	HAL/3,4	-	1	1	
	LAM/2		1	-	
	MJF/1,3	2			
	MUL/8	-	-	1	
	NLN/1,3	-	2	-	
	TUG/2	-	1	-	

Table 3.
Summary of records of selected species (within sub-sites during surveys, 2000-2002)

Species (Status in ACT)	**Site/sub-site**	**records in sub-sites**			
		2000	**2001**	**2002**	**Comments**
Yellow-tailed Black-Cockatoo	MAJ/6 (flying over)	-	-	I	Lost feeding, roosting and nesting habitat in **Jan** 2003 fires (pine and native forests). Post-fire records will be useful for showing survival/dispersal.
Speckled Warbler	CAS/4,7 G00/2,3 HAL/3 LAM/7 MAJ/1,2,3,4,5 MUL/2,8,20 NLN/2,5 RED/2,3,4,5,6 SYM/4,5,10 TUG/8	3 - - - 5 3 - 3 3 1	 2 1 - 5 - - 4 6 -	 2 - 3 - 1 4 - -	At all sites, but not many sub-sites (outside survey sites at MJF). Contrast 1 is absent from some sites but widespread within others. Habitat scores medium-high (mostly 11-17). One breeding record, Mar 2002 RED.
Buff-rumped Thornhill	CAS/3,4,5,6 G00/1,2,3,4,5,8,9 HAL/1,2,3,4,5,6,7,8,9 LAM/8 MAJ/1,2,3,4,5,9 MJF/1,3,4,6,9,10 MUL/1,2,5,6,7,8,9,10,11,12, 13,17,18,19,20,21,22,23 NLN/2,5,9 RED/1,2,3,4,5,6,8 SYM/2,3,4,5,6,10,11 TUG/1,4,5,6,8,9	4 1I 7 - 10 12 23 2 8 3 5	1 5 8 0 9 25 2 9 6 7	1 10 10 1 5 30 1 7 2 2	**All** sites, but not all sub-sites. Uncommon at NLN, the most open site. Sub-sites with this species but without Yellow-rumped Thornhill are mostly medium to dense woodland, with moderate eucalypt regeneration and a moderate shrub layer.
Yellow-rumped Thornhil1	CAS/3,4,7 G00/3,4,5,8,9 HAL/2,3,4,5,6,7,9 LAM/2,3,8 MAJ/1,2,4,5,9 MJF/3,4 MUL/I,2,4,6,7,8,13,16,20, 21, 22,24 NLN/3,4,5,7,9 RED/3,5,8,9 SYM/2,3,5,10,11 TUG/1,2,3,4,5,6,7,9	4 1 4 3 2 7 3 2 3 11	2 2 7 1 2 9 2 2 6 7	1 5 7 2 0 4 4 - 2 4	All sites, half as many records as for Buff-rumped Thornbill. Sub-sites with this species but without Buff-rumped Thornbil1 are mostly sparse to medium woodland, with sparse eucalypt regeneration and no or sparse shrubs.
Southern Whiteface	HAL/3 MJF/3 MUL/5 NLN/2	- I - -	1 - 1 -	- - - 2	Rarely seen. No records near suburbs.

Table 3 (continued)

Species	Site/sub-site	2000	2001	2002	Comments
Noisy Miner	CAS/2	-	-	1	Also at HAL (outside sub-sites). Density of woodland varies. Eucalypt regeneration and shrubs mostly none/sparse, ground layer mostly mixed/exotic, habitat score low/medium. Reflects clearing and/or grazing (by kangaroos and rabbits at MAJ).
	G00/5,6,7,8	5	11	8	
	MAJ/1,2,4,5,6,7,8,9	15	16	5	
	MIF/1,2,7,8	8			
	MUL/2,6,9,13,14,15,16,24	13	13	11	
	NLN/6,7,8,9	6	11	12	
	RED/2,5,6,8	-	1	3	
	SYM/4,10,11,12	2	10	4	
Jacky Winter	G00/8	1	-	-	Sub-sites in mid-range of habitat complexity: sparse to medium density *E mell* woodland, little or no regeneration or shrubs
	LAM/2	-	1	-	
	NLN/1	-	-	1	
	TUG/2	-	1	-	
Scarlet Robin	CAS/1,8	1	1	-	Northern sites predominate? HAL, MAJ, MUL. Need to examine habitat characteristics.
	G00/2,3	3	2	1	
	HAL/1,2,3,4,5,6,8,9	1	2	6	
	MAJ/1,2,4,5	5	3	3	
	MJF/4,5,6,10	3	-	-	
	MUL/1,2,3,5,6,7,8,11,12,17, 18,19,20,21,22	11	12	13	
	NLN/2,3	2	-	-	
	RED/3,6	-	-	2	
	SYM/5,6	2	1	-	
Flame Robin	HAL/2	-	-	1	
`watching brief'	TUG/6	-	1	-	
Crested Shrike-tit `watching brief'	LAM/3,4		1	2	
	NLN/3	1	-	1	
Grey Shrike-thrush	CAS/1,2,5,9	2	1	3	Many more heard off-site in all these areas. Cal1 is loud and penetrating.
	600/7	-	-	1	
	HAL/1,2,3,6,7,8,9	3	7	3	
	LAM/3,4,5,6,7	-	1	7	
	MAJ/1,3,4,5	3	6	-	
	MUL/3,6,7,12,15,17,18,20,21	3	4	4	
			3	-	
	NLN/1,9	-	-	2	
	RED/7,8	1	1	-	
	SYMJ1,2	-	-	1	
	TUG/6				

Table 3 (continued)

Species	Site/sub-site	2000	2001	2002	Comments
Dusky	CAS/1,2,9	6	1	-	One breeding record, MJF,
Woodswallow	GOO/7	-	2	1	Feb 2000. Widespread, but
`watching brief	HAL/3	-	-	1	not common, in variety of
	LAM/3,4,5,6,7,8,9	2	5	7	woodland structures and
	MJF/1	1	-	-	tenures. More near
	MUL/14				
	NLN /8	-	-	1	Murrumbidgee and in
	RED/1	-	_	1	2002 (drought?).
	SYM/1,10,11	-	1	2	
	TUG/2	1	-	-	
Grey	CAS/9	2	-	-	Many more heard off-site
Butcherbird	GOO/7,8	2	-	I	in all these survey areas,
	HAL/2,8,9	-	2	3	and most others. Call is
	MAJ/3,4,5,8,9	2	4	-	loud and penetrating.
	MUL/8,9,10,13,14,15,16	3	5	5	
	NLN/7	-	1	1	
	RED/1	-	-	1	
Double-barred	NLN/4,5	-	1	1	Records from al1 seasons
Finch	SYlW2,4,5,6,10	1	5	-	but few sites.
Diamond	GOO/8	1	1	-	Heard outside survey sites
Firetail	HAL/6	1	-	-	at NLN. None in reserves
`watching brief	LAM/3,4,5,6,7,8		4	5	or near suburbs. No breeding records.
Mistletoebird	CAS/3	I	-	-	No records for RED, one
	G00/1,2,3,5,7,8,9	5	5	6	record from CAS. Some
	HAL/1,6	1	-	2	sub-sites only at MUL.
	LAMJ3.5.6.7.8	-	1	3	
	MAJ/1,2,3,4,5,8,9	5	9	1	
	MJF/1,2,3,4,9	9	-	-	
	MUL/6,7, 1 6,18,20,22,23	2	3	4	
	NLN/1,2,3,4,5,8,9	8	2	3	
	SYM/5	-	2	I	
	TUG/2,3,5,6,7,9	5	3	3	
Rufous	CAS/5	1	-	-	December surveys only.
Songlark	HAL/3,4	2	-	-	Found in medium density
	LAM/8		1	-	woodland, with sparse (-
	NLN/2	-	-	1	moderate) regeneration
	TUG/2	-	1	-	and shrub layers sparse or absent.

Habitat assessment

Habitat assessments have been carried out at least twice for all sites except MJF, Most of the data have been entered in an Excel spreadsheet, Data have been entered preserving all the information collected by the site co-ordinators, and the spreadsheet will need some modifications before it can be used for electronic analysis, When it is able to be linked with the bird count data, the habitat database will be a valuable tool for studying the habitat preferences of particular species in the ACT, and for tracking changes in habitat following management or environmental changes.

Sub-sites with the lowest habitat complexity scores (<10) were mostly open woodland with very little eucalypt regeneration or shrub growth, and mixed or exotic ground layer, often as a result of grazing (e,g. G005, HAL5, LAM1, NLN7). The sub-sites with the highest scores (>15) were mostly medium density woodland with shrub and sapling layers, native ground layer, fallen timber, hollows, mistletoes etc. These sub-sites were mostly in reserves (e.g. RED3, TUG6) or on lightly grazed leases (e,g. CAS3, LAM7). Sub-sites with middle range scores (10-15) had a variety of different structures.

Post-fire habitat reassessments at RED and LAM generally gave lower scores, due to loss of mature canopy, eucalypt regeneration, shrub layers, hollows and mistletoes. At LAM where the fires were most intense, large trees were lost.

There appears to be a correlation between mistletoe numbers and the dominant eucalypt on the site. Of the ten sub-sites with more than 21 mistletoes, eight had *E. melliodora* as Tree Species #1 (i.e. tree with greatest % cover). Of 31 sub-sites with no mistletoes, only 15 had *E melliodora* as Tree Species #1. This is not unexpected, as the common mistletoe of local woodlands is the Box Mistletoe *Amyema miquelii*, which is usually parasitic on *E. melliodora* and *E. polyanthemos.* Burnt sub-sites have been excluded from this, calculation, as canopy scorch kills mistletoes.

Sample habitat descriptions
(2000-2002 data)

The habitat in which a species was most commonly recorded can be described from the habitat structure spreadsheet (examples below and Tables 2 and 3). This does not take into account the wider context, such as woodland patch size and connecting corridors.

Brown Treecreeper occurred in sparse to medium density woodland, mostly threatened community. Eucalypt regeneration was mostly sparse, and the shrub layers absent or sparse. Log/branch/stump cover was medium (1-10%) at seven of the ten sub-sites where they occurred, which is higher than at most sub-sites surveyed.

White-winged Triller was recorded at ten sub-sites, All were medium density woodland with sparse to moderate eucalypt regeneration, and few or no shrubs. The ground layer was mostly exotic or mixed native/exotic, and habitat scores were medium (9-14).

Varied Sittella records were almost all from medium to dense woodland or open forest sub-sites. The sites mostly had

moderate eucalypt regeneration and few shrubs, with medium log/branch cover (1-10%),

Hooded Robin: the following comments are based on ten sub-sites only. More habitat data is needed for this species. Hooded Robins were found in large grazed woodland areas, The density of the woodland varied greatly, from scattered trees to dense woodland, *Eucalyptus melliodora* was present at all sub-sites, with *E. blakelyi* at eight and *E. macrorhyncha* and *E. polyanthemos* at one each. Eucalypt regeneration was sparse to moderate. Nine of the sub-sites contained no shrubs 2-6 metres tall and at the other these were sparse (African Boxthorns), which is less than average for all sub-sites. This may reflect the history of grazing. Habitat complexity scores ranged from low to high (9-17), with most in the mid-range.

Diamond Firetail *Stagonopleura guttata* was only recorded at eight sub-sites (six at LAM), and more habitat data is needed, All were in large grazed sparse to medium woodlands. Eucalypt regeneration was mostly sparse and there was no tall shrub layer, but the lower layers were native and complex, with small shrubs, sub-shrubs and tussock grasses. Seven of the eight sites had medium (1-10%) log/branch cover, which is more than the average for all sub-sites. Hollow numbers were also higher than average, suggesting mature trees were common. The habitat scores were medium to high (13-17), reflecting the habitat complexity, but the data may be skewed by coming mainly from one site.

Jacky Winter *Microeca fascinans* was mainly found in medium density woodland dominated by *Eucalyptus melliodora*, with little or no eucalypt regeneration and few shrubs.

Noisy Miner *Manorina melanocephala:* at sub-sites where this species was frequently recorded, density of the woodland varied. Eucalypt regeneration was mostly none or sparse, shrubs mostly sparse or absent, ground layer mostly mixed/exotic, and habitat score was low to medium. This reflects clearing and/or grazing (by kangaroos and rabbits at MAJ).

Buff-rumped Thornbill *Acanthiza reguloides:* sub-sites with this species (but without Yellow-rumped Thornbill) are mostly medium to dense woodland, with moderate eucalypt regeneration and a moderate shrub layer. It is uncommon at NLN, the most open site.

Yellow-rumped Thornbill *Acanthiza chrysorrhoa:* sub-sites with this species (but without Buff-rumped Thornbill) are mostly sparse to medium woodland, with sparse eucalypt regeneration and shrubs absent or sparse. These sub-sites have a lower average habitat complexity score (11) than those with Buff-rumped Thornbills only (13).

Rufous Songlark *Cincloramphus mathewsi:* found in medium density woodland, mostly on large sites leased for grazing. Eucalypt regeneration is sparse (to moderate) and shrub layers are sparse or absent. Habitat complexity scores for these sub-sites are low to medium (9-14).

Crested Shrike-tit *Falcunculus frontatus* and Flame Robin *Petroica phoenicea* were recorded at three and two sub-sites only, so no generalisations about habitat can be made, Dusky Woodswallow *Artamus cyanopterus* and Speckled Warbler were found at a larger number of sub-sites (20 and 25), The habitat data for these species appears complex, and extracting it manually was beyond the scope of this report.

DISCUSSION

Value and shortcomings of the data

The major value of the COG Woodland Bird Survey is its consistency in collecting a large amount of data which can be analysed statistically, This will assist in identifying and understanding changes in the abundance and distribution of woodland birds in the ACT. The droughts and extensive bushfires of the last few years have no doubt altered the frequency and locality of non-systematic bird observations sent to the general COG database, due to changes in the bird-watching habits of the observers, While these more casual observations can be valuable, they are not consistent or complete enough to detect more subtle trends in bird numbers or distribution. The volume of data collected in the COG Woodland Bird Survey will also smooth out variation caused by differences in observer skill, weather, time of day, seasonal conditions etc.

The time of day, month, short survey period and small area of each sub-site means the methodology is unsuitable for collecting comprehensive breeding data, which needs patient and often mobile observation. The number of breeding observations in this survey is accordingly small. However, such data can be collected in other ways, and the presence of woodland birds in spring and summer implies the potential for breeding.

The statistical assessment of the 1995-2002 Woodland Bird Survey data by Ross Cunningham (2003) highlighted the potential value of the data, and found some difficulties with its analysis. One difficulty was caused by 'gaps' in the data set, as sites were progressively added to the survey or lost from it. This highlights the importance of the continuity of survey, over time and at established locations.

For the species analysed, Cunningham did not find that abundance data provided more information than the presence/absence data. The co-ordinating committee decided in May 2003 to continue to collect abundance data, as its collection is not onerous and it may be of use in the analysis of other species or for a longer data series. Abundance data is collected in other COG projects, and continuing to collect it retains the potential to integrate data from different projects, which may be important in studying uncommon or declining species.

Impacts of drought, fire, habitat degradation and fragmentation

The data which were collected up to 2002 will be a valuable resource in analysing the long-term effects of drought and bushfire on woodland birds and their habitats, Few of the sites being surveyed were burnt, but many are close

to burnt areas, Populations of species that range over long distances may be affected by fragmentation of their habitat by fire or other means. The change and succession in habitat structure during recovery from fire will favour different species at different times, and more sedentary species may be slow to recolonise a large burnt area.

Large tracts of open forest were lost in these fires, but less woodland was burnt, Hollows in dead standing trees may now be more numerous, but hollows in live trees will not be replaced for many years. Birds such as Crimson Rosellas *Platycercus elegans,* which nest in forest and woodland, may seek more nest hollows in woodland, Species which nest in more open country (Eastern Rosellas *Platycercus eximius,* Red-rumped Parrots *Psephotus haematonotus)* may come into direct competition with them.

Yellow-tailed Black-Cockatoos *Calyptorhynchus funereus* used pine forests for feeding and roosting. Many of their large breeding hollows in native forests have also been lost. These losses may affect the local population severely. Post January 2003 Woodland Survey records will probably show dispersal of the surviving birds, and later records may show changes in numbers and distribution.

The Lambrigg sub-sites were surveyed for less than two years before they were progressively withdrawn from the survey by the lessees, before and after the January 2003 bushfires. The species list included a number of threatened and declining species: Brown Treecreeper, Diamond Firetail, Dusky Woodswallow, White-browed Woodswallow *Artamus superciliosus,* Eastern Yellow Robin *Eopsaltria australis,* Hooded Robin, Jacky Winter, White-winged Triller, Crested Shrike-tit and Speckled Warbler. Continued surveying would be valuable in studying the impact of fire on the habitat and bird populations, If surveys at this site cannot be restarted, it would be desirable to replace it with another grazed site in or near the burnt areas. Possible replacements are areas of Very High Conservation value threatened woodland community east of Stony Creek Nature Reserve/north of former Stromlo pine plantation (`Huntly'), or `Bulgar Creek' south of Cotter Road. Both are leased for grazing, and both were burnt in January 2003. 'Huntly' is within the proposed Molonglo Valley urban development area.

Drought in the ACT over the last three years has resulted in a very sparse ground layer in areas grazed by stock and kangaroos. Small ground-feeding and nesting birds may be adversely affected by the reduction in invertebrates, seeds and shelter.

Mistletoe

Watson (2002) has suggested that mistletoe is a 'keystone resource', with mistletoe density having a significant positive effect on bird species richness. Many native birds feed on the fruit, nectar and associated insects in mistletoes, and dense mistletoe clumps are used as nesting sites by many birds, Mistletoes can become more abundant with habitat fragmentation, as they thrive on the edges of clearings, while extreme habitat fragmentation can lead to the eventual loss of mistletoes and their bird dispersers, as can increased fire

frequency (Watson 2004). The Woodland Bird Survey database has 84 records of Mistletoebirds in sub-sites for 2000-2002, and mistletoe counts in two years for over 100 sub-sites. There are also records of Mistletoebirds from other years, and from outside the sub-sites. Analysing this data, and records of other birds which use mistletoes to a lesser extent, could yield useful information on woodland birds and habitat health in the ACT.

Gooroo Nature Reserve

A nature reserve was declared in early 2004 which includes all of the GOO sub-sites, and areas further south. Nine new survey sub-sites (GOS) have been set up and surveys will begin in April 2004 (J Bounds pers. comm.). The Draft Lowland Woodland Conservation Strategy (ACT Government 2003) identifies the importance of maintaining ecological connectivity from Mulligans Flat Nature Reserve, through Gooroo to Mt Majura.

It would be possible to compare habitat structure and bird survey results for GOO, MAJ and (woodland parts of) MUL. This could provide useful information for future management of the Gooroo Nature Reserve, as MAJ has not been grazed for many years, and grazing was removed from MUL about ten years ago. One aim should be to retain species that occur at Gooroo that are currently less common at the ungrazed sites, while enhancing connections between the woodland areas.

The Gooroo landscape is varied, flatter in the north and more hilly in the south. Yellow Box/Red Gum community covers much of the hill slopes as well as the flatter areas (unlike MUL). Some Casuarina stands and isolated trees (probably *Allocasuarina verticillata)* occur at southern Gooroo,

The Gooroo lease has been grazed at various intensities (generally less intensively in the northern part and very intensively in the southern part). Some paddocks contain exotic pasture grasses and there are weedy areas which have been heavily grazed. Under the existing management the site has retained several breeding groups of Hooded Robins, and Regent Honeyeaters have also bred there. In late 2003, Brown Treecreepers were found at southern Gooroo, in a low structure site with much fallen and dead timber. Southern Whiteface *Aphelocephala leucopsis,* and Diamond Firetail have also been recorded at the same site (J Bounds pers. comm.). This site will be one of the new monitoring points in GOS,

The transition to management as a reserve will need to be conservative, as removing stock grazing can cause rapid changes in the structure of the vegetation, as happened at Mulligans Flat in the late 1990s, There is probably a continuing role for (limited and well managed) stock grazing at Gooroo Nature Reserve, at least in a buffer area between the suburbs and the more densely vegetated parts of the reserve. This would retain some simpler open woodland, which would aid fire suppression and provide a potential corridor and habitat for species associated with this type of woodland (e.g, Southern Whiteface, Jacky Winter, Brown Songlark *Cincloramphus cruralis,* Diamond Firetail).

RECOMMENDATIONS

High priority:

- Continue surveys using methods as modified in 2003.

- Consolidate existing survey sites. Liaise with Lauren Gray (new Defence Environment Officer), restart MJF without forest/grassland sites and with co-ordinator able to survey at times specified by Defence, do habitat surveys. Restart Lambrigg if possible, or replace (see below).

- Produce 'culled' database for analysis. Remove forest and grassland sites (e.g. MUL, MJF), identify other (non-threatened community) woodland types, remove extra surveys (if not already done), remove out-of-sub-site records.

- Request site co-ordinators to increase efforts to finish surveys early in day. Using 2(+) observers or surveying over two days is preferable to finishing late,

Other recommendations:

- *Habitat structure:* Complete habitat database (25% of surveys not yet entered, surveys needed for MJF and GOS sites). Consult statistician on converting database to form most suitable for electronic analysis in conjunction with bird count data,

- *Gooroo Reserve:* Compare habitat structure and bird survey results for GOO, MAJ and (woodland parts of) MUL.

- *Fire response:* If Lambrigg cannot be restarted, set up new sites in/near burnt woodland to measure response of bird populations to the loss/alteration of habitat in 2003 fires. Possible replacements are woodlands at 'Huntly' and 'Bulgar Creek'.

- *Hollows:* Analyse trends in detection rates for hollow-nesting species. This may be particularly relevant after the fires of January 2003,

- Analyse trends in records (frequency and distribution) of newly listed species and species on the 'watch list'.

- Analyse trends in detection rates for reasonably common species which use different layers/features of the habitat. Include resident and migratory species. Suggested species include Mistletoebird, Buff-rumped Thornbill, Yellow-rumped Thornbill, Striated Thornbill Acanthiza lineata, Black-faced Cuckoo-shrike *Coracina novaehollandiae*, Red Wattlebird *Anthochaera carunculata*, Noisy Friarbird *Philemon corniculatus*, White-plumed Honeyeater *Lichenostomus penicillatus*, Superb Fairy-wren *Malurus cyaneus*, Grey Fantail *Rhipidura fuliginosa*.

- Analyse role of shrubs (native and non-native) and eucalypt regeneration in species diversity or distribution. This is largely a measure of stock grazing pressure.

- Analyse role of dominant eucalypt species (reflection of environmental parameters and site history). There is likely to be an effect on bird numbers/ distribution/diversity due to differences in lerp load, number of hollows and

mistletoes, nectar output etc, Could provide guide to species proportions in post-fire or corridor plantings. Possible linkage with Greening Australia work.

- *Mistletoebirds:* contact David Watson (Charles Sturt University, Albury) for advice on how to analyse the data set.

- Analyse effect of time of day on survey results: find average number of species recorded in each hour after sunrise, develop recommendations on survey timing.

- Produce short site summaries for leaseholders, with habitat/condition descriptions, bird list, information on threatened/declining species etc.

ACKNOWLEDGEMENTS

Many members of COG have been involved in this project, all on a voluntary basis. A number of people have undertaken more than one of the following roles.

Site co-ordinators have collected a large amount of bird and habitat data. Most of them have done this for several years, and their enthusiasm and attention to detail is admirable. They have also provided spirited and valuable feedback on the methods and assisted in their improvement. The site co-ordinators are listed in Table 1, and they have been assisted by a number of other volunteer observers.

COG Woodland Bird Survey sub-committee members designed the project, applied for and administered the funds, and have provided valuable advice and support to the site co-ordinators and the field work co-ordinator, Jenny Bounds, Nicki Taws, Barry Baker and Chris Davey have been particularly active in this project,

Data managers and handlers have created and managed the database, and entered the survey data, Paul Fennell and Malcolm Fyfe have done a great deal of work in this area, supported by data entry volunteers,

ACT Leaseholders have kindly allowed COG observers quarterly access to their grazing properties.

Environment ACT has provided funding for this project since 1998. EACT staff have also provided information and advice.

REFERENCES

ACT Government (1999). *Yellow Box/Red Gum Grassy Woodland: An endangered ecological community.* Action Plan No. 10. Environment ACT, Canberra.

ACT Government (2003). *Draft ACT Lowland Woodland Conservation Strategy.* Action Plan 27. Environment ACT, Canberra.

Cunningham R (2003). *A statistical analysis of the status and trends of woodland birds in the ACT.* A report to Canberra Ornithologists Group.

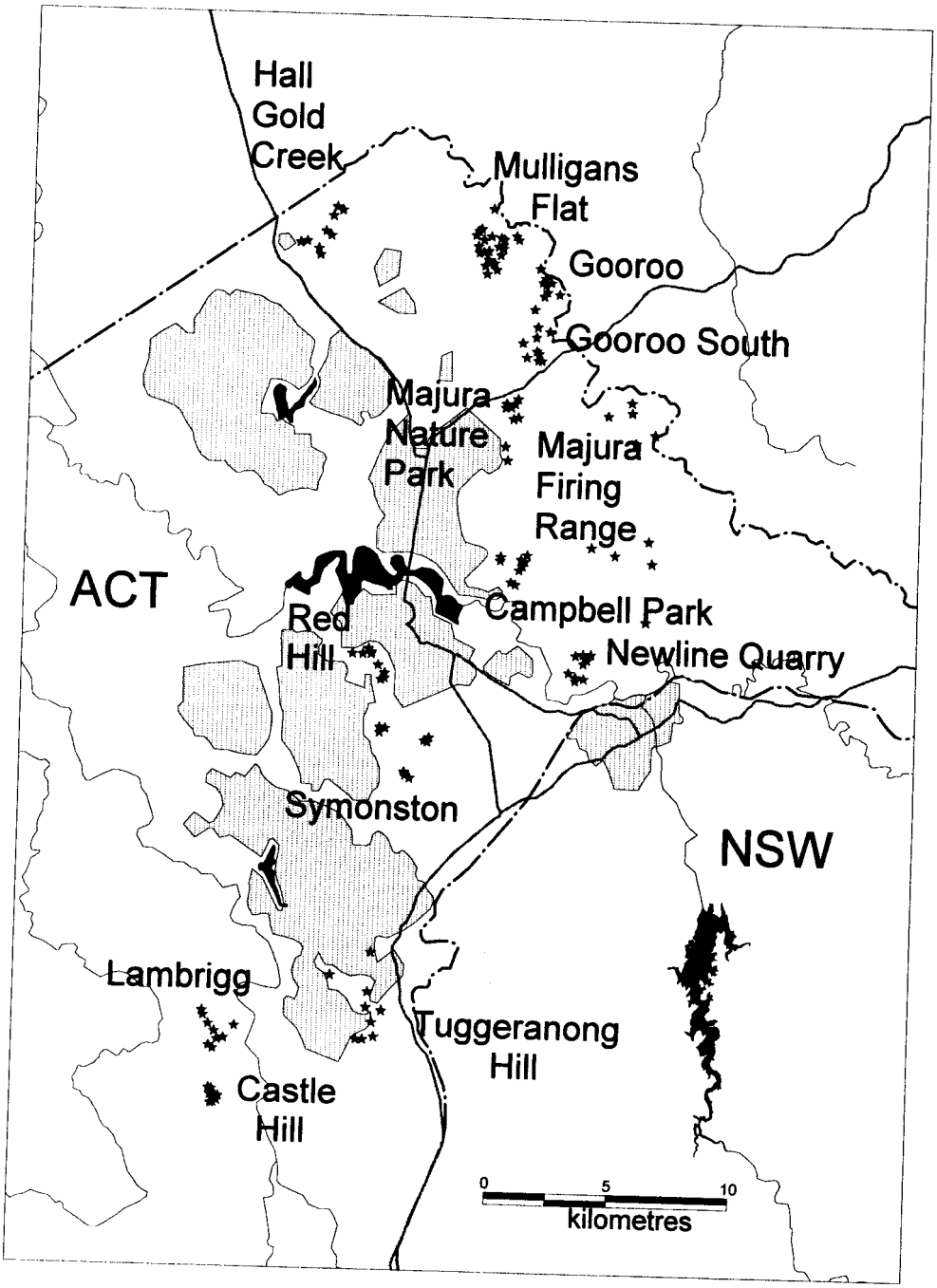
Gardner J (1997). *Notes on survey for Speckled Warblers — Canberra Nature Park, Red Hill and Federal Golf Club. 67 September 1997.* Unpublished report to Bligh Voller, Architects, Canberra.

Heatwole H and Lowman M (1986). *Dieback: Death of an Australian landscape.* Reed Books.

Watson DM (2002). *Effects of mistletoe on diversity: a case-study from southern New South Wales.* Emu 102: 275-281.

Watson DM (2004). *Misunderstood mistletoe.* Wingspan 14(1): 10-13.

Map. Woodland Bird Survey sites



NOTE FROM COG WOODLAND SURVEY PROJECT MANAGEMENT COMMITTEE

This report was commissioned from Alison Rowell, who is a consultant to the project. It is the first opportunity COG has had to publish a progress report on the Woodland Bird Survey Project, which commenced officially in 1998/99, but includes data collected at Mulligan's Flat Reserve since 1996. The report complements the first statistical assessment of data collected up to 2001 on selected species, carried out by Ross Cunningham in 2003.

All the sites in the project contain endangered Yellow Box/Red Gum ecological community, found on the richer lowlands and valleys around Canberra, and are located in the three, key woodland corridors identified in the ACT Lowland Woodland Conservation Strategy.

The report gives background and history, outlines the methodology, who is involved, highlights issues relevant to the project and has recommendations for future work, These recommendations have been endorsed at a meeting of site coordinators, and there will be further discussions with the Wildlife Research and Monitoring Unit of Environment ACT, in terms of priorities for future work, as resources and funding allow.

Initiatives arising from the recommendations which are being implemented include:

- setting up a new site in the Naas Valley, west of the Murrumbidgee River, and after that another site, possibly in the Molonglo Valley; this will give three sites in the woodland corridor to the west of Canberra
- briefs for (a) the analysis of data collected to date for 7 species of interest, with a view to considering the re-nomination of some species as `vulnerable' under ACT legislation, eg Diamond Firetail, and (b) analysis of other species, including common species, using appropriate variables in the habitat assessment database.

This report includes some useful qualitative indicators about particular bird species of interest and their habitat preferences. The habitat assessment methodology and data base developed during the project will be particularly useful in future, statistical analysis work. For example, it will be possible to examine bird species against a range of variables at sub-sites, for example, the dominant eucalypt species, density of re-growth, shrub layer.

Longitudinal data collected using the same methodology over a period of time is an extremely valuable tool in determining trends in bird species, and information from this project can be used for a variety of research and conservation related purposes, This is crucial against a background of the continuing decline of many of our local woodland birds, even in our largest woodland reserves.

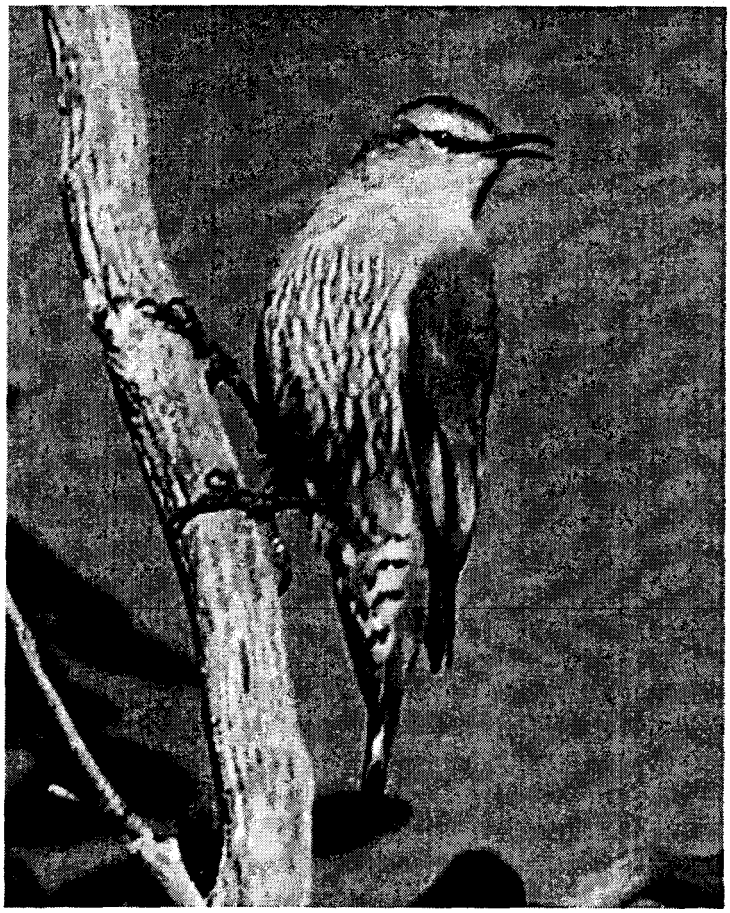
In particular, data from this project has been instrumental in informing the (final) ACT Lowland Woodland Conservation Strategy published by Environment ACT recently, which

includes the Action Plans for several threatened birds. Data collected will also inform the future management of the Mulligan's Flat and Goorooyaroo Reserve complex.

COG is grateful to have had the ongoing commitment of members who are site coordinators in the project, and who collect the data regularly. This continuity is important to the ongoing success of a long-term project. COG also thanks Alison Rowell, who has made a valuable contribution as consultant, as well as a significant voluntary contribution.

This project has been assisted by grants from the ACT Government, enabling specialists to be employed to undertake some tasks not able to be undertaken by volunteers, eg data analysis, technical advice.

Jenny Bounds, Convenor, for Woodland Survey Project Management Committee (The Committee is: Jenny Bounds, Jack Holland, Nicki Taws, Barry Baker)



Brown Treecreeper at the Newline site (photo ©Harvey Perkins)

BIRDS AND THE GUNGAHLIN DRIVE EXTENSION

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Abstract *This paper reports on the relative abundance and distribution of birds at two lowland dry sclerophyll forest sites in Bruce Ridge and Black Mountain reserves, as Phase I of a project designed to assess the direct and indirect affects of construction of the Gungahlin Drive Extension on the avifauna of the area. Fifty species were recorded during the surveys, the vast majority being 'common' birds, with only one species, the Varied Sittella, listed as Vulnerable in the ACT.*

BACKGROUND

Any development within an urban environment will produce the inevitable opposing forces for and against the development. Each side will advance their particular assessment of the situation, usually made without adequate information. In many cases the problem is that the data required to make an informed decision are not available,

The proposal to develop the Gungahlin Drive Extension (GDE) with the clearing of natural habitat along the Bruce/O'Connor Ridge and the Black Mountain Reserve brought the opposing arguments to a head with the issue of habitat destruction and the welfare of birds high on the agenda,

The direct effects of a road through an area of naturally forested habitat are obvious, Those species that live within the cleared habitat will be displaced although the ultimate survival of the displaced birds is open to question. Less obvious are the indirect effects on the avifauna of the area - species some distance from the road may benefit, others may be disadvantaged.

In mid-2002 a proposed route for the GDE was announced. The route, passing east of the Australian Institute of Sport, would then pass east of Calvary Hospital through 'undisturbed' forested habitat on Bruce Ridge, across Belconnen Way and then to the Glenloch Interchange via an extension of Caswell Drive in the Black Mountain Reserve, Given this forewarning, a project was proposed to assess the indirect effects of a major highway passing through 'undisturbed' forested habitat, and through forested habitat already disturbed by an existing road, on the avifauna of the area before, during and after the construction of the road. This article reports the results of Phase I of the project, that is, the relative abundance and distribution of birds before the start of the construction of the GDE.

METHODS

Although the exact location of the route had not yet been surveyed, two sites were set up in November 2002, one to the east of Calvary Hospital the other to the east of Caswell Drive. Unfortunately, the bushfire that burnt part of the Bruce Ridge on Christmas Day 2001 restricted the possible size of both sites.

Twelve circular plots, each with a radius of 40 m (0.5 ha), were identified at each site. Each complement of 12 plots consisted of four sets of three plots, each set oriented in a line perpendicular to, and centred 40 m, 140 m and 240 m to the east of the edge of the proposed road. These sets were approximately 100 m apart, two of them being located to follow ridge lines and two to follow creek lines. At each plot, the number of trees with hollows that appeared, from the ground, large enough for a bird to nest in, was enumerated.

Surveys were begun soon after sunrise, with the number of each bird species at each plot over a 20-minute period being recorded. Individuals visiting a plot were recorded separately from those flying through the plot. In addition, species seen or heard outside each plot were noted if they had not been recorded within the plot. A set of six adjacent plots was allocated to each of four observers and for each survey the observers were allocated a different set of six plots.

Nine surveys were conducted between November 2002 and October 2003. In October 2003 a more definitive location of the proposed route was announced, requiring some of the plots to be repositioned. An additional four surveys were conducted from the repositioned sites between November 2003 and May 2004. This provides a total of 312 plot/surveys (9 surveys x2 sites x12 plots +4 surveys x2 sites x12 plots).

The survey method used does not allow for an estimate of bird density, To assess the number of individuals likely to be disturbed by habitat clearance, two set-width walk transects were conducted during April 2004 (when clearing was initially set to begin). On each occasion, and within each site, counts were conducted along three transect lines set east of, parallel to, and 40 m, 140 m and 240 m from the edge of the proposed route. Individuals of all species within 50 m of each side of the transect line were counted.

Species composition and frequency at the Bruce Ridge and Black Mountain sites (urban sites) were compared with the frequency of species from four rural sites which I was also surveying for an unrelated project conducted by CSIRO Sustainable Ecosystems. These large, unstocked, rural sites were located at Picaree Hill (35:01:01 S, 149:09:00 E), Tara Bush (34:59:13 S, 149:06:57 E), Mt. Elliott (34:54:58 S, 149:17:00 E) and Mundoonen Nature Reserve (34:50:00 S, 149:03:06 E). Both urban and rural sites were typical lowland dry sclerophyll forest habitats, the upper canopy dominated by Red Stringybark *Eucalyptus macrorhyncha,* Seri bbly Gum *E. rossii* and Brittle Gum *E. mannifera,* with a restricted herb layer and limited understorey.

Over a period of 12 months from May 2003, these sites were surveyed twice in the spring and twice in the autumn. At each site a set-width line transect was surveyed in the morning with another transect surveyed in the evening, Each walk transect took three hours to survey with the frequency of each bird species recorded from 50 m each side of the transect line for every 10 minutes of walking. Each transect therefore consisted of 18 'sections',

The frequency of observation at each site for each of their 144 section/surveys (18 sections x2 transects x4 visits) was then compared with the frequency of observations from the 312 Bruce Ridge/Black Mountain plot surveys.

RESULTS

Fifty species were recorded from the Calvary Hospital (Bruce Ridge) and Caswell Drive (Black Mountain) sites. Of these, 15 either bred or indicated an intention to breed (Table 1). At both sites Crimson Rosellas and Striated Pardalotes were predominant, but most species were recorded infrequently, with 37 species recorded from less than 10% of the total plot/surveys. All but three of the species were recorded either in or flying over the plots, the Eastern Spinebill, Glossy Black-Cockatoo, and Shining Bronze-Cuckoo being heard but not recorded from within the plots,

Virtually all of the species recorded are `common' within the Canberra Ornithologists Group (COG) area of concern [based on the species' `status' allocated by COG and as indicated in the 2002-2003 Annual Bird Report (COG 2003)]. Only four of the species are defined as 'uncommon' or 'rare'. Of the eight species declared as threatened within the ACT under Section 21 of The Nature Conservation Act 1980 (ACT), the Varied Sittella was the only species recorded, Interestingly, COG lists this species as 'common' within the COG area of concern.

When comparing species recorded from plots near to or far from the proposed road, some species were recorded more frequently close to the proposed route and others recorded more frequently at 240 m from the route (see Table 2). Of the 20 species that have 20 or more individuals recorded from the plots the Australian Magpie, Galah and White-winged Chough appear to favour those plots close to the proposed road whilst the smaller species such as Buff-rumped Thornbill, Superb Fairy-wren, Spotted Pardalote, Red Wattlebird and White-naped Honeyeater were more common at 240 m from the proposed road. Whether this distribution is due to habitat differences or due to the alignment of present roads, and the proximity of suburbs and the Calvary Hospital and associated grounds, is unknown.

Within the study area it is expected that road construction will require the removal of approximately 10.5 ha of native vegetation. The average number of trees with hollows was 13.9/plot (s.d. +/- 4.9, n=24). The original date for the removal of the vegetation was April 2004 but this has been delayed due to various legal proceedings, The density of birds in April 2004 within the study area was estimated from two set-width walk transects (see Table 3). There were 26 species recorded during the two transect surveys, and an estimated 53 individuals would have been displaced had clearing occurred at this time. There were no indications of breeding, but this is to be expected at this time of the year.

Legend to Table I

All species recorded from the 312 plot/surveys are listed with their recording frequency (R), % recording frequency and any indication of breeding. Asterisked species were recorded but not within plots.

Table 1. Species recorded from the Bruce Ridge/Black Mountain sites between November 2002 and May 2004.

Species		R	%R	Status	Br
Crimson Rosella	*Platycercus elegans*	269	86.2	Common	y
Striated Pardalote	*Pardalotus striatus*	179	57.4	Common	y
Eastern Rosella	*Platycercus eximius*	83	26.6	Common	y
White-throated Treecreeper	*Cormobates leucophaeus*	83	26.6	Common	y
Pied Currawong	*Strepera graculina*	81	26.0	Common	y
Australian King-Parrot	*Alisterus scapularis*	62	19.9	Common	y
Australian Raven	*Corvus coronoides*	53	17.0	Common	
Sulphur-crested Cockatoo	*Cacatua galerita*	53	17.0	Common	y
Spotted Pardalote	*Pardalotus punctatus*	39	12.5	Common	
Red Wattlebird	*Anthochaera carunculata*	38	12.2	Common	
Superb Fairy-wren	*Malurus cyaneus*	37	11.9	Common	y
Galah	*Cacatua roseicapilla*	36	11.5	Common	y
Australian Magpie	*Gymnorhina tibicen*	33	10.6	Common	
Noisy Friarbird	*Philemon comiculatus*	24	7.7	Common	
Buff-rumped Thornbill	*Acanthiza reguloides*	23	7.4	Common	y
Grey Fantail	*Rhipidura fuliginosa*	19	6.1	Common	
Golden Whistler	*Pachycephala pectoralis*	18	5.8	Common	
Yellow-faced Honeyeater	*Lichenostomus chrysops*	16	5.1	Common	
White-winged Chough	*Corcorax melanorhamphos*	13	4.2	Common	y
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*	11	3.5	Common	
Laughing Kookaburra	*Dacelo novaeguineae*	10	3.2	Common	y
Scar'et Robin	*Petroica multicolor*	10	3.2	Common	
White-naped Honeyeater	*Melithreptus lunatus*	10	3.2	Common	
Gang-gang Cockatoo	*Callocephalon fimbriatum*	9	2.9	Common	y
Grey Shrike-thrush	*Colluricincla harmonica*	9	2.9	Common	
Striated Thornbill	*Acanthiza lineata*	7	2.2	Common	
Yellow-tailed Black-Cockatoo	*Calyptorhynchus funereus*	7	2.2	Common	
Australian Wood Duck	*Chenonetta jubata*	6	1.9	Common	y
Olive-backed Oriole	*Oriolus sagittatus*	6	1.9	Common	
Rufous Whistler	*Pachycephala rufiventris*	6	1.9	Common	
Varied Sittella	*Daphoenositta chrysoptera*	6	1.9	Common	
Leaden F'ycatcher	*Myiagra rubecula*	5	1.6	Common	
Brown Thombill	*Acanthiza pusilla*	4	1.3	Common	
Grey Currawong	*Strepera versicolor*	3	1.0	Common	y
Silvereye	*Zosterops lateralis*	3	1.0	Common	
Common Bronzewing	*Phaps chalcoptera*	2	0.6	Common	
Fan-tailed Cuckoo	*Cacomantis flabelliformis*	2	0.6	Common	
Sacred Kingfisher	*Todiramphus sanctus*	2	0.6	Uncommon	
Cicadabird	*Coracina tenuirostris*	1	0.3	Uncommon	
Crested Pigeon	*Ocyphaps lophotes*	1	0.3	Common	
Dollarbird	*Eurystomus orientalis*	1	0.3	Uncommon	
Horsfield's Bronze-Cuckoo	*Chrysococcyx basalis*	1	0.3	Common	
Magpie-lark	*Grallina cyanoleuca*	1	0.3	Common	
Mistletoebird	*Dicaeum hirundinaceum*	1	0.3	Common	
Pacific Black Duck	*Anas superciliosa*	1	0.3	Common	
Southern Boobook	*Ninox novaeseelandiae*	1	0.3	Common	
Weebill	*Smicromis brevirostris*	1	0.3	Common	
Eastern Spinebill	*Acanthorhynchus tenuirostris*	0*	0.0	Common	
Glossy Black-Cockatoo	*Calyptorhynchus lathami*	0*	0.0	Rare	
Shining Bronze-Cuckoo	*Chrysococcyx lucidus*	0*	0.0	Common	

Table 2. Differences in individual species abundance in plots near to (40 m) and far from (240 m) the proposed road

The total number of individuals for each species counted from the eight plots centred at 40 m and the eight plots centred at 240 m from the edge of the proposed road are listed. Levels of significance **(P** value) between the near and far plot values were determined by Chi-square analysis.

Species	**Individuals recorded**		P **value**
	Plots near road	**Plots far from road**	
Crimson Rosella	525	481	n.s.
Striated Pardalote	142	149	n.s.
Eastern Rosella	81	68	n.s.
Australian King-Parrot	68	55	n.s.
Galah	30	13	0.01
Pied Currawong	41	61	n.s.
Red Wattlebird	27	52	<0.01
Sulphur-crested Cockatoo	38	45	n.s.
White-throated Treecreeper	28	40	n.s.
Buff-rumped Thornbill	23	42	0.01
Superb Fairy-wren	15	37	<0.01
Yellow-faced Honeyeater	31	42	n.s.
Australian Raven	31	32	n.s.
White-naped Honeyeater	19	42	<0.01
Australian Magpie	45	5	<0.001
Spotted Pardalote	13	31	<0.01
White-winged Chough	46	13	<0.001
Striated Thombill	4	12	n.s.
Grey Fantail	10	16	n.s.
Noisy Friarbird	10	10	n.s.

The frequency of occurrence of the ten most common species from the urban sites were very different to their occurrence at the four rural sites (see Table 4). The Crimson Rosella was over four times more likely to be recorded, and the Striated Pardalote nearly three times more likely, at the urban sites. The Spotted Pardalote was the only species with a similar recording frequency at all sites whilst the only species that was less likely to be recorded at the urban sites was the White-throated Treecreeper, To date, neither the Australian King-Parrot nor the Red Wattlebird have been recorded at the rural sites. In order, the five most frequently recorded species from the combined rural sites were the White-throated Treecreeper (recorded from 45.3% of the total 576 `section/surveys'), Striated Thornbill (26%), Buff-rumped Thornbill (24,6%), Striated Pardalote (22%) and Crimson Rosella (15.9%),

Table 3. Average density of species recorded from line transects conducted during April 2004, and extrapolated number of individuals displaced from 10.4 ha.

Species	Density/ha	No. birds displaced
Crimson Rosella	1.46	15.29
Striated Pardalote	0.60	6.32
Red Wattlebird	0.49	5.10
Gang gang Cockatoo	0.31	3.26
Eastern Rosella	0.31	3.26
White-throated Treecreeper	0.27	2.85
Superb Fairy-wren	0.25	2.65
Pied Currawong	0.23	2.45
Australian Raven	0.16	1.63
Sulphur-crested Cockatoo	0.14	1.43
Grey Fantail	0.12	1.22
Brown Thornbill	0.12	1.22
Australian Magpie	0.08	0.82
Buff-rumped Thornbill	0.08	0.82
Galah	0.08	0.82
Scarlet Robin	0.06	0.61
Black-faced Cuckoo-shrike	0.06	0.61
Australian King-Parrot	0.04	0.41
Golden Whistler	0.04	0.41
Grey Currawong	0.04	0.41
Noisy Friarbird	0.04	0.41
Common Bronzewing	0.02	0.20
Spotted Pardalote	0.02	0.20
Leaden Flycatcher	0.02	0.20
Rufous Whistler	0.02	0.20
Laughing Kookaburra	0.02	0.20
Total		**53.0**

Table 4. Frequency of occurrence (%) of the ten most common species recorded at the urban sites (Black Mountain/Bruce Ridge) compared to the four rural sites.

	Black MU Bruce Ridge	Picaree Hill	Mt. Elliott	Tara Bush	Mundoonen Nature Res.
Crimson Rosella	86.2	18.8	17.4	22.2	5.6
Striated Pardalote	57.4	18.1	24.3	22.9	22.9
Eastern Rosella	26.6	0.7	0.0	0.7	0.7
White-throated Treecreeper	26.6	47.2	36.1	46.5	51.4
Pied Currawong	26.0	7.6	2.8	1.4	7.6
Australian King-Parrot	19.9	0.0	0.0	0.0	0.0
Australian Raven	17.0	2.1	0.7	2.8	0.7
Sulphur-crested Cockatoo	17.0	11.1	11.8	6.3	2.8
Spotted Pardalote	12.5	16.0	11.8	11.8	13.9
Red Wattlebird	12.2	0.0	0.0	0.0	0.0

DISCUSS1ON

A great deal of argument has been put forward about the bird diversity and uniqueness of the Bruce Ridge/Black Mountain area, and of the impact that the GDE development will have on lowland forest communities in the area. The construction of the GDE, though, does provide an opportunity to assess long-term indirect impacts on the avifauna of the area. At this stage we are only able to report on the abundance and distribution of birds before the start of construction.

In mid-April I was asked to appear as an expert witness before the Administrative Appeals Tribunal by lawyers representing 'Save the Ridge Inc.' Having agreed to the request, a set of questions was sent to me to help in the preparation of a submission to the Tribunal. However, subsequent proceedings meant that an appearance before the Tribunal was not required, so there was no longer a need to prepare a submission. The following discussion points, however, are based on some of the questions provided by the lawyers.

According to the species 'status' as defined by COG, of the 50 species recorded over the 18-month survey period, 92% are defined as 'common' within the ACT and surrounding region. The Sacred Kingfisher, Cicadabird and Dollarbird are regarded as 'uncommon', and the Glossy Black-Cockatoo as 'rare',

The Varied Sittella, declared Vulnerable under The Nature Conservation Act (but defined as 'common' by COG), is the only threatened species recorded in these surveys.

The Yellow-tailed B lac k- Cockatoo, Glossy Black-cockatoo and Gang-gang Cockatoo are declared as Protected Species under Section 17, Schedule 4 of The Nature Conservation Act (1980). Recent legislation has overridden the declaration on these species but only for the construction of the GDE. None of these species is threatened with extinction, or suspected of being threatened with extinction, and none has been recommended for declaration as vulnerable within the ACT.

The single observation of the Glossy Black-Cockatoo was of a bird heard off-site from the Caswell Drive (Black Mountain) site.

The Yellow-tailed Black-Cockatoo was recorded eleven times, of which all but one occurred since September 2003. This species has become common within urban areas since the bushfires of January 2003 destroyed much of its primary habitat in the pine forests and ranges to the west of Canberra. The lack of discussion concerning the welfare of this species since the January fires is notable. The destruction of the pine forest habitat is of much greater concern to the welfare of the species in the ACT than the elimination of vegetation caused by the construction of the GDE.

All species will be affected by the construction of the GDE, as the proposed route will lead to the destruction of habitat. A reduction in both feeding and breeding areas will lead to displacement and the possible death of some individuals. But due to the amount of cleared habitat, the proposed works will

have a minimal impact on naturally occurring populations of birds within the Territory and region.

It is not possible to estimate the degree of unintended mortality of birds within the area, This will depend on the time of the year that the habitat is cleared, the indirect effects on the birds within the area, and the age composition of the avifauna at the time. Individuals most at risk are those that are sedentary and resident within the area, and without banding studies this figure is not possible to estimate. Displaced resident species, despite the fact that they may be able to fly away, will still need to re-establish themselves in areas that will most likely be already occupied and strongly defended. As an under-estimation, it can be assumed that at least 53 individuals would be displaced by the GDE construction.

Due to the infrequent occurrence of threatened or protected species within the area, and the lack of any breeding records for these species, it is unlikely that the loss of habitat due to the GDE construction will have any appreciable impact on the survival or recovery of populations of these species.

The Varied Sittella was the only species recorded that is listed as threatened. It is unknown what the indirect effects are likely to be on the species. It may be regarded as unusual in the area and is not a permanent resident, having been recorded from only six out of a total of 312 plot/surveys, and with no observations of breeding. The removal of 10.5 ha of native vegetation is unlikely to have a detrimental impact on the population within the study area.

The most interesting breeding observation from the surveys concerns the Australian King-Parrot. Although the species is unusually common in the area, there has been no proof of breeding within the ACT (Davey 2002). Birds have been observed inspecting, entering and emerging from, and defending tree hollows, and on one occasion, after scraping a tree trunk with a stick, a female was heard climbing up the inside of the trunk and then seen emerging from a spout; but to date, no eggs or nestlings have been detected.

It is of interest that the avifauna of the dry forest habitat of the urban Black Mountain and Bruce Ridge sites does not appear to be typical of similar vegetation elsewhere in the region. Most notably, the Crimson Rosella, Striated Pardalote, Eastern Rosella, Pied Currawong, Australian King-Parrot, Australian Raven, Sulphur-crested Cockatoo and Red Wattlebird are much more abundant in these urban sites than in the four rural sites with which they were compared.

The urban and rural sites are all of similar size and vegetation, and all are now unaffected by the grazing of livestock. The appearance of the sites is now very similar despite the initial clearing of Black Mountain in the late 1800's. Although difficult to assess, the fire history of the different sites appears, from the frequency of fire scars, also to be similar.

The surrounding habitat matrix though is very different. The four rural sites are surrounded by grasslands whilst the urban sites are surrounded by suburbia and its associated plantings. It is therefore not surprising that the Black

Mountain/Bruce Ridge area is now dominated by those species that benefit from suburban plantings and gardens, and that the avifaunal composition of the area no longer represents that which would otherwise be found in the region. This change in species abundance may already have a greater impact on the local population of species such as the Varied Sittella than the limited clearing of native vegetation proposed for the GDE.

ACKNOWLEDGEMENTS

On each occasion the GDE survey was conducted by four observers. **I** would like to thank Barbara Allan, Malcolm Fyfe and Tom Green for all their help. The views that I have expressed are not necessarily those of the other three observers,

REFERENCES

COG (2003). Annual Bird Report: 1 July 2002 to 30 June 2003. *Canberra Bird Notes* 28(4): 125-188.

Davey C (2002). Do Australian King-Parrots breed within the Canberra Nature Park? *Canberra Bird Notes* 27(3): 133.

Threatened birds in the ACT

There are eight birds currently declared as Threatened (Endangered or Vulnerable) in the ACT under section 21 of The Nature Conservation Act 1980 (ACT).

Superb Parrot	vulnerable	declared 19 May 1997
Swift Parrot	vulnerable	declared 19 May 1997
Brown Treecreeper	vulnerable	declared 19 May 1997
Regent Honeyeater	endangered	declared 19 May 1997
Painted Honeyeater	vulnerable	declared 6 Jan 1998 *
Hooded Robin	vulnerable	declared 19 May 1997
Varied Sittella	vulnerable	declared 25 Nov 2003
White-winged Triller	vulnerable	declared 25 Nov 2003

* Action Plan No. 19 for the Painted Honeyeater states that it was declared a vulnerable species on 6 Jan 1998, but Action Plan No. 27, an overarching action plan for the ACT Lowland Woodland Conservation Strategy, lists its declaration date as 19 May 1997.

ODD OBS

Blue-billed Ducks breeding at Fyshwick Sewage Works

In 1996 I made the following Blue-billed Duck *Oxyura australis* observations at the Fyshwick Sewage Works. Two males and a female were present on 25 February and a pair was present on 6 March. On 18 May 1996 at 10:30 h I observed a pair again, accompanied by four ducklings. All records were from the north-eastern pond (Pond Number 2),

COG's Annual Bird Report for 1995-96 shows no records for this species from Jerrabomberra Wetlands or Fyshwick Sewage Works, although it has been recorded there on a regular basis in all subsequent years. The significance of my 18 May observation has only recently been pointed out to me, as it appears to represent the first and so far the only reported record of breeding by this species within the ACT,

Noel Luff
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Reflections on duck decoys

David Rosalky's account of a Water Rat *Hydromys chrysogaster* taking an Eurasian Coot *Fulica atra (CBN* **29:** 30) includes the observation, 'A curious aspect of the event was the attention from nearby birds. A small party of coots, Pacific Black Ducks *Anas superciliosa* and a couple of Black Swans *Cygnus atratus* accompanied the rat as it took its catch to the shore and hung around close for several minutes before dispersing.'

This tendency to approach predators is thought to be related to the birds' collective mobbing response, and was often used by Old World hunters to lure them into traps. Duck traps, known as decoys, were built adjacent to wetlands, especially along the flight paths of migrating ducks. The decoys consisted of mesh-covered tunnels called 'pipes' which were built over a series of little canals. The pipes led to an enclosed central holding area from which the ducks were caught and removed as required. The decoy operator used a corgi-sized dog with a long bushy tail, similar to that of a fox, to entice ducks into the pipes. The decoy dog was usually called Piper and was deployed near the entrance to a pipe, When the ducks approached, the dog would move into the pipe with the ducks in tow. A good Piper kept an eye on the echelon of ducks and would return to them if their interest needed rekindling, Rushes were interwoven with the mesh to provide cover for the decoy operator who watched the ducks' progress through observation ports, and closed gates behind the ducks preventing their escape back along the pipes.

A variety of animals will evoke this 'Pied Piper' response in waterfowl. However, only the domestic dog can be successfully trained to work at a distance.

In a discourse on decoys, written in the 1880s, one Sir Ralph Payne-Gallwey tells of experiments with ferrets, foxes and squirrels, They all attracted ducks, but proved impossible to manage. He even trialed an organ grinder's monkey,

The ducks swam towards the monkey but, when it turned and grinned, they fled. Sir Ralph concluded that the monkey appeared too human.

When geese and ducks were driven to market along the rural roads of Europe, a gooseherd preceded the flock carrying the tail of a fox attached to a pole. The birds obediently followed the wavering tail. Quaintly, foxes dressed as clergymen and preaching to flocks of geese, are often depicted on English church carvings of the 15th and 16th centuries,

Reference

Kear J (1990). *Man and Wildfowl.* T and AD Poyser, London.

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Satin Flycatchers nesting on Warks Road

On 28 January 2004 Barbara Allan and **I** took a short expedition to see how the ranges were recovering from the 2003 bushfires. The focus of our journey was the Blundells Creek and Warks Road intersection.

Initially the most interesting birds seen were large numbers of adult and immature Flame Robins *Petroica phoenicea*, We estimated that there were at least 20 birds of this species along a short stretch of track. Possibly this indicates how the area has become a more open vegetation type following the fires.

After a short distance up Warks Road we were pleased to observe a male Satin Flycatcher *Myiagra cyanoleuca* and even more pleased to see it carrying a beakful of food. It flew up to an exposed nest, poked the food downwards, then flew further off but remained within view, The nest site was some 10 m above the ground, towards the end of an almost bare horizontal branch in a eucalypt on the lower side of the road, some 40 m from the track, After walking a little further we returned and again observed the nest, on to which a female had now settled. While watching her, we realised that yet another Satin Flycatcher was calling from the opposite side of the track, After some intensive peering, we discovered another active nest, close to the trunk in a more densely foliaged eucalypt on the upper side of the track and again some 10 m above the ground. The second nest was within 100 metres of the first.

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Cattle Egret takes Red-browed Finch

At 14:00 h on 21 June 2004, **I** saw two Cattle Egrets *Ardea ibis* standing on short-mown green grass beneath a clump of casuarina trees *Casuarina cunninghamiana* near the western end of the dam at Lake Ginninderra. As **I** watched through my binoculars, I noticed a flock of some 20 Red-browed Finches *Neochmia temporalis* feeding within three metres of the egrets. One of the egrets began stalking towards the finches. A few finches, on the edge of the flock, rose a metre above the ground, landed about two metres away and

recommenced feeding while the egret continued its surreptitious approach,

Suddenly, the egret jabbed its bill at the ground and, when it raised its head, it was holding a struggling finch in the tip of its bill. The remaining finches rose as one and fled into the casuarinas. The egret proceeded to jackhammer its captive into the ground for a few seconds before raising its head and juggling the now limp finch to the base of its bill, It paused for a moment before throwing its head back and swallowing its prey,

HANZAB (1992) does not record birds as being amongst the food items of Cattle Egrets; HBW (1992), however, mentions 'small birds'.

A few days later, I happened to be reading about a birdwatching expedition to the Galapagos Islands in 1995 (Henzel and Hall 2000). Apparently Cattle Egrets were first recorded on the Galapagos Islands in 1964, and breeding has been observed since 1986, particularly on four of the islands where cattle are raised. It further described a Cattle Egret taking a Small Ground Finch *Geospiza fuliginosa* in circumstances that virtually mirrored the incident I had witnessed at Lake Ginninderra,

References

HANZAB (1992). *Handbook of Australian, New Zealand and Antarctic Birds* (Volume 1, Part B, Australian Pelican to Duck.). Marchant S and Higgins PJ (editors). Oxford University Press, Melbourne.

HBW (1992). *Handbook Of The Birds Of The World* (Volume 1, Ostrich to Ducks). del Hoyo J Elliot A and Sargatal J (editors). Lynx Edicions, Barcelona

Henzel H and Hall B (2000). *Galapagos Diary: A Complete Guide to the Archipelago's Birdlife.* University of California Press, Berkeley and Los Angeles, California.

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Pied Currawong eating paper-nest wasps

Each summer paper-nest wasps *Polistes* sp (possibly *P. humilis)* build their characteristic inverted mushroom-shaped nests under the eaves at the rear of our house in Ainslie. They spend the day hunting caterpillars, which are placed in cells of the nest as food for their larvae. Overnight they become torpid, resting in a huddle on top of the nest, and become active as the day warms up. By autumn, as night time temperatures decrease, they are rarely mobile until mid-morning,

At about 9:00 h on 5 May 2004 **I** heard a noise at the rear of the house and, on investigating, saw a wasp nest, that had been under the eaves above the back door, lying on the ground with the thirty or so wasps that had been resting on it scattered around, A Pied Currawong *Strepera graculina,* which had evidently just knocked the nest down, was poking at it with its beak presumably looking for wasp larvae or their food. Apparently unsuccessful, it then turned its attention to the barely moving adult wasps, In quick succession it ate about 15 of them, picking them up in the end of its beak, dispatching them with an audible crunch, and then swallowing them. Apparently sated, it went to a nearby birdbath where it drank and then flew off. The performance was repeated two days later

with a second nest, which had about 10 adult wasps. This time I was able to watch a currawong dislodge the nest and eat all the wasps. The survivors from the first nest continued to roost nightly in a tight bunch under the eaves where their nest had been, eventually disappearing later in the month, when it presumably became too cold for them to survive,

I had previously found dislodged *Polistes* nests on our back deck, and suspected currawongs to be the culprits, but had not previously caught them in the act. I had assumed they were looking for caterpillars or wasp larvae, and was rather surprised to see one eating adult wasps. *Polistes* species do not appear to have been previously reported as a food item of Pied Currawongs. The only references to this species eating wasps of any sort that I could locate date back more than 50 years (Jarvis *in* Barker & Vestjens 1990).

Reference

Barker R and Vestjens W (1990). *The food of Australian birds. 2. Passerines.* CS1 RO, Melbourne.

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The Eastern Yellow Robin in western Yarralumla

One of the surprises when moving house temporarily in mid-July 2003 to the western edge of Yarralumla was the abundance of the Eastern Yellow Robin *Eopsaltria australis* in a couple of 'bushland' patches close to where we were living.

I first became aware of them on the evening of 16 July, while jogging along the bike path from the bridge over Warrina Inlet to Weston Park/Yarralumla Nursery, There appeared to be at least ten different birds calling in the scrubby bushland from the bridge to where the boundary of the golf course starts to run along the eastern side of this track. However, over the next few months, I encountered them more commonly closer to home in and around the irregular patch of pine forest between Dunrossil Drive and the end of Lane-Poole Place, bounded to the north-east by the Old Canberra Brickworks and to the west by the 19th fairway of Royal Canberra Golf Course. This area has mature pines with a rampant woody understorey of largely exotic shrubs, ideal habitat for this species,

Birds were often heard but less frequently seen here, with a maximum of four seen together on the morning of 1 December 2003 on the south-western side of Denman Street, opposite Woolls St, The real feature was their calling, which sometimes was the piping one most of us are familiar with, but more often (as it was when I first heard them on 16 July) a very loud two-noted 'cheop cheop', usually heard early in the morning or in the evening, I was not familiar with this call, and in fact had to search out the birds the first couple of times to make certain of my identification,

Calling increased in both frequency and volume towards summer and, from late November/early December 2003, birds could often be clearly heard calling (usually the two-noted call) for long periods of time from our house about

200 metres away. In complete contrast there was little if any calling when we returned home on 9 January 2004, and in fact the species was seldom heard for the next few months until 21 May when a bird commenced giving its loud two-noted call at the end of Lane-Poole Place. Over the next couple of weeks calling in this patch of pine forest seemed to increase and the birds could be heard at any time of the day, but it then died down almost completely, with calling mostly restricted to very early or late in the day,

Again during this time both calls were given, together with another more scolding one, possibly an alarm call, with at least three birds in this patch. In the last week of June the birds could again be heard calling from our house. However, despite a number of visits, I was not able to confirm their presence along the bike path on the other side of the golf course except for one or possibly two birds heard giving their piping call early on 13 June. Late the evening before I had heard one bird piping on the western side of Nursery Bay, about 300 metres ENE of the usual patch, This was in complete contrast to their behaviour over 11 months earlier.

Despite the presence of this species so close to my temporary Garden Bird Survey (GBS) site, I only observed it several times venture more than about 10 metres from the edge of this patch, and never the 100 metres or so it needed to travel to reach my GBS site. The closest was a single bird sitting quietly for a few minutes on the Old Canberra Brickworks fence about 20 metres outside the nominal site edge on the afternoon of 20 June 2004, After this good views of single birds were obtained several times nearby.

Birds of Canberra Gardens (COG 2000) confirms that this species appears reluctant to infiltrate the suburbs, with virtually all garden records coming from a few sites adjacent to large bushland reserves such as Mt Ainslie and Black Mountain,

I never recorded the Eastern Yellow Robin in my garden in Chapman during my 21 years' previous participation in the Garden Bird Survey, though small numbers could be found in the former Narrabundah Hill pine forest about 1 km away, One of the memories of Yarralumla I will take back with me is seeing, and particularly hearing, this lovely bird so close to our home.

References

COG (2000). *Birds of Canberra Gardens.* COG and ACT Department of Urban Services, Canberra.

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COLUMNISTS' CORNER

What bird is that size?

One of the things that bird identification depends on is size. Most field guides try to give a useable indication of size, Stentoreus has noticed that some do this well and some don't,

A common approach is to give 'size' in inches or centimetres. However, this means 'length' — bill-tip to tail-tip, disregarding leg-length. This dimension is not normally one that the bird fully reveals in the field, and is generally obtained, according to the books, by stretching out a fresh dead specimen on its back. (However, one field-guide writer, Ben King, describes his method for obtaining it, single-handed, from a captured live bird. This, Stentoreus understands, is not usually attempted, and certainly not by the average field-guide user,)

No-one has come up with another standard measure of size, and the length measurement with a 'shape' adjective such as 'slender', `long-tailed', `compact', 'squat' or 'stocky' is a reasonable compromise.

A good technique is used in the David Sibley guide to North American birds. This guide gives length and weight, and, in addition to the detailed drawings in each species account, illustrates 'related groups' with careful attention to relative size. However this makes for quite a bulky and heavy guide (L 25 cm, W 1190 g).

By contrast, the McComas/Day guide to our ACT birds is towards the Weebill **end of the** spectrum (L 21cm W 133g). This does not give measurements for each species, but uses a system of icons to show length indirectly, Bird symbols are used, such as a slender parrot, which require reference to a table to find out the length, thus:

Symbol A - 'very small' 9-12 cm
Symbol B - 'small' 12-20 cm
Symbol C - 'intermediate' 20-30 cm
Symbol D - 'large' 30-40 cm
Symbol E — 'very large' over 40 cm.

Surely it would have been better just to say 'S' or 'VI; in place of the symbol, because the bird symbol also suggests shape and leads to the incongruity of the slender parrot being the size-icon for the Silver Gull and Southern Boobook, Moreover the symbols can baffle the authors as well as the user, The Laughing Kookaburra, over 40 cm, is awarded the (merely large) slender parrot, while the Australian Magpie, stated in the reference key to deserve only the parrot, gets the 'very large' symbol, In the same way, the Grey Butcherbird is also put in the over-40 cm class,

I have a little US guide, temptingly titled *Watchable Birds of the Southwest,* which uses a better method to convey an immediate idea of size, Each species is accompanied by a linear scale showing a progression of seven familiar birds, with an arrow marking just where the species falls on that scale, whether in between x and y' or 'just bigger than z'. Admittedly this does involve using up a bit of precious space.

Stentoreus considers that easily the worst effort at communicating size is in the Jim Flegg photographic guide to Australian birds. To start with, the photographs on each page give no idea of relative size at all. As pictured, the Red-capped Plover would be several times the size of the avocet. Reliance must therefore be placed on the length measurement, which is given for each species,

But then, descriptions are given which typically begin with something like `large duck', 'medium-sized crake', `medium-large cuckoo', or 'tiny thornbill', Sometimes single words such as 'small' or 'large' are used. I found these adjectives puzzling until I realised that they were *in most places* used, redundantly, simply as translations of the given lengths to overall size-categories, as in Taylor/Day.

Thus, the Blue-billed Duck is a `medium-large duck' because even small ducks are at least 'medium-large'. The Long-toed Stint is a 'tiny stint' only because stints generally (being the smaller sandpipers) are of 'tiny' dimensions. Our fairy-wrens are 'tiny wrens' or 'small wrens' depending on whether they have got to 15 cm in their stated (presumably rounded average) length,

Then again, as they are simply called 'wrens' I suppose it is just possible that they are being compared with medium and large wrens from elsewhere. This might also explain the 'small monarchs' (all five of them) and 'small' (e.g. Shining) and 'medium-sized' (Restless) flycatchers: are they are being compared to truly large foreign monarchs and flycatchers?

Whatever the system used, I am at a loss to understand the mystery of the relative sizes of whistlers. The Rufous Whistler (17 cm) is 'a medium-sized whistler', the Golden (17 cm) is 'a medium-sized golden whistler', and Gilbert's (20 cm) is `a medium-large comparatively plain, greyish whistler'. However, the Red-bored (21 cm) is only 'a medium-small drab whistler', and the Olive (also 21 cm) is likewise 'a medium-small rather drab whistler',

Bird candidates for Guinness recognition

Many Australian bird-watchers will remember having read somewhere that the Laughing Kookaburra is the world's largest kingfisher. However, *HANZAB* claims only that it is 'the largest kingfisher in the *HANZAB area'*. Perhaps this reflects a preference to err on the side of under-statement, or it may be a matter of the authors sticking to what they know about,

Needing to refer to a broader-based work, Stentoreus has therefore consulted the *Kingfishers* volume in the excellent Helm series of handbooks. This does indeed give our Laughing Johnny the title of `world's largest kingfisher', but now it seems that the distinction is based on weight: 'some females reaching nearly 0,5 kg'.

Having recourse to volume 6 of the Lynx Edicions *Handbook* for a more detailed comparison with the rival, the Giant Kingfisher of Africa, I find that lengthwise our bird is 39-42 cm compared to 42-46 cm for its African rival. However, our females have been recorded at 465 g compared to the male

(apparently heavier than female) African bird at 426 g.

Care should be exercised with these claims because we do not want a repeat of the Wedge-tailed Eagle fiasco, Neville Cayley's famous *What Bird Is That?* said in its early editions: 'Also called Eagle-hawk — a ridiculous name considering that it is the largest species of Eagle in the world'. By the 1971 edition this had come down to: 'Also called Eaglehawk — an inappropriate name considering that the bird is the fourth largest Eagle in the world.'

According to the maximum weights of eagles as given in the 'World' *Handbook*, the Wedgie would come in only eighth, being even out-weighed by, of all things, a 'Hawk-Eagle', Perhaps we should go with weight for kingfishers and length for eagles.

Do not feel depressed about this. We have another record-holder, recognised in *The Bird Almanac* by David M Bird (sub-titled *The Ultimate Guide to the Facts and Figures of the World's Birds).* The record for the 'absolute longest bill' is held by the Australian Pelican, at 47 cm. Our pelican's bill by itself, you will note, is just longer than an entire fully-extended African Giant Kingfisher.

A. stentoreus

Birding in cyberspace, Canberra style

One of the goals of Lynne Truss' current best-selling book *Eats, shoots & leaves: the zero tolerance approach to punctuation* (Profile Books, London, 2003) is to permit the stickler in us to come out, that is, to reduce our anxiety levels when we feel compelled to wield the white-out pens and the black textas when we see the signs 'Budgies' $5,00 each' or 'That bird: what's it's name?'. Ms Truss says it's OK to be a stickler, but I reckon she is misusing the word. The Oxford English Dictionary (OED) defines stickler as 'one who intervenes as a mediator *between* combatants or disputants'. The Dictionary continues: `with *for:* one who contends for, pertinaciously supports, or advocates (a cause, principle, person, party, etc.); one who insists on or stands out for (something established by rule or custom, a form, ceremony, etc.)', I think Ms Truss means that it is OK for us to be **sticklers *for* the sound use of apostrophes.**

What, pray, has this got to do with *Birding in cyberspace*, you wonder? Well here's the issue: 'Canberra Ornithologists Group Incorporated'. That's what our Certificate of Incorporation says, Did the Founding Parents of COG get it right, or is this yet another case of not using apostrophes because you'll probably use them incorrectly? Guidance may be found at Ms Truss' own web site http://www.eatsshootsandleaves,com and, if you wish to take the matter to extremes, you may care to join the UK-based Apostrophe Protection Society at http://www.apostrophe.fsnet,co.uk. You stickler you!

Back to cyberbirding, your columnist notes progress with the ***Australian Faunal Directory*** (AFD) which, we are advised, 'is being compiled as a public enquiry database and will serve as a source of taxonomic and biological information on all animal species known

to occur in Australia. It incorporates the data from the terminated *Zoological Catalogue of Australia* database project.' With respect to the class ayes (birds), the *Directory* lists all 91 families, 342 genera and 826 species on the Australian list. (As an aside I note that you, the reader, along with birds, are a member of the subphylum Gnathostomata, jawed vertebrates. What, me, a gnat, you exclaim!) You'll find the site deadly slow to open over a dial-up internet connection but OK on broadband, The checklist can be downloaded in rtf or html format for importing into a spreadsheet program. Note that English names are not included at this URL but are provided when you click on a species of interest. I imagine that it gives sound pointers to the changes to the Birds Australia (Christidis & Boles) 1994 checklist which is long overdue for revision. For example, the Australian Pipit *Anthus australis* is given in place of Richard's Pipit *Anthus novaeseelandiae* found in Christidis & Boles. Sorry for the long URL, but the *Directory* is at http://www.deh.gov.au/biodiversity/abrs/online-resources/abif/fauna/afd/AVES/tree,html. You may find it easier to google "Australian Faunal Directory: Checklist for AVES" and click through from there.

Recently Michael Hunter from Mulgoa Valley, 50 km west of Sydney Harbour Bridge' sent to the national email birding discussion list *Birding-Aus* a message **headed 'Magpie magic'. He said, provocatively**

> **The carolling of white-backed Magpies in Victoria, particularly at dawn in springtime, has allays seemed sweeter to me than in other states, and the** phrases more prolonged. Not up to the song of Pied Butcherbirds though. Our resident Magpies, black-backed but with an occasional almost white-backed, hardly sing at all.

It got me wondering: are our Canberra maggies' quardle oodle ardles as frequent and as beautiful as those elsewhere? On reflection, I don't seem to have heard many quardle oodle ardles from our local families, lately. What do you think?

All birders are interested in optics, and some of us tend to judge birders we meet by seizing a quick glance out of the corners of our eyes at the bins hanging around their necks, How, though, does one learn about birding optics (binoculars, telescopes and accessories) and keep up-to-date with innovations in this field? If one were interested in purchasing new optics, where to turn to for comparative reviews? Well, one of my favourite sources is the web site `Better View Desired' (BVD) http://betterviewdesired.com, It has been around for many years and, over that time, has developed a sound track record and a fine body of resource material, What's more, it is updated frequently which is necessary considering the stream of new scopes and bins entering the birding marketplace, When I last visited I noted a fine review of the relatively new Swift 8.5 x 44 Audubon binoculars, a comparative review of eight new roof-prism compacts, and an excellent article `BVD's Seven Fold Path to Better Birding', The seven steps are: Don't bother the birds; ears before eyes, eyes before binoculars; bird a lot; attempt to identify every bird you see; study; keep records; and enjoy. Sounds

like good advice to me.

Now here is a contradiction in terms: **'A White Raven'! I** recall some years ago seeing an almost white (leucistic) Laughing Kookaburra, but the OED - here we go again! - defines 'raven' as 'A widely distributed corvine bird *(Corvus corax)* of Europe and Asia, of large size, with black lustrous plumage and raucous voice, feeding chiefly on carrion or other flesh, The name has also been extended to birds belonging to various other species of *Corvus,* esp, the American Raven *(Corvus carnivorus).'* To which we could add the Australian Raven, the Forest Raven and the Little Raven, Recently Nigel Jackett reported to Birding-Aus a white raven (a white-black!):

> Today a birding friend of mine .., flushed 9-10 Australian Ravens from a large tree whilst driving by at Foxground between Berry and Gerringong on the NSW South Coast. Among the flock was a raven that was purely white.

Considering that many cogites spend much time at the NSW South Coast, maybe some of our readers have seen this bird, too?

I'm continuously amazed at the amount of high quality birding information that is becoming available on the web. Recently, when I was doing an internet search on the Glossy Black-Cockatoo, google directed me to a great resource provided by the NSW National Parks and Wildlife Service: a site dedicated to threatened species in NSW, It includes, among other things, a set of publications on threatened species; visit http://www.nationalparks.nsw.gov.au/npws.nsf/Content/Threatened+species+publications. (Yes this Department's web site has problems with its font sizes, If you are using Microsoft Internet Explorer and find the text size too small, change it by going to the menu items: view) text size' and select medium.) If you scroll about two-thirds of the way down the page you will find a section titled 'Vulnerable species-profile' and can look there for bird species of particular interest. The four page summary on the Glossy Black-Cockatoo, for example, is a valuable overview of current knowledge about this species, with a description, a photo, a map and discussion of its distribution (Canberra is not marked but, then, it is a NSW Government web site - sigh), habitat preferences, ecology, threats to its well-being, management and literature references. And an indication of how lawyers have come to dominate so many aspects of public life is that this fine fact sheet has to conclude as follows:

> Important Disclaimer. While every effort has been made to ensure the accuracy of the information in this publication, the NSW National Parks and Wildlife Service disclaims any responsibility or liability in relation to anything done or not done by anyone in reliance upon the publication's content.

I hereby initiate a new competition: a prize to the first birdo (employees of NSW NPWS excluded) who can tell us how they have come to harm through relying, or not relying, on this fact sheet,

I was intrigued by this message distributed on Birding-Aus by Mark Whittaker about **bird species' pecking orders.** Mark wrote:

> **A friend of mine is writing a children's** book winch prominently features birds. An editor has said to him that he can't have **a magpie,** Laughing Kookaburra and Rainbow Lorikeet perched on the same verandah as the magpie would chase the Tories off. I didn't think that would be the case, unless it was in spring. Any thoughts?

A valued member of the Canberra Birding email list, Carol Probets, responded:

> I don't think it's as simple as being able to say 'species X will always chase species Y away'. It all depends on the individual birds, the number of each species present, whether each bird is within its own territory, time of year, type and quality of food available, etc.

It is a good question, though, I plan to keep a good lookout in my garden to see what the pecking order is. Or, perhaps more precisely, the chasing-away-order. I'm sure that the CBN editors would welcome your (more-or-less) systematic observations of the species domination hierarchy in Canberra region gardens,

I tentatively conclude with something that some readers may consider inappropriate to COG's journal, as it touches on Matters Political In The News. But here goes: **Pigeon terrorists were to drop bombs!** A correspondent on Birding-Aus recently directed us to the fine ABC radio science web site http: www.abc.net.au/science/news/enviro/EnviroRepublish_1113180.htm where we are given details of this abuse of avifauna in the pursuit of human folly:

> The U.K. considered training pigeons to deliver weapons of mass destruction but changed its mind, government files show, It considered using the birds to deliver biological weapons after World War II but decided the birds had outlived their usefulness in battle. Homing pigeons carried vital messages in wartime, and the Pigeon Policy Committee of the day discussed training them to undertake ever more daring tasks. 'We can now train pigeons to "home" to any object on the ground when air-released in the vicinity... Bacteria might be delivered accurately to a target by this means,' head of the Air Ministry Pigeon Section Lea Rayner said in a 1945 report. 'With the latest developments of explosives and bacterial science I suggest that this possibility should be closely investigated and watched. A thousand pigeons, each with a two ounce explosive capsule, landed at intervals on a specific target might be a seriously inconvenient surprise.'

All I can say is, as much as I dislike feral pigeons aka Rock Doves, and still feel sick every time I recall eating them in Vietnam, I'm not sure about the ethics of using birds to deploy weapons of mass destruction,

So, fellow birders in cyberspace, note that the shortest day is behind us, spring is on the way, and good birding to all!

T. alba

RARITIES PANEL NEWS

After reviewing the rarities reported below, the Panel commented that they were 'the usuals', No, not a contradiction in terms! They are not 'rare' in the Australian context and cannot be relied on to turn up in the COG area of concern, but do so, from time to time, Of particular interest are the Diamond Doves at 'Bibaringa', Many observers have commented that they believe the doves to be wild birds, though the species is known to be kept in captivity in the ACT. The Panel looks forward to detailed further reports of the species.

On this occasion, the Panel was obliged to seek additional information on one record and not to endorse others for want of adequate description. Even if the Panel knows the reporter to be a reliable birder, it has to consider what the report form actually records and a failure to mention salient details such as size make its task difficult, In the case of birds recorded on call alone, a reasonable description of the call is required, difficult though that is.

ENDORSED LIST 61

Spotted Harrier *Circus assimilis*
1; 21 Mar 2004; Philip Veerman; Fyshwick Sewage Ponds GrL14
1; 22 Jun 2004; Martin Butterfield; Kellys
Swamp Gr L14 **Diamond Dove** *Geopelia cuneata* May
be wild birds.
2; 17, 26 Mar 2004; David Landon; 'Bibaringa' Gr HIS
2; 29 Mar 2004; Julie McGuiness; 'Bibaringa' Gr H14
2; 14 Apr 2004; Martin Butterfield; 'Bibaringa' Gr HIS
Major Mitchell's Cockatoo *Cacatua leadbeateri*
1; 15,30 May, 5 Jun 2004; Jack Holland; Chapman GrI15
Little Lorikeet *Glossopsitta pusilla*
1; 30 May 2004; Sue Lashko; Macquarie GrJ12
Rose-ringed Parakeet *Psittacula krameri* Escapee
1; 1-8 Mar 2004; Philip Veerman; Castley Cct, Kambah GrJ16
Channelbilled Cuckoo *Scythrops novaehollandiae*
1; 24 Oct 2003; Mark Clayton; Kaleen Gr K12
Bell Miner *Manorina melanophrys*
1; 26 Feb 2004; Lee Halasz; ANBG GrK13
Painted Honeyeater *Grantiella picta*
1; 29 Nov 2003; Steve Holliday; Campbell Park Gr L13
White-bellied Cuckoo-shrike *Coracina papuensis*
1; 29 May, 6 Jun 2004; Terena Lally; Hackett, GrL 13
Masked Woodswallow *Artamus personatus*
30; 22 Sep 2003; Michael Braby; Ginnindera Creek, MacGregor GrI12

The COG office is located at Room 5, Griffin Centre, Bunda Street, Civic, Opening hours are Tuesdays from approximately 10:00 - 12:30; at other times by arrangement with the secretary. Please call the office on 6247 4996 to confirm that it is open or to leave a message,

Canberra Bird Notes is published by the Canberra Ornithologists Group Inc and is edited by Harvey Perkins and Barbara Allan. Major articles of up to 5000 words are welcome on matters of the distribution, identification or behaviour of birds occurring in the Australian Capital Territory and surrounding area. Contributions on these topics should be sent to Harvey Perkins, 42 Summerland Circuit, Kambah ACT 2902, or via email to cbn@canberrabirds.org.au. Short notes, book reviews and other contributions should be sent to Barbara Allan, 47 Hannaford Street, Page ACT 2614 or to the above email address. If you would like to discuss your proposed article in advance, please feel free to contact Harvey on 6231 8209 or Barbara on 6254 6520.

Please note that the views expressed in the articles published in *Canberra Bird Notes* are those of the authors; they do not necessarily represent the views of the Canberra Ornithologists Group, Responses to the views expressed in CBN articles are always welcomed and will be considered for publication as letters to the

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