

### Minutes of the General Business Committee Meeting held on 2 July 2001 - Council Meeting 9 July 2001

1862845

**GB310** 

Bird Life Study - Mr Keith Laverick - 3/52/218/001

Ext. 219

### COMMITTEE'S RECOMMENDATION:

### No. 14

- Councillor Davis tabled a bird life study of the Belmont/Redhead area compiled by Mr Keith Laverick and requested that it be placed in the reference section of the
- That Council sends a letter of appreciation to Mr Laverick.

(Matter raised by Councillor Davis)

Chairperson

General Manager

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# THE BIRDS OF BELMONT SWAMP

1997

1998

1999

# M. K. LAVERICK



Brush Bronzewing

Photo by Michael Seyfort



Aerial View Of Study Area

#### INTRODUCTION

In July 1994 the Broken Hill Proprietary CO., Ltd., (B.H.P.) issued an Information Report B.H.P. Belmont Site Project, which outlined proposals for the development of 508 ha. of land which they owned to the East of the Town of Belmont in N.S.W.

The proposed development primarily related to the establishment of a significant residential area. It also allowed for the rehabilitation of the SEPP \*14 Wetland and beach front which were to be made available for public access.

The proposals required the rezoning of the area, into two categories, an Urban Zone requiring approximately 55% of the area, and Public Open Space which included the SEPP 14 Wetland, being the balance.

In view of the B.H.P. proposals the Lake Macquarie City Council commissioned Hassell Pty. Ltd., to undertake an environmental study which resulted in the issue of a detailed report Belmont-Redhead local environmental study.

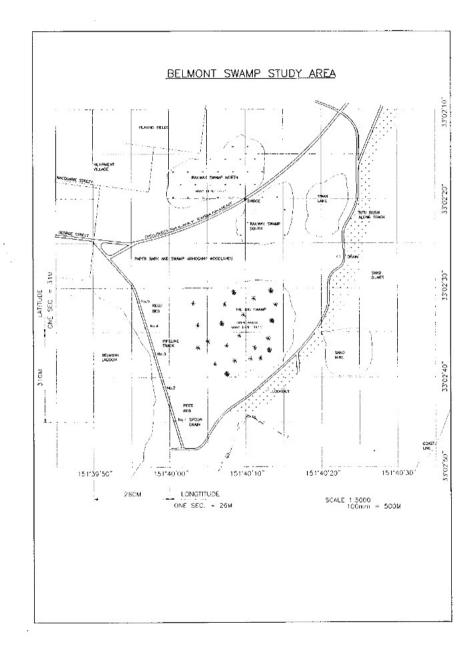
This report included an Appendix B, Fauna Species, Belmont-Redhead LES which listed 50 bird species occurring in the overall Belmont-Redhead LES, and indicating their status. A further table in Appendix C listed an additional 42 species thought likely to occur. However the actual Field Survey undertaken for the report detected only 40 species.

In view of the importance of having the most reliable data possible on which to base planning decisions I decided to undertake a more extensive survey of the area referred to as Belmont Swamp (Map 1). This includes the SEPP 14 Wetland and adjacent wetland to the West, which for reasons not understood by me were not included in the SEPP 14.

This survey was undertaken over the three calendar years 1997, 1998 and 1999 during which time 104 individual surveys reasonably evenly spread throughout the period, and each of about two hours duration, were undertaken.

The listing of birds recorded on each of these surveys and analysis of these records form the body of this report.

\*SEPP State Environmental Planning Policy.



#### SUMMARY RESULTS.

A total of 113 species of birds have been recorded during the three year period in the SEPP 14 Wetland Area 867, referred to in this report as Belmont Swamp Study Area.

40 of these species are considered to be residents or summer visitors most of which breed in the swamp or in the woodlands around the swamp. There are 6 regular Autumn visitors, five of which are honeyeaters arriving when the paperbarks and Swamp Mahogany are in bloom, plus the Spangled Drongo which stays on over winter.

There are 34 irregular, but not infrequent visitors, whose visits may be influenced by the level of water in the swamps or the time of year. For example although there are not thought to be any resident raptors, there is an undoubted increase in raptor visits during the Autumn. Also when the water level is very high Egrets and Spoonbills are absent.

Finally 25 species have been classed as rare visitors. All 25 are resident in the Hunter Region and a reasonable proportion are resident within a few kilometres of the swamp, so it is not at all surprising that they visit nearby areas, including Belmont Swamp, occasionally.

#### CONCLUSIONS.

From the large number of bird species that are either resident, or commonly visiting the Belmont Swamp, it must be concluded that the area is a most important bird habitat and refuge, and as such conservation of the area should be a priority for both Local and State Governments.

This is almost certainly the richest bird habitat in the Lake Maquarie City Council Area and ranks with other prime Hunter Valley Bird Areas, such as the Wetlands Centre and Kooragang Island.

#### THREATS

The major threat to the area at present is vandalism. The three main types of vandalism which have occurred increasingly over the past eighteen months are:-

Firebugs - Fires have been deliberately lit at seven locations along the Railway Track and the Sand Dunes Track. Typically these fires burn out 2 to 3 ha of bush or scrub, but the risk of a much more serious fire is ever present in the summer months.

Car Dumping - Nine cars have been dumped and burnt out, with one burnout resulting in a scrub fire. Three cars have been dumped on each track and those on the Railway and Sand Dunes Tracks are still in place.

Tree Felling - Fifteen or more mature trees along the Railway Track were cut down on one occasion. All were cut to fall across the track. The majority were swamp mahogany.

Ferral Animals - The extent of the threat from ferral cats is unknown but many tracks believed to be cats can be seen on most visits. On one occasion a large ferral pig was seen on the Railway Track.



Looking East Along 2 ha Study Area

R 3



Railway Emankment Looking East

C3

Residential Development - Should residential development occur to the north of the wetlands there would almost certainly be serious additional threats to the wetlands no matter how carefully the developments were planned.

Highway Development - The State Roads Authority has proposed a Belmont Bypass which would run immediately to the east of the main wetlands. If this proceeds there would be significant disturbance, particularly during construction.

#### BELMONT SWAMP

The Belmont Swamp lies at the southern end of what was the B.H.P. John Darling Colliery lease. It lies immediately to the east of Belmont Township and to the North of Belmont Lagoon. To the east of the Swamp are coastal sand dunes and the Tasman Sea, whilst to the north there is a large area of de-nuded coastal scrub. An Ariel photograph of the area is shown in Figure 1 and a map in Figure 2.

The area comprises of shallow wetlands and coastal woodlands, and apart from the sand-dunes the whole area is flat and low lying, whilst the dunes rise to the height of about 15metres.. The major woodland areas are mainly melaluca and with a good number of mature Swamp Mahogony trees. The four shallow wetland areas are undoubtedly interconnected and drain southward into Belmont Lagoon by five man maid spoon drains. In this report the individual wetlands are referred to as Railway Swamp, Swan Lake and Big Swamp, with Railway Swamp approximately equally divided by an old railway embankment into respectively North and South Railway Swamp and Big Swamp each have a large number of dead trees standing in them and these are understood to have been there for perhaps 50 years.

#### WEATHER CONDITIONS

The major abnormal weather condition which occurred during the survey, and which may have had an influence on the survey results, was the intense El-nino which occurred during 1997/98. This resulted in severe drought conditions during the early part of the survey, followed by above average rainfall. These two weather extremes resulted in very low water levels occurring, particularly in the two Railway Swamp segments, followed by a period of rapid water level rise and strong drainage flow occurring the latter part of 1998. In 1999 more normal weather conditions occurred.

## SURVEY METHOD

The intention was to undertake a survey on average four times per month over the three year period. Each survey to be undertaken early in the morning, typically commencing between a half and one hour after sunrise, and for a duration of approximately two hours. The survey route was along the railway track starting from the carpark at the end of George Street, then south along the sand-dune track and back to the carpark along the Pipe-line track, a total distance of two and a half kilometres. Birds seen or heard were recorded and on return to the carpark an estimate of the numbers recorded was made.

#### PERCENTAGE OCCURENCE OF EACH SPECIES ON AN ANNUAL BASIS

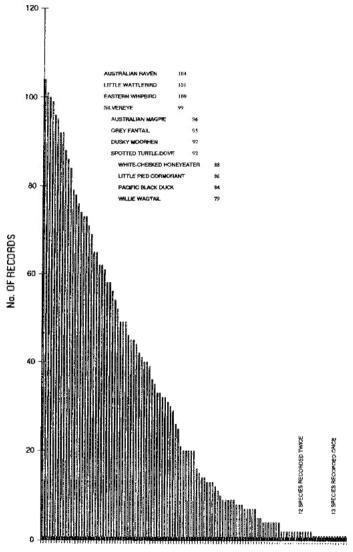
Times.							100		
	1997		1998		1999			1997/8/9	
		%OF		% OF		% OF			%OF
MONTH	No	38	No	26.0	No	40.0		No	104
DATE	RECDS	VISITS	RECDS	VISITS	RECDS:	VISITS		KECDS	VISITS
OUAIL BROWN OUAIL	3	7,9	2	7.7	2	5.0		7	6.7
DUCKS, & SWAN	,1	1,7	-	7.7		3.0			
BLACK SWAN	15	39.5	16	61.5	21	52.5		52	50.0
AUSTRALIAN WOOD DUCK	6	15.8	0	0.0	14	35.0		20	19.2
PACIFIC BLACK DUCK	30	78.9	21	80.8	3.3	82.5		84	80.8
AUSTRALASIAN SHOVELLER	1	2.6	U	0.0	0	0.0		1	1.0
GREY TEAL	û	0.0	3	11.5	13 28	32.5		16 62	59.6
CHESTNUT TEAL	25	65.8	9	34.6	28	79.0		64	39.0
GREBES AUSTRALASIAN GREBE	1	2.6	1	3.8	10	25.0		12	11.5
PELICAN, CORMORANTS & DARTER	,	2.0		3.0	10	23.0			7100
LITTLE PIED CORMORANT	33	86.8	18	69.2	35	87.5		36	82.7
PIED CORMORANT	O	0.0	9	0.0	1	2.5		1	1.0
LITTLE BLACK CORMORANT	19	50.0	6	23.1	20	50.0		45	43.3
GREAT CORMORANT	13	34.2	13	50.0	19	47.5		45	43.3
AUSTRALIAN PELICAN	6	15.8	2	7.7	0	0.0		8	7.7
EGRETS & HERONS WHITE-FACED HERON	14	16.0	9	34.6	8	20.0		31	29.8
LITTLE EGRET	1,7	36.8 5.3	ő	0.0	ő	0.0		2	1.9
GREAT EGRET	12	31.6	š	30.8	6	15.0		26	25.0
INTERMEDIATE EGRET		5.3	Ü	0.0	ō	0.0		2	1.9
NANKEEN NIGHT HERON	7	18.4	0	0.0	2	5.0		9	8.7
IBISES & SPOONBILLS									
AUSTRALIAN WHITE IBIS	22	57.9	9	34.6	9	22.5		40	38.5
STRAW NECKED IBIS	7	13.2	5	0.0	2.	2.5		7	6.7
ROYAL SPOONBILL RAPTORS	′	18.4	2	19.2	1	4.3		13	12.0
OSPREY	6	15.8	2	7.7	12	30.0		20	19.2
BLACK-SHOULDERED KITE	ĭ	2.6	ĩ	3.8	0	0.0		2	1.9
WHISTLING KITE	3	7.9	i	3.8	1	2.5		5	4.5
WHITE-BELLIED SEA-EAGLE	6	15.8	5	19.2	2	5.0		13	12.5
SWAMP HARRIER	3	7.9	3	11.5	3	7.5		9	8.7
BROWN GOSHAWK	4	10.5	2	7.7	3	7.5		9	8.7
GREY GOSHAWK	i	2.6	0 2	0.0	1 2	2,5 5.0		2 4	1.9 3.8
COLLARED SPARROWHAWK AUSTRALIAN HOBBY	D	0.0	4	7.7	Ť	2.5			4.8
PEREGRINE FALCON	Ď	0.0	2	7.7	ò	0.0		5 2	1.9
NANKEEN KESTREL	ō	0.0	ō	0.0	i	2.5		ī	1.0
CRAKES, RAILS & ALLIES	110		1000						
PURPLE SWAMPHEN	- 11	28.9	10	38.5	29	50.0		41	39.4
DUSKY MOORHEN	32	84.2	21	80.8	39	97.5		92	88.5
WADERS					4	100		4	3.8
LATHAMS SNIPE MASKED LAPWING	9 5	13.2	0	3.8	3	7.5		9	8.7
GULLS, & TERNS	3	13.2	•	3.0	,	1.5		7	Ou i
SILVER GULL	28	73.7	7	26.9	14	35.0		49	47.1
CASPIAN TERN	2	5.3	Ó	0.0	0	0.0		2	1.9
CRESTED TERN	0	0.0	0	0.0	E	2.5		1	1.0
PIGEONS, & DOVES								(20)	
SPOTTED TURTLE-DOVE	37	97.4	17	65.4	38	95.0		92	88.5
COMMON BRONZEWING	8	21.1	0	0.0	0	0.0 27.5		8	7.7
BRUSH BRONZEWING CRESTED PIGEON	23	60.5	10	15.4 38.5	25	62.5		58	55.8
BAR-SHOULDERED DOVE	25	65.8	17	65.4	31	77.5		73	70.2
TOPKNOT PIGEON	0	0.0	0	0.0	4	10.0		4	3.8
COCKATOOS		***							
GALAH	27	71.1	7	26.9	15	37.5		49	47.1
SULPHUR-CRESTED COCKATOO	11	28.9	4	15.4	10	25.0		25	24.0
PARROTS, LORIKEETS & ALLJES									***
RAINBOW LORIKEET	4	10.5	6	23.1	g g	2.5 0.0		11	10.6
SCALY BREASTED LORIKEET EASTERN ROSELLA	23	2.6 60.5	10	38.5	32	80.0		65	62.5
RED-RUMPED PARROT	ī	2.6	0	0.0	0	9.0		1	1.0
CUCKOOS & ALLIES		210	*	0.0					
FAN-TAILED CUCKOO	30	78.9	7	26.9	28	70.0		65	62.5
HORSEFIELDS BRONZE CUCKOO	0	0.0	0	0.0	2	5.0		2	1.9
SPINING BRONZE CUCKOO	29	76.3	6	23.1	26	65.0		61	58.7
COMMON KOEL	0	0.0	o,	0.0	1	2.5		!	1.0
PREASANT COUCAL	1	2.6	1	3.8	5	12.5		7	6.7
SWIFTS WHITE-TEROATED NEEDLETAIL	1	2.6	0	0.0	3	7.5		4	0.0 3.8
KINGFISHERS & ALLIES	•	4.0	~	5.0	-	. 102		•	
AZURE KINGFISHER	1	2.6	0	0.0	1	2.5		2	1.9
LAUGHING KOOKABURRA	30	78.9	19	73.1	24	60.0		73	70.2
SACRED KINGFISHER	13	34.2	9	34.6	22	55.0		44	42.3
DOLLARBIRD	8	21.1	\$	19.2	8	20.0		21	20.2
TREECREEPERS	q			10.1		1.6		14	12 =
WHITE THROATED TREECREEPER	4	23.7	4	15.4	1	2.5		14	13.5

FAIRY WRENS								0.0
SUPERB FAIRY-WREN	20	52.6	10	38.5	19	47.5	49	47.1
VARIEGATED FAIRY-WREN	1.2	31.6	6	23.I	22	55.0	40	38.5
SOUTHERN EMU-WREN	0	0.0	ι	3.8	1	2.5	2	1.9
PARDALOTES SCRUBWRENS & ALLIES			7	***	14	49.0	35	33.7
SPOTTED PARDALOTE	12 30	31.6 78.9	17	26.9 65.4	16	67.5	74	71.2
WHITE-BROWED SCRUBWREN BROWN GERYGONE	- 0	0.0	4	15.4	0	0.0	7	3.8
WHITE-THROATED GERYGONE	ĭ	2.6	ō	0.0	ŏ	0.0	1	1.0
BROWN THORNBILL	20	52.6	7	26.9	19	47.5	46	44.2
YELLOW THORNBILL	14	36.8	7	26.9	11	27.5	33	30.8
HONEYEATERS & ALLIES								
RED WATTLEBIRD	1	2.6	2	7.7	- 1	2.5	4	3.8
LITTLE WATTLEBIRD	37	97.4	25	96.2	39	97.5	101	97.1
STRIPED HONEYEATEER	0	0.0	0	0.0	1	2.5 25.0	1 20	1.0 19.2
NOISY FRIARBIRD NOISY MINER	1	7.9	9	3-1.6 0.0	10	10.0	7	6.7
LEWIN'S HONEYEATER	17	44.7	is	57.7	24	60.0	56	53.8
YELLOW-FACED HONEYEATER	6	15.8	14	53.8	10	25.0	30	28.8
WHITE-NAPED HONEYEATER	0	0.0	8	30.8	0	0.0	8	7.7
BROWN HONEYEATER	ī	2.6	Ó	0.0	0	0.0	1	1.0
WHITE-CHEEKED HONEYEATER	31	87.6	22	84.6	35	87.5	88	84.6
EASTERN SPINEBILL	4	10.5	12	46.2	4	10.0	20	19.2
SCARLET HONEYEATER	2	5.3	6	23.1	6	15.0	14	13.5
ROBINS	0		0	0.0	0	0.0 ////????	0	9.0
ROSE ROBIN EASTERN YELLOW ROBIN	13	0.0 34.2	4	15.4	15	37.5	32	30.8
WHIPBIRDS & ALLIES	1.5	,14.2		1.5.4		2.44		0.0
EASTERN WHIPBIRD	36	94.7	26	100.0	38	95.0	100	96.2
WHISTLERS & SHRIKE-THRUSHES		7411		0.0				
CRESTED SHRIKE-TIT	3	7.9	0	0.0	7	17.5	10	9.6
GOLDEN WHISTLER	4	10.5	2	7.7	3	7.5	9	8.7
RUFOUS WHISTLER	15	39.5	11	42.3	28	70.0	54	51.9
GREY SHRIKE-THRUSH	12	31.6	5	19.2	19	47.5	36	34.6
FLYCATCHERS & ALLIES	1	24	0	0.0	0	0.0	1	1.0
BLACK-FACED MONARCH MAGPIE-LARK	19	2,6 50,0	14	53.8	25	62.5	58	55.8
RUFOUS FANTAIL	0	0.0	17	3.8	3	7.5	4	3.3
GREY FANTAIL	33	86.8	24	92.3	38	95.0	95	91.3
WILLIE WAGTAIL	3-0	78.9	15	57.7	34	85.0	79	76.0
SPANGLED DRONGO	15	39.5	7	26.9	11	27.5	33	31.7
CUCKOO-SHRIKES & TRILLERS			9399				4-	
BLACK-FACED CUCKOO-SHRIKE	30	78.9	12	46.2	29	72.5	71	68.3
ORIOLES	15	39.5	6	23.1	12	30.0	33	31.7
OLIVE-BACKED ORIOLE FIGBIRD	0	0.0	•	3.8	1	2.5	2	1.9
WOODSWALLOWS & ALLIES		0.0		555	•	***	-	
WHITE-BREASTED WOODSWALLOW	30	78.9	17	65.4	31	77.5	78	75.0
GREY BUTCHERBIRD	28	73.7	20	76.9	28	70.0	76	73.1
PIED BUTCHERBIRD	0	0.0	0	0.0	2	5.0	2	1.9
AUSTRALIAN MAGPIE	34	89.5	24	92.3	38	95.0	96	92.3
PIED CURRAWONG	11	28.9	6	23.1	12	30.0	29	27.9
RAVENS & CROWS			20		40	160.0	104	100.0
AUSTRALIAN RAVEN	38	100.0	26	100.0	40	100.0	104	100.0
SPARROWS, FINCHES & ALLIES RED-BROWED FINCH	24	63.2	18	69.2	27	67.5	69	66.3
MISTLETOEBIRD	24	65.2	10	07.4		97.0		170.23
MISTLETOEBIRD	1	2.6	0	0.0	0	0.0	1	1.9
SWALLOWS & MARTINS	10							
WELCOME SWALLOW	30	78.9	12	46.2	20	50.0	62	59.6
TREE MARTIN	0	0.0	4	15.4	3	7.5	7	6.7
BULBULS						22.2		
RED-WHISKERED BULBUL	3	7.9	4	15.4	13	32.5	20	19.2
OLD WORLD WARBLERS				- 4	0	0.0	- 1	1.0
TAWNY GRASSBIRD	0	0.0	4	3.8 15.4	3	7.5	13	12.5
LITTLE GRASSBIRD	5	15.8	9	0.0	ő	0.0	2	1.9
GOLDEN-HEADED CISTICOLA SILVEREYE	-	213	u	0.0		3.0	-	•••
SILVEREYE	35	92.1	26	100.0	38	95.0	99	95.2
STARLINGS		74.1	-4	190.0	**			
COMMON STARLING	18	47.4	8	30.8	13	32.5	39	37.5
COMMON MYNA	23	60.5	7	26.9	12	30.0	42	40.4

## NUMBER OF RECORDS OF ALL SPECIES RECORDED AND THEIR STATUS

SPECIES	RECS	STATU	SSPECIES	RECS	STATUS
AUSTRALIAN RAVEN	104	RES	GREY TEAL	16	v
LITTLE WATTLEBIRD	101	RES	BRUSH BRONZEWING	15	sv
EASTERN WHIPBIRD	100	RES	WHITE THROATED TREECREEPER	14	v
SILVEREYE	99	RES	SCAPLET HONEYEATER	14	AV
AUSTRALIAN MAGPIE	96	RES	ROYAL SPOONBILL	13	v
CREY FANTAIL	95	RES	WHITE-BELLIED SEA-EAGLE	13	v
DUSKY MOORHEN	92	RES	LITTLE GRASSBIRD	13	sv
SPOTTED TURTLE-DOVE	92	RES	AUSTRALASIAN GREBE	12	v
WHITE-CHEEKED HONEYEATER	ЯЯ	RES	RAINBOW LORIKEET	11	v
LITTLE PIED CORMORANT	86	RES	CRESTED SHRIKE-FIT	10	v
PACIFIC BLACK DUCK	84	RES	NANKEEN NIGHT HERON	,	v
WILLIE WAGTAIL	79	HES	SWAMP HARRIER	9	v
WHITE-BREASTED WOODSWALLOW	78	RES	BROWN GOSHAWK	,	v
GREY BUTCHERBIRD	76	RES	MASKED LAPWING	9	v
WHITE-BROWED SCRUBWREN	74	RES	GOLDEN WHISTLER	9	v
BAR-SHOULDERED DOVE	73	RES	AUSTRALIAN PELICAN		OF
LAUGHING KOOKABURRA	73	RES	COMMON BRONZEWING	8	v
BJ.ACK-FACED CUCKOO-SHRIKE	71	RES	WHITE-NAPED HONEYEATER	8	AV
RED-BROWED FINCH	69	RES	BROWN QUAIL	7	v
EASTERN ROSELLA	65	RES	STRAW NECKED IBIS	7	v
FAN-TAILED CUCKOO	65	RES	PHEASANT COUCAL	7	v
CHESTNUT TEAL	62	RES	NOISY MINER	7	v
WELCOME SWALLOW	62	RES	TREE MARTEN	7	v
SHINING BRONZE CUCKOO	61	RES	WHISTLING KITE		v
CRESTED PIGEON	58	RES	AUSTRALIAN HOBBY	5	v
MAGPIE-LARK	58	RES	COLLARED SPARROWHAWK	4	Ý
LEWIN'S HONEYEATER	56	RES	LATHAMS SNIPE	4	y
RUFOUS WHISTLER	54	SV	TOPKNOT PIGEON	4	v
BLACK SWAN	52	RES	WHITE-THROATED NEEDLETAIL	4	OF
SILVER GULL	49	O/F	BROWN GERYGONE	4	v
GALAH	49	RES	RED WATTLEBIRD	4	v
SUPERB FAIRY-WREN	49	RES	RUFOUS FANTAIL	4	v
BROWN THORNBILL	46	RES	LITTLE EGRET	2	RV
LITTLE BLACK CORMORANT	45	RES	INTERMEDIATE EGRET	2	RV
GREAT CORMORANT	45	Roots	BLACK-SHOULDERED KITE	2	RV
SACRED KINGFISHER	44	SV	GREY GOSHAWK	2	RV
COMMON MYNA	42	U	PEREGRINE FALCON	2	-
PURPLE SWAMPHEN	41	RES	CASPIAN TERN	2	RV
AUSTRALIAN WHITE IBIS	48	V	HORSEFIELDS BRONZE CUCKOO	2	0.000
VARIEGATED FAIRY-WREN	40	RES	AZURE KINGFISHER	2	RV
COMMON STARLING	39	V	SOUTHERN EMU-WREN	2	RV RV
GREY SHRIKE-THRUSH	16	Ü	FIGBIRD	,	RV
SPOTTED PARDALOTE	35	U	PIED BUTCHERBIRD	2	A control
SPANGLED DRONGO	33	AV	COLDEN-HEADED CISTICOLA	2	RV
OLIVE-BACKED ORIOLE	33	U	AUSTRALASIAN SHOVELLER	1	RV
YELLOW THORNBILL	32	RES	PIED CORMORANT	1	RV
EASTERN YELLOW ROBIN	32	RES	NANKEEN KESTREL	į	RV
WHITE-FACED HERON	31	V	CRESTED TERN	1	RV
YELLOW-FACED HONEYEATER	30				RV
PIED CURRAWONG	29	AV	SCALY BREASTED LORIKEET RED-RUMPED PARROY	1	RV
GREAT EGRET		v		0.5	RV
SULPHUR-CRESTED COCKATOO	26	v	COMMON KOEL	1	RV
	25	v	WHITE-THROATED GERYGONE	1	RV
DOLLARBIRD	21	sv	STRIPED HONEYEATEER	1	RV
AUSTRALIAN WOOD DUCK	20	v	BROWN HONEYEATER	1	RV
OSPREY	20	v	BLACK-FACED MONARCH	ı	RV
NOISY FRIARBIRD	20	AV	MISTLETOEBIRD	1	RV
EASTERN SPINEBILL	20	AV	TAWNY CRASSBIRD	1	RV
RED-WHISKERED BULBUL	20	V			

35 RESIDENTS 5 SUMMER VISITORS 6 AUTUMN VISITORS 34 VISITORS AT ANY TIME 25 RARE VISITORS 4 STATUS UNCERTAIN 4 OTHERS EITHER OVERFLY OR ROOST



Series 1

ANALYSIS OF RECORDING FREQUENCY OVER THREE YEAR PERIOD

% RECORD	ING RANGE	NUMBER OF SPECIES	% NUMBER OF SPECIES	LIKELYHOOD OF RECORD/OBSERVATIO
90.1	100	6	5.2	INVARIABLY
80.1	90	5	4.3	RECORDED
70.1	80	6	5.2	OFTEN
60.1	70	4	3.5	RECORDED
50. I	60	7	6.1	QUITE OFTEN
40.1	50	9	7.8	RECORDED
30.1	40	10	8.7	MODERATELY
20.1	30	7	6.1	OFTEN RECORDED
10.1	20	13	11.3	OCCASIONALLY
2, t	10	23	20.0	RECORDED
0,1	2	25	21.7	RARELY RECORDED
		115	100.0	

EXAMPLE OF THE ONEHUNDRED AND FIFTEEN SPECIES RECORDED

DURING THREE YEARS OBSERVATION SIX SPECIES WERE

RECORDED ON 90.1% OR MORE OF VISITS, WHILST 25

SPECIES WERE RECORDED ON 2% OR LESS OF VISITS.

N. B. THIS IS NOT A MEASURE OF ABUNDANCE BUT SIMPLY AN INDICATION OF THE LIKELYHOOD OF AN OBSERVATION OR RECORD ON ANY VISIT



Railway Swamp North - Looking North

E 2



Railway Swamp South - Looking South

E2

## COMPARISSON OF RECORDS OF VARIOUS S

	COMPARISSON OF RECORDS OF	VARIOUS
MONTH	J J J F F F F M M M M A A A A M	M M M
BROWN QUAIL BROWN QUAIL BROWN QUAIL	97 98 99 11 2	
AUSTRALIAN WOOD DUCK AUSTRALIAN WOOD DUCK AUSTRALIAN WOOD DUCK	97 98 2 2 2 2 1 2	3
GREY TEAL GREY TEAL GREY TEAL	97 98 99 10 B 1 4 1	
AUSTRALASIAN GREBE AUSTRALASIAN GREBE AUSTRALASIAN GREBE	97 98 Bandarden 99	ACTOR AND ADDRESS OF THE PARTY
LITTLE BLACK CORMORANT LITTLE BLACK CORMORANT LITTLE BLACK CORMORANT	97   1   1   3   2   2   1   4   4   3   2   2   3   4   4   3   2   2   3   3   3   3   3   3   3	3 3
GREAT CORMORANT GREAT CORMORANT GREAT CORMORANT	97   1   1   98   5   1   1   1   1   99   5   6   1   8   B   2   3	
WHITE-FACED HERON WHITE-FACED HERON WHITE-FACED HERON	97 98 11 29 14 3 1 1 2 2 5 5 4 1 6 1 4	2 1
GREAT EGRET GREAT EGRET GREAT EGRET	97 1 2 2 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1
NANKEEN NIGHT HERON NANKEEN NIGHT HERON NANKEEN NIGHT HERON	97 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
OSPREY OSPREY OSPREY	97 98 99 1 2 1 1 1 1 1	1
WHITE-BELLIED SEA-EAGLE WHITE-BELLIED SEA-EAGLE WHITE-BELLIED SEA-EAGLE	97 98 11 99 1 1 11 11	
COMMON BRONZEWING BRUSH BRONZEWING BRUSH BRONZEWING	97 1 1 1NVC 98 H 1+H H	
SACRED KINGFISHER SACRED KINGFISHER SACRED KINGFISHER	97 2 2 1+1H 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
DOLLARBIRD DOLLARBIRD DOLLARBIRD	97 2 1 3 2 2 1 2 2 1 2 2 2 1 2 2 2 2 2 2 2	
SPOTTED PARDALOTE SPOTTED PARDALOTE SPOTTED PARDALOTE	97 98 H 1+H 1 2 H 199 H H H 1+BB1+BE	нн
YELLOW-FACED HONE YEATER YELLOW-FACED HONE YEATER YELLOW-FACED HONE YEATER	97 98 99 99 1 C D E++ E++ D E+ 99	E+ D
WHITE-CHEEKED HONEYEATER WHITE-CHEEKED HONEYEATER WHITE-CHEEKED HONEYEATER	97 B A 98 3 2+H B C A C B BC I B B B 2 1+H 92 A 4 B A B B A B B A A LB LB I	A A C 2+H
RUFOUS WHISTLER RUFOUS WHISTLER RUFOUS WHISTLER	97 A 2 2+AH	
MAGPIE-LARK MAGPIE-LARK MAGPIE-LARK	97 2 H H B H 2 4 3 H 4+H S 99 4 4 2 C 6 8 4 4 1+H A 4 H 1+H 2	^
SPANGLED DRONGO SPANGLED DRONGO SPANGLED DRONGO	97 98 1 1 8 4 1 99 2 4 2	1
OLIVE-BACKED ORIOLE OLIVE-BACKED ORIOLE OLIVE-BACKED ORIOLE	97 98 99 91 1 1 1 H H 1 1 3 1 4	1
WHITE-BREASTED WDSWALLOW WHITE-BREASTED WDSWALLOW WHITE-BREASTED WDSWALLOW	97 2 B B B B B B B B B B B B B B B B B B	A 1
TREE MARTIN TREE MARTIN TREE MARTIN	97 98 100+ D C B 1 99 Sp? 1	
RED-BROWED FINCH RED-BROWED FINCH RED-BROWED FINCH	97 1 B A C B C C B 2 B C B 2 B B C B 1 B B C B 1 B C B C B B B C B 1 B B C B 1 B C B C	A A
RED-WHISKERED BULBUL RED-WHISKERED BULBUL RED-WHISKERED BULBUL	97 98 1 B H 99 2 3+H 5 2+H 3+H 3 2	2

10		
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1+H 1+H   1+H 1+H   1+H 1+H   2+H 1+H   2+H 1+H   1+H 1+H   1+H 1+H   2+H 1+H   1+H 1+H   1+H 1+H   1+H 1+H   1+H 1+H   1+H   1+H 1+H   1+H 1+H   1+H 1+H   1+H 1+H   1+H 1+H   1+H 1+H   1+H 1+H   1+H 1+H   1+H 1+H 1+H   1+H 1+H 1+H 1+H 1+H 1+H 1+H 1+H 1+H 1+H	3	1 2
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B I B B B B A C	1+H 1 H	l l H
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	5,000	C
8 5 8 A A 1 1 1 2 1 1 1 4 1 2 A 2 A 2 HB 2 1 1 1 A LB 1	LB 1	



Paperbark Woodlands West of Sandmine Track

F5



Part of The Big Swamp from Lookout

E7



Melaleuca Woodlands - Looking South From Railway Track

C3



Railway Swamp South - From Bridge

BROWN OUAIL Coturnix ypsilophora Ref No 16 HBOC Category 1

Breeding - Probable Status - Uncertain Sightings each year, with records from late December to late April. Usually small groups of 2 - 6 birds,

but a Family party of 11 birds in January 1999 indicated breeding. Most sightings along the track in G1

and G2.

BLACK SWAN

Cygnus atratus

Ref No 37

HBOC Category 1 Breeding - Yes Status - Usual resident Regularly recorded from November to July each year, but mostly absent from August to October.

Unsuccessful breeding attempt on Swan Lake G3 in June/July 1999.

AUSTRALIAN WOOD DUCK

Chenonetta Jubata

Ref. No. 83

HBOC Category 1

Breeding - No. Status - Irregular visitor

1 to 3 Birds, usually 2, recorded generally in the November to April period, but no records in 1998.

PACIFIC BLACK DUCK

Anas Superciliosa

Ref.No. 76

HBOC Category 1 Breeding - probable. Status - Common resident.

Frequently recorded during all Seasons on both Railway Swamps and the Big Swamp.

GREY TEAL

Anas Gracilis

Ref.No.78

HBOC Category 1 Breeding - No. Status - Irregular visitor. No records in 1997, 3 records in 1998 and then often recorded during the warmer months in 1999. Most

sightings on Railway Swamp South E3.

AUSTRALIAN SHOVELER.

Anas Rhynchotis

Ref.No. 80.

HBOC Category 1 Breeding - No. Status - Rare visitor. There is a single record of a pair of Shovelers on Railway Swamp South E3 on 13th October 1997.

CHESTNUT TEAL

Anas Castanea

Ref.No.79. HBOC Category 1 Breeding - Yes. Status - Common Resident. 1 to 15 Birds seen every month that visits were made. Mainly seen on Railway Swamp South E3 and the

Big Swamp. Dependent young seen in November 1999.

AUSTRALASIAN GREBE

Tachybaptus Novaehollandiae

Ref.No.6.

HBOC Category 1. Breeding - Possible. Status - Variable visitor. Single records in Winter 1997 and 1998, then a pair resident on Railway Swamp South from mid July until

late November 1999.

DARTER

Anhinga Nelanogaster.

HBOC Category 1 Breeding - No.

Ref.No.39. Status - Accidental

There has been only 1 sighting of this species in three years with 1 bird on Swan Lake in 1998.

LITTLE PIED CORMORANT

Phalacrocorax Melanoleuleucos.

Ref No.44

HBOC Category 1. Breeding - No.

Status - Roosts

Many of these birds roost in the dead trees of North Railway Swamp and can be seen flying seawards early each morning. Over 100 Birds have occasionally been seen.

PIED CORMORANT

Phalacrocorax Varius.

Ref.No.42/

HBOC Category 1.

Breeding - No.

Status - Rare visitor

A single sighting of 1 bird overflying the Swamp in October 1999.

LITTLE BLACK CORMORANT

Phalacrocorax Sulcirostris.

Ref.No.43.

HBOC Category 1. Breeding - No.

Status - Resident?

Records of 1 to 10 birds in Spring, Summer and Autumn, but only 1Winter record. Seen on Railway

Swamp South and roosting in dead trees of the Big Swamp.

E 3

GREAT CORMORANT

Phalacrocorax Carbo

Ref.No.41.

HBOC Category 1.

Breeding - No.

Status - Roosts

Regular sightings in Spring and Summer but very few Autumn or Winter records. Mainly seen roosting in dead trees of the Big Swamp. Usually 1 to 5 birds but occasionally 50+.

AUSTRALIAN PELICAN HBOC Category 1.

Pelicanus Conspicillatus

Ref.No.34.

Breeding - No.

Status - Overflies.

1 to 3 Birds occasionally seen overflying the swamp from Belmont Lagoon.

WHITE FACED HERON

Egretta Novaehollandiae

Breeding - No.

Ref.No.50. Status -Visitor

HBOC Category 1. A moderately common visitor, particularly in the Autumn when half of all records have been made. Numbers varying from 1 to 14 Birds.

LITTLE EGRET

Egretta Garzetta

Ref.No.54.

Breeding - No. HBOC Category 1.

Status - Rare visitor.

There have been only two sightings of this Birds, both in December, 1997

GREAT EGRET

Ardea Alba

Ref.No.53

HBOC Cagegory 1. Breeding - No. Status - Uncommon visitor.

With the exception of 9 overflying in December, 1999 all records were of 1 to 3 Birds with most sightings

in the Autumn

INTERMEDIATE EGRET

Ref.No.55

Ardea Intermedia HBOC Category 1 Breeding - No. Status - Rare visitor.

Only two records, both in Spring 1997.

NANKEEN NIGHT HERON.

Nycticorax Caledonicus.

Ref.No.58.

HBOC Category 1. Breeding - No. Status - Uncommon visitor.

There were seven sightings in the November to January period of 1997, no records in 1998 and two sightings of Juvenile Birds in November and Febuary 1999.

AUSTRALIAN WHITE IBIS

Threskiornis Molucca

Ref No.64

HBOC Category 1. Breeding - No. Status - Visitor/may roost. Although seen throughout the year, most records are of 1 or 2 Birds in the Summer and Autumn period.

STRAW NECKED IBIS.

Threskiornis Spinicollis.

Ref.No.65

HBOC Category 1. Breeding - No. Status -Uncommon visitor.

Five of the seven records were from the November to December period in 1997.

ROYAL SPOONBILL.

Platalea Regia

Breeding - No.

Ref.No.66. Status - Uncommon Visitor.

HBOC Category 1. There is no pattern to the visits of this species, with 1 or 2 Birds likely to turn up at any time. OSPREY HBOC Category 1.

Pandion Haliaetus Breeding - No.

Ref.No.88. Status - Visitor

The Osprey is the most frequently seen raptor, with nearly all sightings of a single Bird resting in dead trees of the Big Swamp, and most commonly in the the Autumn.

BLACK-SHOULDERED KITE.

Elanus Axillaris. Breeding - No.

Ref.No.89. Status - Rare Visitor

HBOC Category 1.

There have been only two sightings, March 1997 and January 1998.

Haliastur Sphenurus. Breeding - No. HBOC Category 1.

Ref.No.96. Status - Rare Visitor.

These Birds are not uncommon around adjacent Lake Macquarie but are rare Autumn and Winter Visitors

to Belmont Swamp.

WHISTLING KITE

WHITE-BELLIED SEA-EAGLE.

Haliaeetus leucogaster.

Ref.No.

HBOC Category 1. Breeding - No. Status - Uncommon Visitor. This is the second most frequently recorded Raptor, most often seen in the Autumn and Winter period.

The majority of sightings are of perched birds in the dead trees of the Big Swamp.

SWAMP HARRIER.

Circus approximans.

Ref No 105

Status - Rare Visitor.

HBOC Category - 1 Breeding -No. This bird was seen three times in each year, but with no Seasonal patterns to the visits. Most sightings over the Big Swamp.

BROWN GOSHAWK.

Accipiter fasciatus.

Ref No 97

HBOC Category - 1. Breeding - No. A few sightings each year, mainly along the Railway track.

GREY GOSHAWK. Accipiter novaehollandiae.

Ref.No.99. Status - Very Rare Visitor.

Status - Very Rare Visitor.

Status - Very Rare Visitor.

Status - Rare Visitor

HBOC Category - 1. Breeding - No. Only recorded twice in three years. Each sighting was of a bird perched in a dead tree in Railway Swamp

North E2.

COLLARED SPARROWHAWK.

Accipiter cirrhocephalus.

Ref.No.98.

HBOC Category - 1. Breeding - No.

Recorded twice in 1998 and 1999 in the woods along the Railway track.

Falco longipennis. Ref No. 108

HBOC Category - 1. Breeding - No. Status - Rare Visitor. Four of the five records of this species were from Winter 1998. Two of these records were of Juvenile

birds perched in Block C7.

AUSTRALIAN HOBBY.

PEREGRINE FALCON.

NANKEEN KESTREL.

Falco peregrinus.

Ref.No.107.

HBOC Category - 1. Breeding - No.

Two records, both in 1998 and both along the Pipe Line Track

Falco cenchroides.

Ref.No.111. Status - Very Rare Visitor.

HBOC Category - 1. Breeding - No. There has been only a single record of a Bird in flight over the Big Swamp. PURPLE SWAMP HEN.

Porphyrio porphynio. Breeding - Yes.

Ref.No.138.

HBOC Category - 1.

Mod Common Resident

These Birds are recorded on about 40% of visits, and can be seen on the margins of each of the Swamps.

DUSKY MOORHEN.

Gallinula tenebrosa.

Ref. No. 137

HBOC Category - I.

Breeding - Yes.

Status - Common Resident.

A very commonly recorded bird, seen on all Swamps except Swan Lake,

LATHAM'S SNIPE. HBOC Category - 1. Gallinago hardwickii

Breeding - No.

Ref.No.176. Status - Rare Visitor.

All four records are from 1999, three of them on consecutive visits in January when they were seen by

floodwater on the track in G1.

MASKED LAPWING HBOC Category - 1.

Vanellus miles. Breeding - No.

Ref.No.149. Status - Rare Visitor.

Small parties of three to five birds have visited at irregular intervals over the three years.

SILVER GULL. Larus novehollandiae

Ref No 194

HBOC Category - 1. Breeding - No. Status - Overfivs.

Status - Very Rare Visitor

Although recorded on almost 50% of visits all sightings are of birds flying over the Swamp

CASPIAN TERN.

Stema caspia.

Ref.No. 200.

HBOC Category - 1. Breeding - No.

Recorded only once in the three years in flight over A3.

SPOTTED TURTLE-DOVE.

Streptoelia chinensis

Ref.No.222

HBOC Category - 1. Breeding - Yes. Status - Resident. Five to ten birds and sometimes more recorded on 90% of visits. Usually on power lines along Sand Mine

Track and A3.

BRONZEWING SPECIES.

Phapschalcoptera/elegans.

Ref.No.229/230.

HBOC Category - 1 & 2. Breeding - Possible. Status -Seasonal Visitor

Although recorded as Common Bronzewing in 1997 all subsequent records are confirmed Brush Bronzewings. They arrive in early September and stay until late Febuary. A small number of pairs can be seen and heard along all tracks at this time and are recorded on 40% of visits.

CRESTED PIGEON.

Ocyphans lophotes.

HBOC Category - 1. Breeding - Probable. Ref.No.232

Status - Resident. One to ten birds recorded throughout the year, usually conspicuously perched on power lines along Sand Mine Track.

BAR-SHOULDERED DOVE.

Gopelia humeralis.

Ref. No. 227

Breeding - Probable.

Status - Resident

Although 1 to 5 birds usually seen, flocks of up to 13 seen in the Summer months. Most sightings along

HBOC Category - 1. Sand Mine Track

TOPKNOT PIGEON.

Lopholaimus antarcticus.

Ref.No.219/

HBOC Category - 1. Breeding -No.

Status - Uncommon visitor.

Four records of small flocks of up to 18 Birds, all from the Winter period in 1999. All seen in flight over the Big Swamp.

GALAH.

Cacatua roseicapilla

Ref.No. 245.

Breeding - No. Status - Usual Resident?

HBOC Category - 1. Although recorded throughout the year there are few Summer and Autumn records. Annual sightings vary between 27% and 71%. Most records of 1 to 5 birds but up to 24.

SULPHUR CSTED COCKATOO.

Cacatua galerita

Breeding - No.

Ref No 249. Status - Irregular visitor.

Most records of I to 5 Birds at any time of the year. Largest flock 28.

RAINBOW LORIKEET.

HBOC Category - 1.

Trichoglossus haematodus

Ref No 252

HBOC Category - 1. Breeding - No.

Most sightings of small flocks of 2 to 5 Birds flying over Blocks A3, B3

Status - Irregular visitor.

SCALEY-BREASTED LORIKEET. Trichoglossus chlorolepidotus.

HBOC Category - 1. Breeding - No.

Ref.No.254.

Status - Rare Visitor.

A single record of a flock of 20 Birds in April 1997.

Ref.No.274

EASTERN ROSELLA. Platycercus eximius. HBOC Category - 1.

Breeding - Yes.

Status - Resident

Typically 1 to 5 Birds recorded throughout the year on 60% of visits

RED-RUMPED PARROT.

Psephotus haematonotus.

Ref.No.280.

Breeding -No.

Status - Rare visitor.

Status - Resident

HBOC Category 1. A single record of 8 Birds in March 1997.

FAN-TAILED CUCKOO.

Cacomantis flabelliformis.

Ref No

HBOC Category 1. Breeding - Yes.

Heard throughout the year and 1 or 2 birds occasionally seen

HORSFIELD'S BRONZE-CUCKOO. Chrysococcyx basalis

Ref.No.299. Status - Rare Visitor

HBOC Category - 1. Breeding - No. Only two records, each of a single Bird in September and October, 1999.

SHINING BRONZE-CUCKOO.

Chrysococcyx lucidus. Ref.No.300.

HBOC Category - 1. Breeding - Yes.

Status - Resident Heard throughout the year and 1 or 2 Birds occasionally seen. Exceptionally on two occasions 5 Birds

seen, once 4 Adults with 1 Juvenile.

COMMON KOEL.

Udeymanys scolopacea.

Ref.No 302

HBOC Category - 1. Breeding - No. Status - Rare visitor. Although a Summer visitor in nearby Housing Estates, this Bird has only been recorded once in 1999.

PHEASANT COUCAL.

Centropus phasianinus.

Ref.No.304/

HBOC Category - 1. Breeding - ? Status - Uncommon visitor. Only recorded once in 1997 and 1998 followed by five records in the late Spring and Summer of 1999.

WHITE-THRTED NEEDLETAIL.

Hirundapus caudacutus.

Ref.No.321.

HBOC Category - 1. Breeding -No. Status - Uncommon visitor A total of four records of small flocks flying over the swamp in the December - January periord .

AZURE KINGFISHER. Alcedo azurea. Ref.No.323. HBOC Category - 1, Breeding - No. Status - Rare visitor.

Seen only twice in three years. October 1997 and April 1999

LAUGHING KOOKABURRA Dacelo novaceunica. Ref.No.325. HBOC Category - 1. Breeding - Probably Status - Resident Seen frequently throughout each year, most often in two's but ranging from 1 to 6 Birds.

SACRED KINGFISHER. Todiranphus sanctus. Ref.No.329

HBOC Category - 1. Breeding - Yes. Status - Summer visitor Four to six pairs arrive in the Swamp about mid September and are last recorded in March. Pairs occupy the same localities each year and nest in hollows in both dead and living trees.

DOLLAR BIRD. Eurystomus orientalice. Ref No 334

HBOC Category - 1. Breeding - Yes. Status - Summer visitor. A few pairs arrive each Spring in early October and stay until mid March. It appears that the Juveniles are the last to leave.

WHITE-THROATED TREE CREEPER. Cormobats leucophaeus. Ref.No.496.

HBOC Category - 1, Breeding - No. Status - Uncommon visitor An uncommon visitor either singly or in pairs at any time of the year. Visits declining. 9 records in 1997, 4 in 1998 and only 1 in 1999.

SUPERB FAIRY-WREN. Malurus cyaneus. Ref.No.436. HBOC Category - 1. Breeding · Yes. Status - Resident 1 or 2 Family parties of up to 6 birds seen on about 50% of visits throughout the year. Seen in low shrubs along all tracks.

VARIGATED FAIRY-WREN Malurus lamberti. Ref. No. 438. HBOC Category - 1, Breeding - Yes. Status - Resident.

Lor 2 Family parties of up to six birds seen on about 40% of visits throughout the year.

SOUTHERN EMU-WREN Stipiturus malachurus. Ref.No.444 HBOC Category - 1. Breeding? Status - Uncertain. Although rarely seen, this tiny bird could be resident in small numbers in the reed beds around the Swamps where it could easily be overlooked. There have been only two records during the three years.

SPOTTED PARDALOTE. Pardaloutus punctatus. REf.No.576. HBOC Category - 1. Breeding - ? Status - Uncertain.

Regularly heard and occasionally seen throughout the Autumn and Winter period, occasionally recorded in Spring and apparently absent in Summer.

WHITE-BROWED SCRUBWREN. Sericonins frontalis Ref.No.463. HBOC Category - 1. Breeding - Yes. Status - Common resident.

Recorded throughout the year, generally in small Family parties, and mainty in low shrubs along the Railway Track and Pipeline Track.

BROWN GERYGONE. Gerygone mouki.

Ref.No. HBOC Category - 1. Breeding - No. Status - Irregular visitor. There have been only four records, all from the May/June period in 1998 when 10 - 20 plus birds were seen

BROWN THORNBILL Acanthiza pusilla Ref.No.480.

HBOC Category 1. Breeding - Probably Status - Uncommon resident. One or two Birds reported on about 45% of visits throughour the year, with most sightings along the Pineline Track

YELLOW THORNBILL Acanthiza nana Ref No 489

HBOC Category - 1. Breeding - Probably. Status - Uncommon resident. One or two birds recorded on about a third of visits throughout the year Most sightings along the Pipeline Track. Highest count 5 in Febuary 1998.

RED WATTLEBIRD Anthochaera carunculata

Ref.No.502. HBOC Category - 1 Breeding - No. Status - Rare visitor There have been only four records in four years, with both Summer and Winter visits. 9 Birds were seen

in November 1998

LITTLE WATTLEBIRD. Anthochaera chrysoptera. Ref. No. 504.

HBOC Category - 1. Breeding - Yes. Status - Common Resident. Up to 10 Birds and occasionally 20 Birds seen on nearly every visit. Although recorded throughout the Area most records are made along the Sandmine Track.

NOISY FRIARBIRD. Philemon corniculatus Ref.No.509. HBOC Category - 1. Breeding - No. Status - Visitor

These Birds may visit in the Autumn when the Melaleucas are in flower or in early Spring when the Coral trees are in flower. Flocks of up to 20 Birds can be seen at these times.

NOISY MINER. Manorina melanocephela. Ref.No.514.

HBOC Category - 1. Breeding - No. Status - Uncommon visitor.

An uncommon and irregular visitor in small flocks from nearby Housing Estates,

LEWIN'S HONEYEATER. Meliphaga lewinii. Ref.No.519. HBOC Category -1. Breeding - Yes. Status - Resident. A moderately common resident with l or 2 Birds recorded on about 60% of visits. Most records from B3,

YELLOW-FACED HONEYEATER. Lichenostonus chrysops Ref.No. 523 HBOC Category - 1. Breeding - No Status - Visitor

A common Autumn and Winter visitor with flocks arriving in April when the Melaleucas are in bloom.

Very large number or birds present in 1998 with up to 300 Birds recorded in April and May.

WHITE-NAPED HONEYEATER. Melithreptus lunatus. Ref.No. 545 HBOC Category - 1, Breeding - No. Status - Visitor.

Only recorded in the Autumn and Winter period in 1998, when flocks of up to 50 plus birds were seen.

BROWN HONEYEATER Lichnera indistincta. Ref. No. 548. HBOC Category - 1. Breeding - No. Status - Rare Visitor

Although thought to be Resident around Belmont Lagoon there is only a single record in May 1997.

WHITE-CHEEKED HONEYEATER. Phylidonyris nigra.

Ref. No. 553.

HBOC Category - 1. Breeding - Uncertain. Status - Resident.

A common Resident with typically up to 10 Birds recorded on many visits in the Febuary - September period and then only 1 or 2 birds recorded during the Breeding Season.

EASTERN SPINEBILL. Acanthorhynchus tenuirostris. Ref. No. 561 HBOC Category - 1. Breeding - No. Status - Visitor.

An uncommon and irregular visitor in 1997 and 1999 but regularly recorded in April - July period of 1998 when up to 5 birds were recorded.

SCARLET HONEYEATER Myzomela sanguinolenta.

HBOC Category - 1. Breeding - No. Status - Visitor.

Records each year in the March - June period and usually of 1 or 2 Birds although numbers increased in 1999 when 10 - 20 birds were present.

EASTERN YELLOW ROBIN.

Eopsaltria australis. Ref.No.373.

HBOC Category - 1. Breeding - Yes Status - Uncommon resident

1 - 3 Birds recorded throughout the year with records on about 30% of visits. Most records from the wooded section of the Railway Track.

EASTERN WHIPBIRD.

Psophodes olivaceus. Ref No 415 Breeding - Yes.

HBOC Category - 1. Status - Resident. Resident along all tracks with typically 5 or 6 pairs of Birds heard calling on nearly all visits. Occasionally

CRESTED SHRIKE-TIT.

Falcunculus frontatus

Ref No 383

Ref No 568

HBOC Category - 1. Breeding - ? Status - Visitor.

There have been ten records, all in the September - December period of 1997 and 1999. In 1999 there were regular records all from F2 which could indicate a breeding attempt.

GOLDEN WHISTLER.

Pachycephala pectoralis.

Ref No 387

HBOC Category - 1. Breeding - No. Status - Visitor.

Most records of this uncommon visitor are of Juvenile birds in the late Autumn and Winter periods, however, in 1999 a juvenile was recorded in September and October along with an adult female.

RUFOUS WHISTLER.

Pachycephala rufiventris.

Ref No 300

HBOC Category - 1. Breeding - Yes. Status - Visitor.

A common Spring and Summer visitor whose "whistie" can be heard along all tracks. Most birds leave in May and there have been only two records in the June/July periods.

GREY SHRIKE-THRUSH.

Colluricincia harmonica.

Ref No 395

HBOC Category - 1. Breeding - Probable. Status - Uncertain

Considered to be an uncommon Resident with records in all months in the July/Febuary period, but only

three records in the three years in the march/June period. No April records.

BLACK-FACED MONARCH.

Monarcha melamonsis.

Ref.No.398.

HBOC Category - 1. Breeding -No. Status - Passage Migrant.

This very rare visitor has only been recorded once in October 1997 and could well have been on migration.

MAGPIE-LARK.

Grallina cvanoleuca.

Ref. No. 629.

HBOC Category - 1.

Status - Resident

Breeding - Probable Seen throughout the year, generally as 2 - 5 birds, but occasionally as high as 10. Most sightings around

the Wetland areas.

RUFOUS FANTAIL.

Rhipidura rufifrons.

Ref.No.409/

HBOC Category - 1. Breeding - No. Status - Passage migrant.

Occasionaly recorded in Spring and Autumn, probably when the birds are on migration.

GREY FANTAIL.

Rhipidura fuliginosa.

Rcf.No.410.

HBOC Category - 1. Breeding - Yes. Status - Resident

Typically 1 - 10 birds seen on most visits throughout the year and along all tracks.

WILLIE WAGTAIL

Rhipidura leucophrys. Breeding - Yes.

Ref No 412 Status - Resident

HBOC Category - 1.

Typically I - 5 hirds seen on most visits throughout the year. Most records along the Railway Track.

SPANGLED DRONGO. HBOC Category - 1.

Dicrurus bracteatus Breeding -No.

Ref. No 613 Status - Vigitor

An Autumn and Winter visitor. Earliest arrival at the end of March, last departure in late September Typically 1 - 5 birds recorded but largest count 12.

BLK-FACED CUCKOO-SHRIKE.

Coracina povehollandiae.

H.B.O.C. Catergory - I

Ref. No. 351

Breeding - Yes Status - Resident 1 - 5 birds recorded on 70% of visits throughout the year. Most often recorded in flight around the Big

Swamo

OLIVE-BACKED ORIOLE.

Oriolus sagittatus.

Ref.No.611.

HBOC Category - 1.

Breeding - Probable

Status - Uncertain.

Recorded usually as 1 or 2 birds, but up to 5 from March through to December. There has been only one record in the January/Febuary period.

FIGBIRD.

Ref. No. 612

Sphecotheres viridis. HBOC Category - 1. Breeding - No. Status - Rare Visitor.

Although resident withing 2 kms. of the Swamp there have been only two records. 1 in 1998 and 1 in

WHITE-BREASTED WOODSWALLOW Artamus leucorynchus. HBOC Category - 1.

Ref. No 630

Breeding - Yes. Status - Resident. Although called a Resident these birds leave the Swamp for a period of about three months from mid May to Mid August. There have been only two records during the Winter period. Usually 6 - 10 birds seen during the Summer but records of up to 25 have been made. Most sightings at the Railway Swamp and the Big Swamp.

GREY BUTCHERBIRD.

Cracticus torquatus.

Ref.No.637.

HBOC Category - 1. Breeding - Probable. Status - Resident.

Most sightings are of one or two birds usually along the Sand Mine track. However, birds are also heard

along the Pipeline Track. Recorded on 70% of visits.

PIED BUTCHERBIRD

Cracticus nigrogularis.

Ref No

HBOC Category - 1.

Breeding - No.

Status - Rare visitor.

Not recorded until 1999 when a single Birds was heard in March and seen in August/

AUSTRALIAN MAGPIE.

Gymporhina tibicen.

Ref No.640.

HBOC Category - 1. Breeding -Yes. Status - Resident Although recorded throughout the year it would appear that numbers increase in the July/October period when typically 10 - 15 birds are recorded. At other times 3 - 5 birds are more likely.

PIED CURRAWONG

Strepera garculina

Ref.No.641.

HBOC Category - 1. Breeding - No. Status - Visitor

Although recorded as 1 - 3 birds at any time of the year, it is only recorded on about a third of visits and is

considered to be an irregular visitor.

AUSTRALIAN RAVEN.

Corvus coronoides.

Ref. No. 644

HBOC Category - 1.

Breeding - ?

Status - Resident.

Although this is the only bird recorded on every visit, there is no evidence of breeding. Numbers vary from 1-20 birds with no pattern to the number variations.

Ref No 588 Neochmia temporalis. RED-BROWED FINCH. Status - Residem. Breeding - Yes HBOC Category - 1.

Seen throughout the year with most sightings along the Pipeline Track. Numbers vary considerably with counts of up to 30 birds during the Summer and Autumn periods but typically 1 - 8 birds during the Winter and early Spring

MISTLETOEBIRD Dicaeum hirundinaceum.

Ref.No. HBOC Category - 1. Breeding - No. Status - Rare visitor.

There hase been only one record, a Juvenite bird seen in August 1997.

Ref.No.346. WELCOME SWALLOW. Hirundo neexena. Status - Resident. HBOC Category - 1. Breeding - ?

The pattern of sightings closely follows those of the Woodswallow with only two sightings in the June/July period.

TREE MARTIN. Hirundo nigricans. Ref.No.347

Status - Visitor. HBOC Category - 1. Breeding - No.

Flocks of up to 100 plus birds visit occasionally during the Summer months. All sightings have been of

birds perched or flying on or around the many dead trees in the Big Swamp.

RED-WHISKERED BULBUL Pycnonotus jocosus. Ref.No.358 Status - Uncertain. HBOC Category - 2. Breeding - ?

This bird was recorded infrequently and irregularly in ones or twos in 1997 and 1998, whereas up to 5

birds were recorded more regularly (32% of visits) in 1999.

TAWNY GRASSBIRD Megalurus timoriensis.

Breeding - No. HBOC Category - 1.

Status - Rare visitor

There was only one record in the three years. A single bird in July 1998.

LITTLE GRASSBIRD. Megalurus granineus. Ref No 429 HBOC Category - 1. Breeding - No. Status - Visitor.

All thirteen records of this bird are of birds calling from the reed beds along the edge of the Big Swamp near the Sandmine Track. 10 are Autumn records and 3 are January records.

GOLDEN-HEADED CISTICOLA. Cisticola exitis. Ref.No.432.

HBOC Category - 1. Breeding - No. Status - Rare visitor.

There have been only two records, both of birds calling from the tall grasses in A.3 in 1997.

SILVEREYE Zosterops lateralis. Ref.No.583.

Breeding - Yes. Status - Resident and Visitor. HBOC Category - 1.

This bird is a common resident, widespread along all tracks with 6/50 birds commonly recorded Numbers start to increase in April and 50/100 plus birds can be seen during Autumn and Winter. At this time many of the birds are of the Tasmanian sub-species.

COMMON STARLING. Ref.No.608. Sturnus vulgaris.

Status - Visitor? HBOC Category - 1 Breeding -?

Typically 1 - 5 birds recorded on 35% of visits but occasionally flocks of up to 50 birds seen on power lines along the Sandmine Track.

Ref.No.609. COMMON MYNA. Acirdotheres tristis. Breeding - Yes. HBOC Category - 1. Status

This species commonly recorded as 1 - 5 birds in 1997 but records have dropped to 1 - 2 birds on 30% of visits in 1998 and 1999. Breeds in nest holes in dead trees in Railway Swamp North.

## BIRDS RCORDED IN, OVER, AND AROUND BELMONT SWAMP DURING 19

MONTH DATE	5th		h 21s	J 27th	F	F	F	M	M 18th	M 21st	M 26th	A 3rd	A 10th	A 17th	A 25th	M	M 4th	1
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KEY A = 3 to 5 LB =6 to 10 B = 11 to 15 HB = 16 to 20 D = 51 to 100 E = 100 + H = Heard

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			1		2.297	2	1	1_	1	1		Н	2			2+H	2			1 2	1	1	L	1		
В	5 B	В	2	A	В	A	Α	В	2+H	С	A	В	В		4+H	В	В			٨	2	5	В	A	В	
E		_	1		2				_	2	6 H	Н	Н		2		1				1+H	1+H	1+H		н	
В	В	В	В	A	В	В	A	В	В	В	A	c	В		В	A				1		3			1	
			1			ī			_	2	2					3	+1Ju				н	1			1	
вн	2+H	Н	вн	AH	ВН	1+BH	AH	ВН	AH	3+H		1+H	АН								ВН	I+BH	2+BH	-		
				Н		Н		1		1	2 H	1+H H	1+H		вн	I+BH	1+ВН			2+BH	3+BH	1+BH			l l+AH H	
2				1			1	2				н	В			1 4				A	н	3	3	2	2	
B	5 1 5	3	B 2	1	3 1 1	A 4	A 1 2	A	5 2 B	5 H 2	1	АН	H 4		B 4	A 2	B			A 2	1 3	B 5	B 1	A 2	B 2	
	2		2	Н	2	A	3	2	4		T	Н	2		I	1	T			1	4	2	2		1	
						1			2+H	Н	Н						1			2H	Н	1+H		1	1	
A 2		Н	2	Н	1+H	1	Н	2+H	ВН	1 1+H	В	B I+H	BH		1 1	B +AF	B 1+H			A	C	CH	B 1+H	В	B	
A	B 1+H	A	4	3	2	A	3	1+H	3	1	2 3	В	B 3		5 H	5	В			B 4	3 1+H	В	3		2	
В	В	В	В	A	В	В	В	A	В	5	13	A	В		В	В	В			В	В	A	В	A	В	
	2		_			A	Α	1 1J	1		1_	2	1		1	1_	4			1	2		6	A		
			3		1			1	2	2	2		2		В	В	В			В	В	В	В	В	В	
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Е	D		С	Н	В		В	D		С		В	С		В	В	В			С	С	С	С	В	С	
	2		Α			2			I	1	2	2	3		1	1	20			2	A 2+H	1	1 2	2 2	B 2	
		45	33 86	28		31 50 87	31	30 87	39 88	36 53 90	39 91	37 90	44			41	39 51 93				42 93	42 57 93	45 95	44 95	50 61 96	

## BIRDS RECORDED IN, OVER, AND AROUND BELMONT SWAMP DURING 1998

MONTH DATE	J	21st	29th	F 2nd	F 4th	F 11th	F	11th	17th	M 25th	31st	A 6th	A 11th	16th	30th	5th	M 10th	M 17th
DUAIL BROWN QUAIL	THE REAL PROPERTY.	H H												-		-		
BROWN QUAIL		1				2		6										
UCKS, & SWAN BLACK SWAN	STATE OF THE PARTY	12	_	2		1	District of the last of the la	-	-	_	2	_		-		-	-	
AUSTRALIAN WOOD DUCK		1		2							- 2		1	1		2	1	4
PACIFIC BLACK DUCK		В	5	1	4	1	翻器	4			В	В	В	1	A	В	В	1
AUSTRALASIAN SHOVELLER	A STATE OF THE STA						經過						13	*		ь	D	
GREY TEAL	STATEMENT						RES.						3	2				- 2
CHESTNUT TEAL	HER WATER	1	1			1	ALC: U		-77.14		A			100				2
REBES AUSTRALASIAN GREBE																		4
AUSTRALASIAN GREBE		1					鯔											255
ELICAN, CORMORANTS & DARTER LITTLE PIED CORMORANT	DESCRIPTION AND ADDRESS OF THE PERSON ADDR	C	4	1	-	-	300	-	_	-								1
PIED CORMORANT		c	4	1	C	C	地區	В		В	1				3		1	9
LITTLE BLACK CORMORANT			1			1		В		B/C								- 8
GREAT CORMORANT	100000000000000000000000000000000000000	3J	9	В		5	調器	1	1	DIC		1			1			B
ALISTRALIAN DELICAN	Marie Andrew	-		_			<b>HEATE</b>					•				1		2
GRETS & HERONS	The second					170	Sales I	150								-		18
WHITE-FACED HERON					1		100		4		1	6		1	4		2	1 8
LITTLE EGRET	<b>祝您的事情</b>						1					-						10
GREAT EGRET					1			1	1		3							1 #
INTERMEDIATE EGRET							158											100
NANKEEN NIGHT HERON BISES & SPOONBILLS	THE PERSON NAMED IN	-					HESSEL					_						- 8
ATISTRALIAN WHITE IDIS	THE RESERVE	1	1	1	1	В	CHOCKED.	-										
AUSTRALIAN WHITE IBIS STRAW NECKED IBIS	BESTER		1	1	1	15	OPPOR									1		100
ROYAL SPOONBILL	日本 日	1	1															10
APTORS	OHUSENSISIES.	-	-	_	-		1200		_			_	-	_	-	_		Si Ci
OSPREY	District Control				-		SHOW!			_	1	_	-	_	_	_		512 512
BLACK-SHOULDERED KITE			1			1												100
WHISTLING KITE			17.5						1									900 part
WHITE-BELLIED SEA-EAGLE	100000000000000000000000000000000000000				1 J	1	THE R									1	1	55
SWAMP HARRIER							HER									1	i	15
BROWN GOSHAWK							NIES:										INC	100
GREY GOSHAWK COLLARED SPARROWHAWK																	THE VIEW	阻
AUSTRALIAN HOBBY						- 1	黑馬舞							11				158
PEREGRINE FALCON	No. of Concession, Name of Street, or other party of the Concession, Name of Street, or other pa					1	記憶									1		100
MANIPEEN PECTOEI	- 開催回回開発					1	ALC: N						1					报
RAKES, RAILS & ALLIES PURPLE SWAMPHEN DUSKY MOORHEN	Hamilton Street	_	_	_	_	-	3000	_	_	_	_	_		-		_		82
PURPLE SWAMPHEN	BUILDING AND		_	_	_	2	STATE OF	2	_	4	A		2	2	_	2	-	1 300
DUSKY MOORHEN	ATTOMAC TO A STATE OF		BJ	В		-	HIE	Ã	1		1	2	2	1	1	1	2	2 11
ADERS	DESCRIPTION OF THE PARTY OF THE		-				WHEE STATE	-	_		-	-	-	•	•	-	-	4 m
LATHAMS SNIPE						- 1												96
MASKED LAPWING	THE PERSON			_		- 8	SHE				7.77							210
MASKED LAPWING ULLS, & TERNS SILVER GULL	PERSONAL PROPERTY.	_			_	- 4	3600											27
CASDIAN TUDN		1		1	1	- 8										4		188
CASPIAN TERN CRESTED TERN						9	350											838
GEONS, & DOVES	SECULIARIST CO.	-	_	_	-	-	1000	-	_		_	_						100
SPOTTED TURTLE-DOVE	Industrial Company	В	Α	_	В	A	40000	Α	A	A	_	-	2	2	A	_	H	500
COMMON BRONZEWING			**		D	~ 1	31193	~	"	^			4	4	A		11	誤
BRUSH BRONZEWING	STREET, STREET					5												255
CRESTED PIGEON	TO SERVICE SER	1		2	4	90		12	1		A	В	2					100
BAR-SHOULDERED DOVE	P. HOUSE ST.	В		2 B	4	1 8	Nation .	12	i	1	B	-	î	1	A		1	100
TOPKNOT PIGEON	HOUSEPHE			1977		1					-		-	1				100
CKATOOS	CONTRACTOR OF STREET					- 1	1157											960
GALAH	672 APL 7	1	- 8	2		-	200	-		-							2	24
PROTE LODIVECTE & ALLEGO	and concess	_			4	- 1	UEST.		8					-	1		H	. 55
SULPHUR-CRESTED COCKATOO RROTS, LORIKEETS & ALLIES RAINBOW LORIKEET	HUMAN BURNEY				-	- 17	1895	-		-				_				195
SCALV BREASTED LODIVERT						- 2		2		3	3			В		-	1	993
SCALY BREASTED LORIKEET EASTERN ROSELLA	THE PERSON		2			- 0	dia	,	2		***							. 10
RED-RUMPED PARROT			-			10		1	3		H						2	2
RED-RUMPED PARROT CKOOS & ALLIES	BUILDING SECTION			_		-	THE R. P. LEWIS CO., LANSING	_	-	-	_	-	-	-		-	_	100
FAN-TAILED CUCKOO	HATTESSAUGUA	-	13	_	-	- 0	1000	H	_	-		-	-	-	H	_	H	H
HORSEFIELDS BRONZE CUCKOO	Section 2		-			100	No.								41		T.I	. 8
SHINING BRONZE CUCKOO	TO THE PARTY OF					100	1							H				100
COMMON KOEL	THE STREET					- 50	1000							-				200
PHEASANT COUCAL	SECTION AND ADDRESS OF THE PARTY OF THE PART	1				_ 11	1370/6		_									200
TIFTS	1020150					- 0	393											200
WHITE-THROATED NEEDLETAIL	THE REAL PROPERTY.					548												165
NGFISHERS & ALLIES AZURE KINGFISHER	THE PERSON	_				- 9	1200											253
LAUGUING YOOV ADURD A	ASSESSED FOR STATE					- 100	10000	_	-									36
LAUGHING KOOKABURRA SACRED KINGFISHER	PHONE BUT		2	3	1	3		2	2		2 .	4		6		H	H	6
DOLLARBIRD		A	1	1	1	1 1	100											100
EECREEPERS	STATE OF THE PERSON NAMED IN	_	_	4	4	1 8	CAME.								-			200
WHITE THROATED TREECREEPER						100												144
WIND THOMIED TREEKREEPER	Manager Land					2			1									100
IRY WRENS				_	_	- 2	USSEE					_						525
IRY WRENS SUPERIFAIRY-WREN	MARKET PROPERTY.																	
SUPERB FAIRY-WREN VARIEGATED FAIRY-WREN		A	В	В		- 5							В	A	A	2		200

J J J J Jly Jly Jly 5th 10th 13th 8th 11th 18th	Jhy A A A A S S S S O O O O	N N N N D D D D 4th 11th 21st 24th
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2 15		3 2 4
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8 1 1		5 3 5 5
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2 2 3366		
1+11		1
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1 2 1 H H		H 3 2+H H
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H 1+h 3		2 2 3 5
NAME OF THE PARTY		2 2 2 5 1+H 2+H 2+H 1 1 3
1 H	ALTERNATION FOR THE PROPERTY OF THE PROPERTY O	
5 1 1		1 2 3
12.36		

DATE ARDALOTES, SCRUBWRENS & ALLIES		21st	29tl	2n	d 4ti	h Ilt	h	110	h 17	th 25t	h 31s	t 6th	110	160	300	h 5th	10t	h 17t
SPOTTED PARDALOTE WHITE-BROWED SCRUBWREN BROWN GERYGONE		В	Α	В		A			H			1+1	В	2	H		H 1	H 1 C
WHITE-THROATED GERYGONE BROWN THORNBILL		1		1				麗		1		1						
YELLOW THORNBILL ONEYEATERS & ALLIES	THE RESIDENCE OF THE PARTY OF T	1	_	-		5	\$165 \$165 \$165 \$165 \$165 \$165 \$165 \$165	259	1			_		-		_	_	
RED WATTLEBIRD			2+1	В	В	A	-	В	В	BAC	В	n			•			_
STRIPED HONEYEATEER NOISY FRIARBIRD											ь	В	A	A	2		A	3
NOISY MINER									В	С		C	В	1	A	1+1	C	
LEWIN'S HONEYEATER YELLOW-FACED HONEYEATER		-	1		-	2	200	2	1		C	D	H E++	DAA	H	E+	H E+	H
WHITE-NAPED HONEYEATER BROWN HONEYEATER									•		1		1	2	D	1	Бт	c
WHITE-CHEEKED HONEYEATER EASTERN SPINEBILL		3	2+H	В	C	A	顯	C	В	B/C	1	В	В	В	2	1+H	C	2+11
SCARLET HONEYEATER					2						1	1	5	4	1	1	2	1
POSE ROBIN								10					-				_	_
EASTERN YELLOW ROBIN HIPBIRDS & ALLIES						1		N. Control		1							1	
EASTERN WHIPBIRD	1	+BH	AH	BH	AH	2+AF		ВН	1+1	н	AH	AH	Н	AH	AH	AH	н	вн
CRESTED SHRIKE-TITI GOLDEN WHISTLER								THE REAL PROPERTY.		1		_	-				_	
RUFOUS WHISTLER GREY SHIRKE-THRUSH		A	H	2 H	I+AI	E 1					Α							
YCATCHERS & ALLIES	STEER		-	-11				7								Н		
BLACK-FACED MONARCH MAGPIE-LARK					2			н	В	Н	2	4	2		н	4+H		
RUFOUS FANTAIL GREY FANTAIL		В	1	A	A	1 B												
WILLIE WAGTAIL SPANGLED DRONGO		A	i	2	^	2		A 2	A 3	A 3	^	2	1	1	A	1	2	3
CKOO-SHRIKES & TRILLERS				_		116					1			-	4	1		1
BLACK-FACED CUCKOO-SHRIKE IOLES		1						2	3		1	H						4
OLIVE-BACKED ORIOLE FIGBIRD								1	1	1				-	_		1	
WHITE-BREASTED WOODSWALLOW	NOTE:		_	-	_		180									-		
GREY BUTCHERBIRD		B H	A	B 1+H	B	B 1+H		B	B/C	25	B	1 1+H	A 2	2	1+H	2	1+H	1+11
PIED BUTCHERBIRD AUSTRALIAN MAGPIE		В	5		2	В		В	BAC	A		A		В				
PIED CURRAWONG VENS & CROWS		4			_			-	1	^	1+H	^	^	2	A	A	В	4
AUSTRALIAN RAVEN RROWS, FINCHES & ALLIES		A	A	3+H	A	В		2+BH	В	В	В	В	A	A	A	1+H	A	A
DOUBLE BARRED FINCH RED-BROWED FINCH		В			n	0			_				UNIV	22/	_			
TLETOEBIRD MISTLETOEBIRD		D		С	В	С		C	В	2	2	1	A	В	2		A	1
ALLOWS & MARTINS WELCOME SWALLOW																		-
TREE MARTIN		+00	I D	A	AB	3		B/C	A			A					2	
FAIRY MARTIN			_	_	ь	-	N.											
RED-WHISKERED BULBUL				В		н												Section
WORLD WARBLERS TAWNY GRASSBIRD LITTLE GRASSBIRD					-	- 1										-		-
GOLDEN-HEADED CISTICOLA		H	H			100												THE PERSON
SILVEREYE		C 2	+H	I+H	В	В		C/D	c	C/D	c	С	R	c (	CVD	E+	F4	E
RLINGS COMMON STARLING	DESCRIPTION OF THE PERSON OF T	-	_	-	7	- 1			3		0.20	2	3			-	-	
COMMON MYNA			Н	2	î	2000		1	2	1		-			_			В
VISIT TOTAL	3		33	34	34	33		34	37	66	70	28 2	19	31	25	28	37	32
CUMULATIVE SPECIES MONTHLY TOTAL	3	0				59			66		70	56	70			76	79	79
WATER LEVEL				VL	L	VI.	2011919	VL.	VL	VL	52 L		52 VL 1	VL	н	VH		H

5th	100	J h 13th	J	Jly 8th	Jly 11th	Jly 18th	Jly	۸	A	A	A	S	S	S	S	0	0	0	0	N 40	N Ill	h 21	st 24	th	D	D	D	D
1 10		В				4														2		2	2	STREET STREET				
_2				1	1															1	1		1	1			0.01	
10	2	6		20	10	15														10	1J 1+J	I 5+	H 5					
2	1	1		2	2	2																		Melen				
50+ 20+	C	D 30		50+	-	3																		Trible.				
10	Λ	B 3 1		50+ 1	30 5	20 3																		SHIRE SHAPE				
_					_		Alleri													-				25				
н	Н	1+H		AH	1+H	1+H														1+F	1 2+F	13+B	(H1+B	H				
2J 1 2						IJ														5H	1+B!	H1+B	H2+A H					
			YE.			2														10	4	1	2	100				
6		4		5	3	3															B 1+H		3 4	HIERON.				
_	_	1			1	1														3	1+11	3	4					
_		200		10	1																В		4	器器				Ž,
_		06940			_														10000 10000	-	3+H	_	1	100				
	1			2 H		-														15 2+H	В	5 H	5					
2	2 8	4		4 5	2	12														2		1	2					
20	В	6		4	3	5														3	5+H	6	В					
	8	Harris			5	8															В							
		200208				NET COLUMN																						
		and the same				PERSONAL PROPERTY.														1	В	2	4					
Len		STATE OF THE PARTY				SCHOOL STATE															1							
		PARTIEN				1												195				н	н					
50+	D	Е		100+1	100+	50+														30	I+BH	В	2+BE					
		2000				DRAM													350		2	5						
27	20	30		23	20	31														12	22	22	20					
27 79	20 79	30 79	200		82	84														33 85	33 86	33 88	38 89					
VH	H	H		H	Н	H		10015	nam.	DESIGN										H	$\mathbf{H}$	H	H					

## BIRDS RECORDED IN, OVER, AND AROUND BELMONT SWAMP DURING 1999

MONTH DATE OUAIL	5th	J 12th	J 20th	250	h Is	t 156	h 20th	27th	M 3rd	M 8th	M 14th	31s	Sth	A 12th	20th	A 26th	M 2nd	ММ
BROWN OUAIL		11	2															
DUCKS, & SWAN BLACK SWAN			-															
BLACK SWAN		4DY	6	1	4		3		2		1				1	2	2	
AUSTRALIAN WOOD DUCK						2		2			2			2	1		2	
PACIFIC BLACK DUCK AUSTRALASIAN SHOVELER	2	2	4	2	2	5	2	2	В		A	LB	3	4	A	В		
GREY TEAL		10	В	1	4	1												
CHESTNUT TEAL		1	В	2		2			4		LB	1				LB		
GREBES										-		-						
AUSTRALASIAN GREBE PELICAN, CORMORANTS & DART	TET.																	
LITTLE PIED CORMORANT	B	2	_	3	5	16	В	В	В	В	2	2	3	110	-	-		
PIED CORMORANT		-		47	,	10	ь	13	15	В	4	2	3	LB	A	2		
LITTLE BLACK CORMORANT		1		1	1	1		1	1.	1	9	1		LB	2	D		
ALISTRALIAN DELICAN	5			6	1	8	В	2	3									
GREAT CORMORANT AUSTRALIAN PELICAN GRETS & HERONS	_	_			_	_		_	_	_		_	_					
WHITE-PACED HERON						-	14	_		_	3	_	_	_	11	_		
LITTLE EGRET																		
GREAT EGRET INTERMEDIATE EGRET			1					1			2							
NANKEEN NIGHT HERON						1 Ju												
BISES & SPOONBILLS AUSTRALIAN WHITE IBIS	9 - US 1				_	1 Jul	_					_		_	_		-	
AUSTRALIAN WHITE IBIS							2						1	4				50.00
STRAW NECKED IBIS ROYAL SPOONBILL																		
APTORS	_	_	_		_	-						_						
OSPREY	1	_	2	_	T	_	1	_	_	1	_	_	-	_	1			
BLACK-SHOULDERED KITE													*					
WHISTLING KITE WHITE-BELLIED SEA-EAGLE											10							
SWAMP HARRIER											1						IJ	
BROWN GOSHAWK GREY GOSHAWK										NC	1	2						
GREY GOSHAWK										-10		-			_	_	-	
COLLARED SPARROWHAWK AUSTRALIAN HOBBY																	1	
PEREGRINE FALCON																	1	
NANKEEN KESTREL																	- 1	
NANKEEN KESTREL RAKES, RAILS & ALLIES PURPLE SWAMPHEN													_	_	_	_		
PURPLE SWAMPHEN DUSKY MOORHEN		2	1		13	1	2		-			1	1			220		
ADERS		1	-	4_	В	_ 5	4	1	В	1+H	LB	В	4	LB	2	LB	4	
LATHAMS SNIPE	1	2	1			_			_				_	-	_	_	-	
MASKED LAPWING		5													100		-	
ULLS, & TERNS SILVER GULL	2	C	2	1			_											
K'ASPIAN TERN	4	-	2	1														
CRESTED TERN																	- 1	
GEONS, & DOVES SPOTTED TURTLE-DOVE	-		_								-							
COMMON BRONZEWING	В		В	В	В	В	В	A	В		LB	LB	LB	LB	LB	Α	A	
BRUSH BRONZEWING			Н	1+H				Н									1	
CRESTED PIGEON		2		2		16		9		1		2			3		100	
BAR-SHOULDERED DOVE	В	120	4	1		13	1		1+H	î	4	2		1+H	H	В		
TOPKNOT PIGEON OCKATOOS																		
GALAH	_	_	_	_	_			1		_								
SULPHUR-CRESTED COCKATOO				1		1+11		1	3		1							
RROTS, LORIKEETS & ALLIES RAINBOW LORIKEET						4-44			-							_	- 1	
RAINBOW LORIKEET																	7	100 C
SCALY BREASTED LORIKEET EASTERN ROSELLA			2		**	2											-	
RED-RUMPED PARROT			3	6	H	2	2	6	B	4	6	2	3	1	2	A		
CKOOS & ALLIES										1000			-				-	
FAN-TAILED CUCKOO	Н			1+11		Н	H	H	H		- 1	H+1	2+H	H	H	2	Н	
HORSEFIELD'S BRONZE CUCKOO SHINING BRONZE CUCKOO																		
COMMON KOEL			H			1+H	5	H	2		Н .	AH			H	H	ii ii	
PHEASANT COUCAL					1	Н											100	
IFTS					-					-		_				_	-	
WHITE-THROATED NEEDLETAIL		B																
NGFISHERS & ALLIES AZURE KINGFISHER		_	_			_												
LAUGHING KOOKABURRA	1			2						2 .	++	-	1 2+H	2				red (i
SACRED KINGFISHER		3	2	2	1	1+H	1	Н	HH		1		411	2	1	1	1	
DOLLARBIRD	-	1	_	ī		1		-1			Juv						1	
POLICEMENT										-							- 1	
EECREEPERS																		4
EECREEPERS WHITE THROATED TREECREEPER																		
EECREEPERS WHITE THROATED TREECREEPER IRY WRENS	3			2		-	D	2	D			_	_				15	
EECREEPERS WHITE THROATED TREECREEPER IRY WRENS SUPERB FAIRY-WREN VARIEGATED FAIRY-WREN	3		ı	2	9	3	B 15	2	B	-	2	В	A	A		A	The same	

th 19th	J 27th	J 30th	Jy 5th	Jy 11th	Jy 17th	Jy 28th	A 4th	A 2	A 5th	A 30th	S 8th	S 14th	S 21st	S 26th	O lst	O 8th	O 13th	0	N 11th	N 18th	N 22nd	N 28th	D 2nd	D 9th	D D
1	1	1N 4	IN 2	1N 3	3 A	1 1 3	2		1	1 2	2	4	1	A	A	2	A		3	1 2 A	2 4	1N 2 4	IN 1 LB	2 LB	
_1_	2	- 12	_	2	A	LB	5	H.	Α_	A	LB	1	1 A	A	A	6	LB		SDY	2	2 4	7	3 2	A LB	
		1	3	A	1	1	2 B		A		3	4	1	3	1 A	2	1 A		1 2	1 A	3	5	В	В	
	1		3	A		В	В		4		10	1	C	,	1	1 2 10	2		4	2	2 6	5	LB	3 3+2J	
	_	2	_	_					_	_	2	1	_		_	-			_	_	_		_	3.23	
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						_									Sp					1	1	1J 1			1
		1			1F		1																	1	
2+H	2	1	1	3	A	3 H	I A	1 2		I A	A A	2 2	1	A A	3 A	1	I A		2	A	Н	2	A	A A	
															5	3									
										3	В	1	1	1			1				1	1		2	
2	4	A	A	B ?	В	В	A	L	В	2	В	A	В	HB	В	В	В		LB	LB	В	A	В	НВ	
1+H 	9	1 2 8	5 A	3	A	2	2	7		1 2 18	AH 1	6	IF 1 1+H	Н	1	4 H	7 H		1	1F 3 1	1 2 2	1+H 1 2+H	M+F 6 2+H	H 6 2+H	
		2		2 2	4	н	2			4	5	1	3	1	3	4					2	C 2		4	
	5	1	3	A		2		2		3	LB	1	LB		2	I+H	2+H		4	2	1	1		2	
	Н	1		2	Н	1+H	Н	A	Н	AH	AH	2H	AH	Н	AH	AH	AH				Н	_	_		
					Н	Н		21	Н	Н	Н	2H	2H	AH	AH	AH	AH		AH		Н	1	н	Н	
							-										1		H	Н	2	13		2H A	
		6	В	A	1	1	3	1	3	2 7H			1+H	3 H	1 1+2H	2	3 LB		2 2	3 LB	4 6 1	2 A	3 LB 2	3 A	
							The state of the s							2										-	
10		A	В		A		B	L	B	A	l B	A	В	I B	A	LB	A		LB LB	A		LB	1		

SPOTTED PARDALOTE WHITE-BROWED SCRUBWREN	1				2	В	1	2	В	1		Н	H	H		1+BF B	HBH	
BROWN GERYGONE WHITE-THROATED GERYGONE					-	ь		-	ь							ь		
BROWN THORNBILL YELLOW THORNBILL	1	2			1				3	2	1	AB	1				Н	
IONEYEATERS & ALLIES									-			-						
RED WATTLEBIRD	0.0	1		111			1	Last T	2		They	2			1			
LITTLE WATTLEBIRD	В	5	6	A	5	В	В	A	В		В	В	LB	A	В	LB	A	
STRIPED HONEYEATER NOISY FRIARBIRD												2		1	В	Α	В	
NOISY MINER												-			В	"	ь	
LEWIN'S HONEYEATER			1	2			1			H	AH	1	2+H	1+H	2+H		1+AH	
YELLOW-FACED HONEYEATER															A	В	1	
WHITE-NAPED HONEYEATER BROWN HONEYEATER																		
WHITE-CHEEKED HONEYEATER				A	4	В	A	В	В	A	В	В	A	Α	LB	LB	1	
EASTERN SPINEBILL							1											
SCARLET HONEYEATER		_	_					_		_	2	4	Н	4+CF	В	В	C+H	
ROSE ROBIN	_		_	_	_		_	-	_	_				_	_	_		
EASTERN YELLOW ROBIN		.1	2						1	H	1	Н						
VHIPBIRDS & ALLIES			-								mer							
EASTERN WHIPBIRD VHISTLERS & SHRIKE-THRUSHES	AH	AH	BH	AH	AH	I Juv	AH	AH	1+H	1+11	BH	I+AE	1+AI	: AH	Z+AF	I+BH	BH	
CRESTED SHRIKE-TIT						1	-									- 11		
GOLDEN WHISTLER		-		20000							2	2						
RUFOUS WHISTLER	1+H	Н	Н	2+AF	. 1	5+H H	2+H	2+H 1+H			3	2		2			17	
GREY SHIRKE-THRUSH LYCATCHERS & ALLIES	_	_	_	n	_	11		iTII		-	_	_				_	Н	
BLACK-FACED MONARCH	Same				1157	-		L.	100	Tyo.	Vision and	20.1	17.0	- 0.5	40.00	150		
MAGPIE-LARK	4	4			2	6		8	4	4	1+H	A	4	H	1+H	2	-	
RUFOUS FANTAIL GREY FANTAIL	3	1	8	нв	6	4	1	A	В	A	В	LB	A	Α	1	2	A	
WILLIE WAGTAIL	2	H	2	4		1+H	1+11		AH		I+AE		1	2		H	A	
SPANGLED DRONGO	_				1	1018		00	-		- 11		-		2	4	2	
UCKOO-SHRIKES & TRILLERS			1	2					2	5		1J		2		LD		
BLACK-FACED CUCKOO-SHRIKE RIOLES	2		1	2					2	2		13		2	A	LB	Α	
OLIVE-BACKED ORIOLE FIGBIRD			H									3	1			4	-	
OODSWALLOWS & ALLIES												200				-		
WHITE-BRSTED WOODSWALLOW	В	В	В	B	HB I+H	B	В	A	C	LB	HB	HB	В	A 2+H	2	B/C	Total Control	
GREY BUTCHERBIRD PIED BUTCHERBIRD		H		2	1+11	2	H	н	2	11	H	2+11	2+11	2+14	2	4	- 1	
AUSTRALIAN MAGPIE	5	6	4	2	2	2	2	A	A	4		LB	A		1	A	В	
PIED CURRAWONG											1		1	2				
AVENS & CROWS AUSTRALIAN RAVEN	A	1	1	1	1487	A+H	D	В	В	A	В	В	В		LB	В	В	
PARROWS, FINCHES & ALLIES	~				1.11	A 111	ь	ь	ь	~	ь	ь	ь	~	LD	ь	В	
DOUBLE BARRED FINCH											-	-	-	-				
RED-BROWED FINCH HISTLETOEBIRD	_	1	2	HB	1	1	_	3	2	_	В	В	C	В	1	В		
MISTLETOEBIRD																	- 1	
WALLOWS & MARTINS			-						-									40 8 8
WELCOME SWALLOW TREE MARTIN	A		B Sp?	1	В				A		1			1	1	A	1	
FAIRY MARTIN			Sp?								1							
ULBULS								140000	Andrew .							-4		IS ES
RED-WHISKERED BULBUL			2			3+H	5	2+H	3+H	3						2	1	
TAWNY GRASSBIRD	_	-	_	_	_	_	_	_	_	_	-	_	_	_	-	-	- 1	
LITTLE GRASSBIRD																	100	
GOLDEN-HEADED CISTICOLA										_							- 1	
ILVEREYE SILVEREYE	C	C	C	C	c	В	В	c	В	В	D	C	D	D	D	E	D	
TARLINGS	6	-	C	C	-	В	ь	-	В	ь	D	-	D	D	D	E	D	
COMMON STARLING		1	5					4				6	3.				-	
COMMON MYNA	1		5	_		H	_					- 200		-				
					**		-											
MONTH	Sib	J 12th	2016	J 25th	F	F 15th	F 20th	F 27th	M 3rd	M 8th	M 14th	M 31et	A	A 12th	A	A 261h	M	
DATE VISIT TOTAL	27	32	35	36	29	39	31	34	37	26	40	36	31	32	33	36	23	
	27	42	49	54	55	59	62	63	65	66	72	73	75	76	77	77	77	
CUMULATIVE SPECIES	21																	
MONTHLY TOTAL WATER LEVEL	H	Н	н	54		VH		52				59 H		VH		49 H	VH	

. .

								rine																were the same
1	H H	B+I	I BH	1+1	1+1	1 1+1	Н		H	H	٨	В	В	LB	В	A	A	H		A	H A	В	LB	
1				1	H				1 2		1	1	1	2 2	1+H	H		2 2	1	1	7	1	1	
I	в в	A	В	В	LB	В	LB		В	2	A	LB	A	Ç	LB	LB	НВ	LE	2	4	2	2	2	
1	1 14	H 1+F	[ 141)	LB 1+F		B 1+H	B		В	A. H	Н		1 H	1	1+H	2		1+1	, 3			1		
	В		A	1	5	1				- **	1												,	
(	2 B	В	LB	A	LB 1	В	LB		LB 2	LB	LB	LB	LB	В	LB	1	2	Н	2	1		1		
	2		1		1				1						2			н	1		Н		Н	
A	H AT	ВН	1+BI	AH	BH	ВН	Н		АН	ВН	LBH	1+BH	1+BF	LBH	LBH	LBH		1+LI	BH1J+I	I AH	AH	1+AH	AH	
		1,1		4М	1M H	Н			A 1	AH I+Al	AH	BH AH	I I+AF	I LBH H	H F+J 1+BH 2	H 2+BH H	H 2+AH 2H	1+LF 2H		LBH 1+3H		1+AH H		
4		4	1+H							LB	2	Н		A	1	Α	A	2		Н	3			
* 3	5	A 12	A.	4 H 2	LB 2	B 3	A		LB 2 B	A 3	A 5	LB 3	A	LB 2	B 2	LB A	1 A 2	2 2	A 2	LB LB	A 2	LB 2	LB A	
H	1 2	3		Н			1		1	2	3	1		1	1	2	Α	3	Н	1+H	2	н	3	
		5												1+H	Н	2+H	H 2		3DY	1	Н		Н	
1				н	н	1+H	1		1 2	LB	Α	HB H	A	LB 2+H	LB	LB 2	LB	3 H	24 H	LB 1	LB	В	В	
A	12	4	В	HB B	LB	2 H	A		В	B	В	В	LB 1	B LB	В	B 1	LB 4	A	A	LB	A	A	2	
A	В	НВ	1+H	A	A	В	A		НВ	LB	В	НВ	A	LB	Α	В	В	A	A	3	Н	A	Α	
Α	2	Α		2			НВ		2		1		1					A	LB	1	LB	1		
									A				2	2	4	LB	A	2	LB	LB	LB	В	LB C	
	1								2		2	1	2			3								
	,											н	Н	Н										
	2	HB	С	С	A	В			2	LB		1	2	В	c	НВ	2+H	В	В	В	С	LB	Α	
		4		Н			В			LB	1	2	2	1		2	2		В	LB	С	C 3	CH	
19 78	th 27th	34 81 44	25 81	11th 35 82	36 82	35 84 50	31		A 25th 45 86 H	A 30th 39 86 56 H	S 6th 40 86 H	S 14th 35 87	S 14th 41 88	S 26th 43 90 60 H	O 1st 40 90 H	O 8th 45 91	O 13th 43 92 59 H	37 92	N 18th 44 92 VH	N 22nd 44 92 H	N 28th 45 94 61	D 2nd 40 95 AC	D 9th 44 96 55 BC	



No I Spoon Drain - Swamp at Capacity

C7



Casurinas Along The Pipeline Track

**B6**