



1862845

GB310 Bird Life Study - Mr Keith Laverick – 3/52/218/001

Ext. 219

COMMITTEE'S RECOMMENDATION:

No. 14

- A. 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 library.
- B. That Council sends a letter of appreciation to Mr Laverick.

(Matter raised by Councillor Davis)

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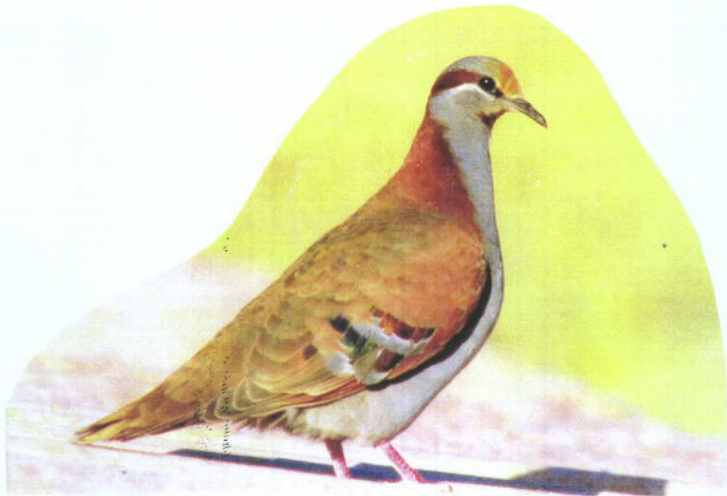
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THE BIRDS OF BELMONT SWAMP

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.

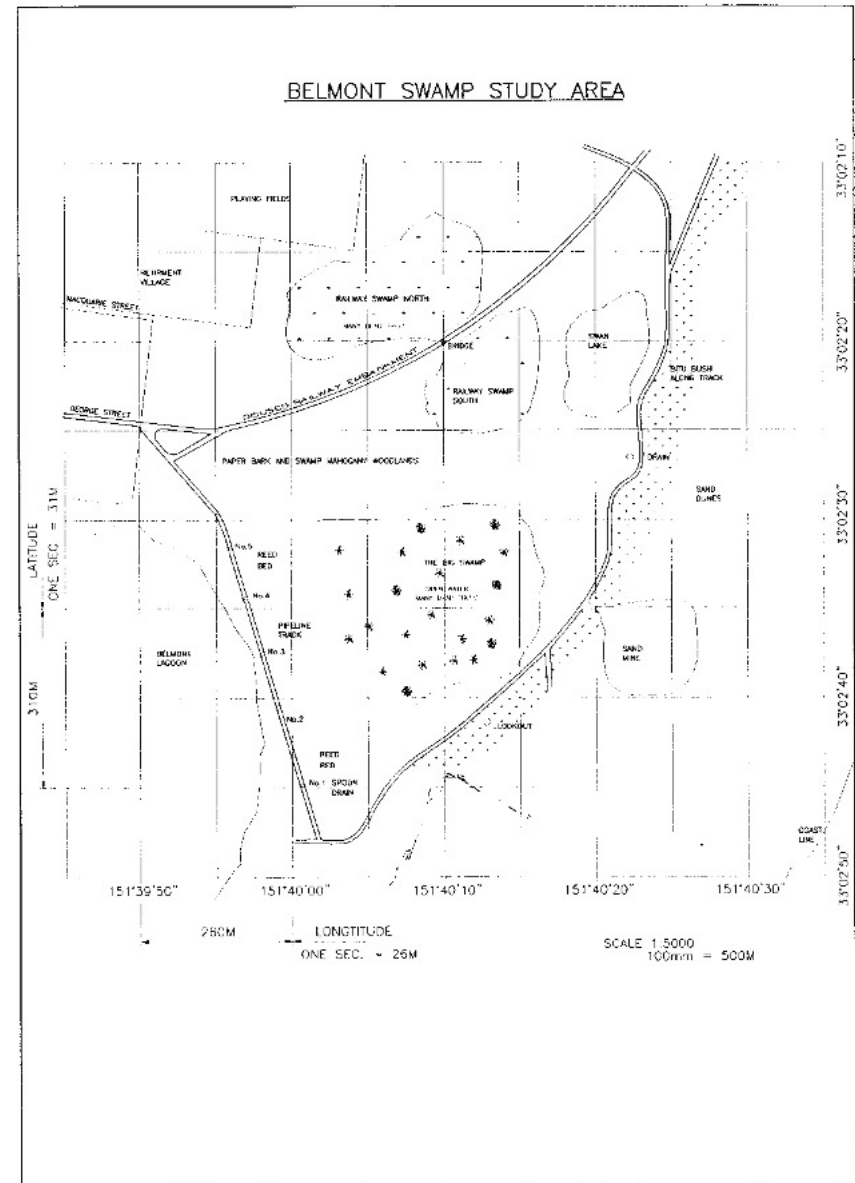
This report included an Appendix B, Fauna Species, Belmont-Redhead LES which listed 50 bird species occurring in the overall Belmont-Redhead LES, and indicating their status. A further table in Appendix C listed an additional 42 species thought likely to occur. However the actual Field Survey undertaken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

B 3



Railway Emankment Looking East

C 3

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 Mahogany 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 Swamps. North 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

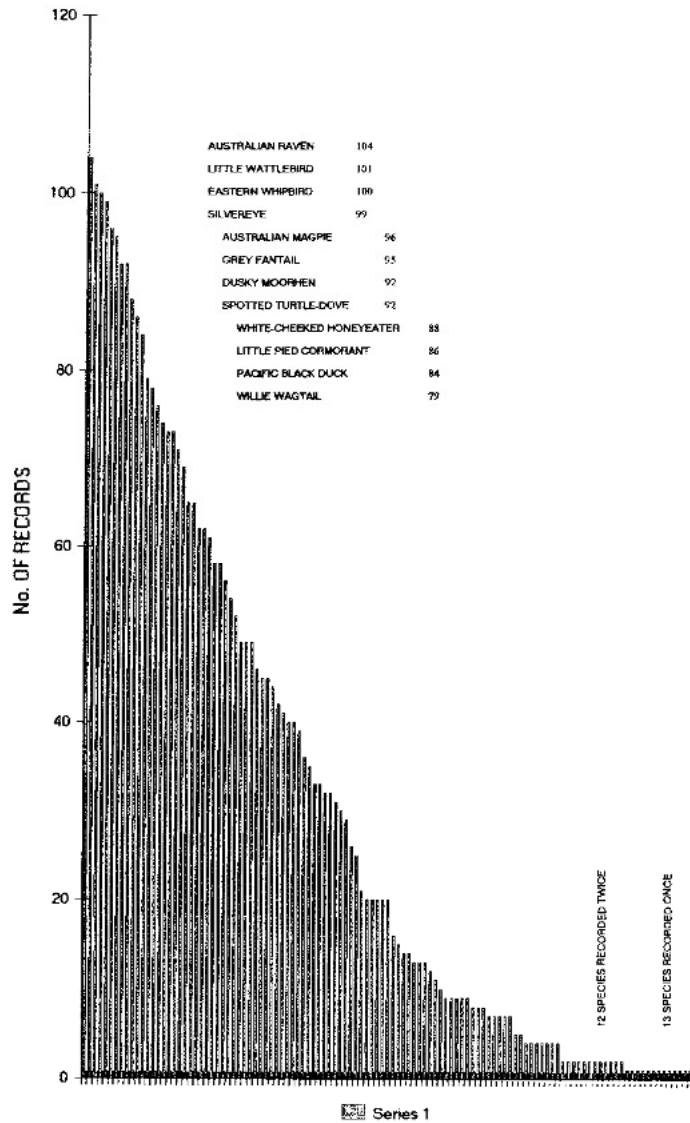
MONTH DATE	1997		1998		1999		1997-89	
	No RECDs	% OF VISITS	No RECDs	% OF VISITS	No RECDs	% OF VISITS	No RECDs	% OF VISITS
QUAIL								
BROWN QUAIL	3	7.9	2	7.7	2	5.0	7	6.7
DUCKS, & SWAN								
BLACK SWAN	15	39.5	16	61.5	21	52.5	52	50.0
AUSTRALIAN WOOD DUCK	6	15.8	0	0.0	14	35.0	20	19.2
PACIFIC BLACK DUCK	30	78.9	21	80.8	33	82.5	84	80.8
AUSTRALASIAN SHOVELLER	1	2.6	0	0.0	0	0.0	1	1.0
GREY TEAL	0	0.0	3	11.5	15	32.5	16	15.4
CHESTNUT TEAL	25	65.8	9	34.6	28	70.0	62	59.6
GREBES								
AUSTRALASIAN GREBE	1	2.6	1	3.8	10	25.0	12	11.5
PELICAN, CORMORANTS & DARTER								
LITTLE PIED CORMORANT	33	86.8	18	69.2	25	87.5	86	82.7
PIED CORMORANT	0	0.0	0	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	15	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	36.8	9	34.6	8	20.0	31	29.8
LITTLE EGRET	2	5.3	0	0.0	0	0.0	2	1.9
GREAT EGRET	12	31.6	8	30.8	6	15.0	26	25.0
INTERMEDIATE EGRET	2	5.3	0	0.0	0	0.0	2	1.9
NANKEEN NIGHT HERON	7	18.4	0	0.0	2	5.0	9	8.7
IBIS & SPOONBILLS								
AUSTRALIAN WHITE IBIS	22	57.9	9	34.6	9	22.5	40	38.5
STRAW NECKED IBIS	5	13.2	0	0.0	2	5.0	7	6.7
ROYAL SPOONBILL	7	18.4	5	19.2	1	2.5	13	12.5
RAPTORS								
OSPREY	6	15.8	2	7.7	13	30.0	20	19.2
BLACK SHOULDERED KITE	1	2.6	1	3.8	0	0.0	2	1.9
WHISTLING KITE	3	7.9	1	3.8	1	2.5	5	4.8
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	1	2.6	0	0.0	1	2.5	2	1.9
COLLARED SPARROWHAWK	0	0.0	2	7.7	2	5.0	4	3.8
AUSTRALIAN HOBBOB	0	0.0	4	15.4	1	2.5	5	4.8
PEREGRINE FALCON	0	0.0	2	7.7	0	0.0	2	1.9
NANKEEN KESTREL	0	0.0	0	0.0	1	2.5	1	1.0
CRAKES, RAILS & ALLIES								
PURPLE SWAMPHEN	11	28.9	10	38.5	20	50.0	41	39.4
DUSKY MOORHEN	32	84.2	21	80.8	19	97.5	92	88.5
WADERS								
LATHAMS SNIFE	0	0.0	0	0.0	4	10.0	4	3.8
MASKED LAPWING	5	13.2	1	3.8	5	7.5	9	8.7
GULLS, & TERNS								
SILVER GULL	28	73.7	7	26.9	14	35.0	49	47.1
CASPIAN TERN	2	5.3	0	0.0	0	0.0	2	1.9
CRESTED TERN	0	0.0	0	0.0	1	2.5	1	1.0
PIGEONS, & DOVES								
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	8	7.7
BRUSH BRONZEWING	0	0.0	4	15.4	11	27.5	15	14.4
CRESTED PIGEON	23	60.5	10	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 & ALLIES								
RAINBOW LORIKEET	4	10.5	5	23.1	1	2.5	11	10.6
SCALY BREASTED LORIKEET	1	2.6	0	0.0	0	0.0	1	1.0
EASTERN ROSELLA	23	60.5	10	38.5	32	80.0	65	62.5
RED-RUMPED PARROT	1	2.6	0	0.0	0	0.0	1	1.0
CUCKOOS & ALLIES								
FAN-TAILED CUCKOO	30	78.9	7	26.9	28	70.0	65	62.5
HORSEFIELD'S BRONZE CUCKOO	0	0.0	0	0.0	2	5.0	2	1.9
SHINING BRONZE CUCKOO	29	76.3	5	23.1	26	65.0	61	58.7
COMMON KOEL	0	0.0	0	0.0	1	2.5	1	1.0
PHEASANT COUCAL	1	2.6	1	3.8	5	12.5	7	6.7
SWIFTS								
WHITE-THROATED NEEDLETAIL	1	2.6	0	0.0	3	7.5	4	3.8
KINGFISHERS & ALLIES								
AZURE KINGFISHER	1	2.6	0	0.0	1	2.5	2	1.9
LAUGHING KOOKABURRA	50	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	5	19.2	8	20.0	21	20.2
TREECREEPERS								
WHITE THROATED TREECREEPER	9	23.7	4	15.4	1	2.5	14	13.5

FAIRY WRENS							0.0	
SUPERB FAIRY-WREN	20	53.6	10	38.5	19	47.5	49	47.1
VARIEGATED FAIRY-WREN	12	31.6	6	23.1	22	55.0	40	38.5
SOUTHERN EMU-WREN	0	0.0	1	3.8	1	2.5	2	1.9
PARDALOTES, SCRUBWRENS & ALLIES								
SPOTTED PARDALOTE	12	31.6	7	26.9	16	40.0	35	33.7
WHITE-BROWED SCRUBWREN	30	78.9	17	65.4	27	67.5	74	71.2
BROWN GERYGONE	0	0.0	4	15.4	0	0.0	4	3.8
WHITE-THROATED GERYGONE	1	2.6	0	0.0	0	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 HONEYEATER	0	0.0	0	0.0	1	2.5	1	1.0
NOISY FRIARBIRD	1	2.6	9	34.6	10	25.0	20	19.2
NOISY MINER	3	7.9	0	0.0	4	10.0	7	6.7
LEWIS'S HONEYEATER	17	44.7	15	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	1	2.6	0	0.0	0	0.0	1	1.0
WHITE-CHEEKED HONEYEATER	31	81.6	22	84.6	35	87.5	88	84.6
EASTERN SPINEBILL	4	10.5	17	46.2	4	10.0	23	19.2
SCARLET HONEYEATER	7	5.3	6	23.1	6	15.0	14	13.5
ROBINS								
ROSE ROBIN	0	0.0	0	0.0	0	0.0	0	0.0
EASTERN YELLOW ROBIN	13	34.2	4	15.4	15	37.5	32	30.8
WHIPBIRDS & ALLIES								
EASTERN WHIPBIRD	36	94.7	26	108.0	38	95.0	100	96.2
WHISTLERS & SHRIKE-THRUSHES								
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								
BLACK-FACED MONARCH	1	2.6	0	0.0	0	0.0	1	1.0
MAGPIE-LARK	19	50.0	14	53.8	25	62.5	58	55.8
RUFOUS FANTAIL	0	0.0	1	3.8	3	7.5	4	3.8
GREY FANTAIL	33	86.8	24	92.3	38	95.0	95	91.3
WILLIE WAGTAIL	30	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								
BLACK-FACED CUCKOO-SHRIKE	30	78.9	12	46.2	29	72.5	71	68.3
ORIOLES								
OLIVE-BACKED ORIOLE	15	39.5	6	23.1	12	30.0	33	31.7
FIGBIRD	0	0.0	1	3.8	1	2.5	2	1.9
WOODSWALLOWS & ALLIES								
WHITE-BREADED WOODSWALLOW	30	78.9	17	65.4	31	77.5	78	75.0
GREY BUTCHERBIRD	8	20.5	20	76.9	28	70.0	75	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								
AUSTRALIAN RAVEN	38	100.0	26	108.0	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								
MISTLETOEBIRD	1	2.6	0	0.0	0	0.0	1	1.0
SWALLOWS & MARTINS								
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								
RED-WHISKERED BULBUL	3	7.9	4	15.4	13	32.5	20	19.2
OLD WORLD WARBLERS								
TAWNY GRASSBIRD	0	0.0	1	3.8	0	0.0	1	1.0
LITTLE GRASSBIRD	6	15.8	4	15.4	3	7.5	13	12.5
GOLDEN-HEADED CISTICOLA	2	5.3	0	0.0	0	0.0	2	1.9
SILVEREYE								
SILVEREYE	35	92.1	26	100.0	38	95.0	99	95.2
STARLINGS								
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	STATUS	SPECIES	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	SCARLET HONEYEATER	14	AV
AUSTRALIAN MAGPIE	96	RES	ROYAL SPOONBILL	13	V
GREY 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	88	RES	RAINBOW LORIKEET	11	V
LITTLE PIED CORMORANT	86	RES	CRESTED SHRIKE-TIT	10	V
PACIFIC BLACK DUCK	84	RES	NANKEN NIGHT HERON	9	V
WILLIE WAGTAIL	79	RES	SWAMP HARRIER	9	V
WHITE-BREADED WOODSWALLOW	78	RES	BROWN GOSHAWK	9	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	8	OF
LAUGHING KOOKABURRA	73	RES	COMMON BRONZEWING	8	V
BLACK-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 MARTIN	7	V
SHINING BRONZE CUCKOO	61	RES	WHISTLING KITE	5	V
CRESTED PIGEON	58	RES	AUSTRALIAN HOBBY	5	V
MAGPIE-LARK	58	RES	COLLARED SPARROWHAWK	4	V
LEWIS'S HONEYEATER	56	RES	LATHAMS SNIFE	4	V
RUFOUS WHISTLER	54	SV	TOPKNOT PIGEON	4	V
BLACK SWAN	52	RES	WHITE-THROATED NEEDLETAIL	4	OF
SILVER GULL	49	OF	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	Roosts	BLACK-SHOULDERED KITE	2	RV
SACRED KINGFISHER	44	SV	GREY GOSHAWK	2	RV
COMMON MYNA	42	U	PEREGRINE FALCON	2	RV
PURPLE SWAMPHEN	41	RES	CASPIAN TERN	2	RV
AUSTRALIAN WHITE IBIS	40	V	HORSEFIELDS BRONZE CUCKOO	2	RV
VARIEGATED FAIRY-WREN	40	RES	AZURE KINGFISHER	2	RV
COMMON STARLING	39	V	SOUTHERN EMU-WREN	2	RV
GREY SHRIKE-THRUSH	36	U	FIGBIRD	2	RV
SPOTTED PARDALOTE	35	U	PIED BUTCHERBIRD	2	RV
SPANGLED DRONGO	33	AV	GOLDEN-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	NANKEN KESTREL	1	RV
WHITE-FACED HERON	31	V	CRESTED FERN	1	RV
YELLOW-FACED HONEYEATER	30	AV	SCALY BREADED LORIKEET	1	RV
PIED CURRAWONG	29	V	RED-RUMPED PARROT	1	RV
GREAT EGRET	26	V	COMMON KOEL	1	RV
SULPHUR-CRESTED COCKATOO	25	V	WHITE-THROATED GERYGONE	1	RV
DOLLARBIRD	21	SV	STRIPED HONEYEATER	1	RV
AUSTRALIAN WOOD DUCK	20	V	BROWN HONEYEATER	1	RV
OSPREY	20	V	BLACK-FACED MONARCH	1	RV
NOISY FRIARBIRD	20	AV	MISTLETOEBIRD	1	RV
EASTERN SPINEBILL	20	AV	TAWNY GRASSBIRD	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



ANALYSIS OF RECORDING FREQUENCY OVER THREE YEAR PERIOD

% RECORDING RANGE	NUMBER OF SPECIES	% NUMBER OF SPECIES	LIKELIHOOD OF RECORD/OBSERVATION
90.1 - 100	6	5.2	INVARIABLY RECORDED
80.1 - 90	5	4.3	
70.1 - 80	6	5.2	OFTEN RECORDED
60.1 - 70	4	3.5	
50.1 - 60	7	6.1	QUITE OFTEN RECORDED
40.1 - 50	9	7.8	
30.1 - 40	10	8.7	MODERATELY OFTEN RECORDED
20.1 - 30	7	6.1	
10.1 - 20	13	11.3	OCCASIONALLY RECORDED
2.1 - 10	23	20.0	
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 LIKELIHOOD OF AN OBSERVATION OR RECORD ON ANY VISIT



Melaleuca Woodlands - Looking South From Railway Track

C 3



Railway Swamp South - From Bridge

E 3

BROWN QUAIL *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.* Ref.No.39.
 HBOC Category 1 Breeding - No. 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 Melanoleucos.* 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 1 Winter record. Seen on Railway Swamp South and roosting in dead trees of the Big Swamp.

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 *Pelicanus Conspicillatus* Ref.No.34.
 HBOC Category 1. Breeding - No. Status - Overflies.
 1 to 3 Birds occasionally seen overflying the swamp from Belmont Lagoon.

WHITE FACED HERON *Egretta Novaehollandiae* Ref.No.50.
 HBOC Category 1. Breeding - No. Status -Visitor
 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.
 HBOC Category 1. Breeding - No. Status - Rare visitor.
 There have been only two sightings of this Birds, both in December, 1997.

GREAT EGRET *Ardea Alba* Ref.No.53
 HBOC Category 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 *Ardea Intermedia* Ref.No.55
 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 February 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* Ref.No.66.
 HBOC Category 1. Breeding - No. Status - Uncommon Visitor.
 There is no pattern to the visits of this species, with 1 or 2 Birds likely to turn up at any time.

OSPREY *Pandion Haliaetus* Ref.No.88.
 HBOC Category 1. Breeding - No. 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.* Ref.No.89.
 HBOC Category 1. Breeding - No. Status - Rare Visitor.
 There have been only two sightings, March 1997 and January 1998.

WHISTLING KITE *Haliaeetus Sphenurus.* Ref.No.96.
 HBOC Category 1. Breeding - No. Status - Rare Visitor.
 These Birds are not uncommon around adjacent Lake Macquarie but are rare Autumn and Winter Visitors to Belmont Swamp.

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

GREY GOSHAWK. *Accipiter novaehollandiae.* Ref.No.99.
 HBOC Category - 1. Breeding - No. Status - Very Rare Visitor.
 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. Status - Very Rare Visitor.
 Recorded twice in 1998 and 1999 in the woods along the Railway track.

AUSTRALIAN HOBBY. *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.

PEREGRINE FALCON. *Falco peregrinus.* Ref.No.107.
 HBOC Category - 1. Breeding - No. Status - Very Rare Visitor.
 Two records, both in 1998 and both along the Pipe Line Track.

NANKEEN KESTREL. *Falco cenchroides.* Ref.No.111.
 HBOC Category - 1. Breeding - No. Status - Very Rare Visitor.
 There has been only a single record of a Bird in flight over the Big Swamp.

PURPLE SWAMP HEN. HBOC Category - 1. These Birds are recorded on about 40% of visits, and can be seen on the margins of each of the Swamps.	Porphyrio porphyrio. Breeding - Yes.	Ref.No.138. Mod.Common Resident.	GALAH 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.	Cacatua roseicapilla Breeding - No.	Ref.No.245. Status - Usual Resident?
DUSKY MOORHEN. HBOC Category - 1. A very commonly recorded bird, seen on all Swamps except Swan Lake.	Gallinula tenebrosa. Breeding - Yes.	Ref.No.137. Status - Common Resident.	SULPHUR CRESTED COCKATOO. HBOC Category - 1. Most records of 1 to 5 Birds at any time of the year. Largest flock 28.	Cacatua galerita Breeding - No.	Ref.No.249. Status - Irregular visitor.
LATHAM'S SNIPE. HBOC Category - 1. 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.	Gallinago hardwickii. Breeding - No.	Ref.No.176. Status - Rare Visitor.	RAINBOW LORIKEET. HBOC Category - 1. Most sightings of small flocks of 2 to 5 Birds flying over Blocks A3, B3	Trichoglossus haematodus. Breeding - No.	Ref.No.252 Status - Irregular visitor.
MASKED LAPWING HBOC Category - 1. Small parties of three to five birds have visited at irregular intervals over the three years.	Vanellus miles Breeding - No.	Ref.No.149. Status - Rare Visitor.	SCALEY-BREADED LORIKEET HBOC Category - 1. A single record of a flock of 20 Birds in April 1997.	Trichoglossus chlorolepidotus. Breeding - No.	Ref.No.254. Status - Rare Visitor.
SILVER GULL. HBOC Category - 1. Although recorded on almost 50% of visits all sightings are of birds flying over the Swamp	Larus noveboracensis Breeding - No	Ref.No.194 Status - Overflys.	EASTERN ROSELLA HBOC Category - 1. Typically 1 to 5 Birds recorded throughout the year on 60% of visits	Platycercus eximius. Breeding - Yes	Ref.No.274 Status - Resident.
CASPIAN TERN HBOC Category - 1. Recorded only once in the three years in flight over A3.	Sterna caspia. Breeding - No.	Ref.No.200. Status - Very Rare Visitor	RED-RUMPED PARROT. HBOC Category 1. A single record of 8 Birds in March 1997.	Psephotus haematonotus. Breeding -No.	Ref.No.280. Status - Rare visitor.
SPOTTED TURTLE-DOVE. HBOC Category - 1. Five to ten birds and sometimes more recorded on 90% of visits. Usually on power lines along Sand Mine Track and A3.	Streptopelia chinensis. Breeding - Yes.	Ref.No.222. Status - Resident.	FAN-TAILED CUCKOO. HBOC Category 1. Heard throughout the year and 1 or 2 birds occasionally seen.	Cacomantis flabelliformis. Breeding - Yes.	Ref.No. Status - Resident.
BRONZEWING SPECIES. HBOC Category - 1 & 2. Although recorded as Common Bronzewing in 1997 all subsequent records are confirmed Brush Bronzewings. They arrive in early September and stay until late February. A small number of pairs can be seen and heard along all tracks at this time and are recorded on 40% of visits.	Phaps chalcoptera/elegans. Breeding - Possible.	Ref.No.229/230. Status -Seasonal Visitor.	HORSFIELD'S BRONZE-CUCKOO. HBOC Category - 1. Only two records, each of a single Bird in September and October, 1999.	Chrysocolaptes basalus. Breeding - No.	Ref.No.299. Status - Rare Visitor.
CRESTED PIGEON. HBOC Category - 1. One to ten birds recorded throughout the year, usually conspicuously perched on power lines along Sand Mine Track.	Ocyphaps lophotes. Breeding - Probable	Ref.No.232. Status - Resident.	SHINING BRONZE-CUCKOO. HBOC Category - 1. Heard throughout the year and 1 or 2 Birds occasionally seen. Exceptionally on two occasions 5 Birds seen, once 4 Adults with 1 Juvenile.	Chrysocolaptes lucidus. Breeding - Yes.	Ref.No.300. Status - Resident.
BAR-SHOULDERED DOVE. HBOC Category - 1. Although 1 to 5 birds usually seen, flocks of up to 13 seen in the Summer months. Most sightings along Sand Mine Track.	Gopelia hemeraiis. Breeding - Probable.	Ref.No.227 Status - Resident	COMMON KOEL. HBOC Category - 1. Although a Summer visitor in nearby Housing Estates, this Bird has only been recorded once in 1999.	Udeymanus scolopacea Breeding - No.	Ref.No.302 Status - Rare visitor.
TOPKNOT PIGEON. HBOC Category - 1. 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.	Lopholaimus antarcticus. Breeding -No.	Ref.No.219/ Status - Uncommon visitor.	PHEASANT COUCAL. HBOC Category - 1. Only recorded once in 1997 and 1998 followed by five records in the late Spring and Summer of 1999.	Centropus phasianinus. Breeding - ?	Ref.No.304/ Status - Uncommon visitor.
			WHITE-THRTED NEEDLETAIL. HBOC Category - 1. A total of four records of small flocks flying over the swamp in the December - January period.	Hirundapus caudacutus. Breeding -No.	Ref.No.321. Status - Uncommon visitor

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 novaeguinea.* 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. *Todiraphus 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 orientalis.* 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. *Cormobates 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.
1 or 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. *Pardalotus 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. *Sericornis frontalis.* Ref.No.463.
HBOC Category - 1. Breeding - Yes. Status - Common resident.
Recorded throughout the year, generally in small Family parties, and mainly 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 throughout the year, with most sightings along the Pipeline 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 February 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 melanocephala.* 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 1 or 2 Birds recorded on about 60% of visits. Most records from B3, C3 and A4.

YELLOW-FACED HONEYEATER *Lichenostomus 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 of 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 February - 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.* Ref.No. 568
 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.
 HBOC Category - 1. Breeding - Yes. Status - Resident.
 Resident along all tracks with typically 5 or 6 pairs of Birds heard calling on nearly all visits. Occasionally seen.

CRESTED SHRIKE-TIT. *Falcunculus frontatus.* Ref.No.383.
 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.

RUFIOUS WHISTLER. *Pachycephala rufiventris.* Ref.No.390.
 HBOC Category - 1. Breeding - Yes. Status - Visitor.
 A common Spring and Summer visitor whose "whistle" 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. *Colluricincla 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/February period, but only three records in the three years in the March/June period. No April records.

BLACK-FACED MONARCH. *Monarcha melanops.* 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 cyanoleuca.* Ref.No.629.
 HBOC Category - 1. Breeding - Probable. Status - Resident.
 Seen throughout the year, generally as 2 - 5 birds, but occasionally as high as 10. Most sightings around the Wetland areas.

RUFIOUS FANTAIL. *Rhipidura rufifrons.* Ref.No.409/
 HBOC Category - 1. Breeding - No. Status - Passage migrant.
 Occasionally recorded in Spring and Autumn, probably when the birds are on migration.

GREY FANTAIL. *Rhipidura fuliginosa.* Ref.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.* Ref.No.412.
 HBOC Category - 1. Breeding - Yes. Status - Resident.
 Typically 1 - 5 birds seen on most visits throughout the year. Most records along the Railway Track.

SPANGLED DRONGO. *Dicrurus bracteatus.* Ref.No.613.
 HBOC Category - 1. Breeding - No. Status - Visitor.
 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 novhollandiae.* Ref. No. 351
 H.B.O.C. Category - 1. Breeding - Yes. Status - Resident.
 1 - 5 birds recorded on 70% of visits throughout the year. Most often recorded in flight around the Big Swamp.

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/February period.

FIGBIRD. *Sphocotheres viridis.* Ref. No. 612
 HBOC Category - 1. Breeding - No. Status - Rare Visitor.
 Although resident within 2 kms. of the Swamp there have been only two records 1 in 1998 and 1 in 1999.

WHITE-BREASTED WOODSWALLOW *Artamus leucorhynchus.* Ref.No.630.
 HBOC Category - 1. 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 Bird was heard in March and seen in August/

AUSTRALIAN MAGPIE. *Gymnorhina 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 garulina.* 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.

RED-BROWED FINCH *Neochmia temporalis*. Ref.No 588
 HBOC Category - 1. Breeding - Yes Status - Resident.
 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 has been only one record, a Juvenile bird seen in August 1997.

WELCOME SWALLOW *Hirundo neoxena*. Ref.No.346.
 HBOC Category - 1. Breeding - ? Status - Resident.
 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.
 HBOC Category - 1. Breeding - No. Status - Visitor.
 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 BUI-BUI *Pycnonotus jocosus*. Ref.No.358.
 HBOC Category - 2. Breeding - ? Status - Uncertain.
 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*. Ref.No.
 HBOC Category - 1. Breeding - No. 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 exilis*. 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.
 HBOC Category - 1. Breeding - Yes. Status - Resident and Visitor.
 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 *Sturnus vulgaris*. Ref.No.608.
 HBOC Category - 1. Breeding - ? Status - Visitor?
 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.

COMMON MYNA *Acridotheres tristis*. Ref.No.609.
 HBOC Category - 1. Breeding - Yes. 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 RECORDED IN, OVER, AND AROUND BELMONT SWAMP DURING 199:

MONTH DATE	J 5th	J 15th	J 21st	J 27th	F	F	F	F	M 11th	M 18th	M 21st	M 26th	A 3rd	A 10th	A 17th	A 25th	M 1st	M 4th	M 7th	
QUAIL				3																
DUCKS & SWAN																				
BLACK SWAN																				
AUSTRALIAN WOOD DUCK																				
PACIFIC BLACK DUCK																				
AUSTRALASIAN SHOVELLER																				
GREY TEAL																				
CHESTNUT TEAL																				
GREBES																				
AUSTRALASIAN GREBE																				
PELICAN, CORMORANTS & DARTER																				
LITTLE PIED CORMORANT																				
PIED CORMORANT																				
LITTLE BLACK CORMORANT																				
GREAT CORMORANT																				
AUSTRALIAN PELICAN																				
EGRETS & HERONS																				
WHITE-FACED HERON																				
LITTLE EGRET																				
GREAT EGRET																				
INTERMEDIATE EGRET																				
NANKEEN NIGHT HERON																				
IBISES & SPOONBILLS																				
AUSTRALIAN WHITE IBIS																				
STRAW NECKED IBIS																				
ROYAL SPOONBILL																				
RAPTORS																				
OSPREY																				
BLACK-SHOULDERED KITE																				
WHISTLING KITE																				
WHITE-BELLIED SEA-EAGLE																				
SWAMP HARRIER																				
BROWN GOSHAWK																				
GREY GOSHAWK																				
COLLARED SPARROWHAWK																				
AUSTRALIAN HOBBY																				
PEREGRINE FALCON																				
NANKEEN KESTREL																				
CRAKES, RAILS & ALLIES																				
PURPLE SWAMPHEN																				
FUSKY MOORHEN																				
WADERS																				
LATHAMS SNIBE																				
MASKED LAPWING																				
GULLS & TERNS																				
SILVER GULL																				
CASPIAN TERN																				
CRESTED TERN																				
PIGEONS & DOVES																				
SPOTTED TURTLE DOVE																				
COMMON BRONZEWING																				
BRUSH BRONZEWING																				
CRESTED PIGEON																				
BAR-SHOULDERED DOVE																				
TOPKNOT PIGEON																				
COCKATOOS																				
GALAH																				
SULPHUR-CRESTED COCKATOO																				
PARROTS, LORIKEETS & ALLIES																				
RAINBOW LORIKEET																				
SCALY-BREASTED LORIKEET																				
EASTERN ROSILLA																				
RED-RUMPED PARROT																				
CUCKOOS & ALLIES																				
FAN-TAILED CUCKOO																				
HORSFIELD'S BRONZE CUCKOO																				
SHINING BRONZE CUCKOO																				
COMMON KOEL																				
PHEASANT COUCAL																				
SWIFTS																				
WHITE-THROATED NEEDLETAIL																				
KINGFISHERS & ALLIES																				
AZURE KINGFISHER																				
LAUGHING KOOKABURRA																				
SACRED KINGFISHER																				
DOLLARBIRD																				

KEY A = 3 to 5 LB = 6 to 10 B = 11 to 15 HB = 16 to 20
 D = 51 to 100 E = 100 + N = Nest H = Heard

