

THE FRIENDS OF THE WAITE ARBORETUM INC.



NEWSLETTER

No. 34
SUMMER 2003

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FORTHCOMING EVENTS AND DIARY DATES, 2003

- **Monday, APRIL 7, 7.00 pm, AGM**, Speaker: Dr David Symon, on "Waite Arboretum History".
- **Sunday, April 13, Urrbrae House OPEN DAY** from 11 am to 4.00 pm. This is really a Friends of Urrbrae House function but we shall be staffing a stall. If any FRIEND wishes to help, please contact Cicely Bungey on 8271 5720. The stall will be stocked with Arboretum information and a selection of related goods for sale such as plants, second-hand gardening books and magazines, cards, books and jams etc. If you have any suggestions or possible offerings of suitable stock please contact Cicely.
- **Monday, August 11**, Talk on **TREENET** by **David Lawry**, Co-founder and inaugural Chair of TREENET, Urrbrae House.
- **Sunday, November 16, ARBORETUM OPEN DAY & 75 YEAR BIRTHDAY CELEBRATIONS**. This will be a major event for the ARBORETUM FRIENDS. There will be special walks, displays, music, and tasting of wines from fruits of the Waite Arboretum trees. Lots and LOTS of help will be needed. Please phone Rosemary on 8379 7102 if you would like to participate or offer help.
- **Monday, December 8**, Joint Friends **Christmas Party**, 6.00 - 7.30 pm.
- It will certainly be of interest to some of you to note the dates of the following Urrbrae House Exhibitions:
 - March 19 to April 13, *Exhibition of Bronzes* by Liquid Metal Studios, 11.00 am to 4.00 pm, Wednesday to Sunday only. Admission free.
 - August 23 to September 6, *Wood Revealed* by Woodgroup SA, 11.00 am to 4.00 pm daily. Admission free.

ANNUAL GENERAL MEETING

The eighth AGM of the Friends of the Waite Arboretum will be held on
Monday, April 7 at 7.00 pm in Urrbrae House.

The meeting will be followed by a talk by Dr David Symon on
"The History of the Waite Arboretum".

At this AGM a minor change to the Constitution will be put up for discussion.

- Section 9.7 of the present Constitution states "No officer shall hold any one office for more than three consecutive years and no person shall remain on the committee for more than six consecutive years."
- It is suggested that this be replaced by "No officer shall hold any one office for more than five consecutive years and no person shall remain on the committee for more than ten consecutive years." The reason for the original insertion of this paragraph was to enable and encourage changes in the committee membership. This has not proved a problem, people disappear sometimes too rapidly and many stay for only four or five years. The change is being suggested in order to maintain the services for a few more years of some extremely valuable personnel with skills not easily replaced.

It is worthwhile reminding members that the Committee itself consists of four Officers viz. the President, Vice-President, Secretary and Treasurer and in addition there are not fewer than two and not more than seven ordinary members, ie, the total elected membership is between six and eleven. The Curator of The Waite Arboretum is an *ex officio* member of the committee. The Officers are chosen from the elected committee members at its first meeting after the AGM at which all members of the Committee were elected.

The year 2003 will be a busy one for all committee members as it is the 75th anniversary of The Waite Arboretum's foundation. Consequently, in order to facilitate decision-making processes, the first meeting of the new committee will be a short one in order to select the new Officers to represent us and give some continuity without a gap of a couple of months when the Friends would have no real representation. This short meeting will be held immediately after supper following the AGM.

We are always on the lookout for new energetic committee members. If you are interested please return the form printed on the last page of this Newsletter to the Secretary (c/o The Waite Arboretum, University of Adelaide, Waite Institute, PMB 1, Glen Osmond, SA, 5064, before March 31.)

NOTES FROM THE COMMITTEE

In 2003, Committee meetings will be held at 9.30 am on each of the following dates: April 2, June 4, August 6, October 1, and December 3. In addition, as stated above, there will be a short Committee meeting on the evening of the AGM.

The Committee, at its meeting of February 5, agreed that \$15 000 of our funds be allocated in this year directly to the Arboretum to pay for 10 sessions when three arborists with one chipper will work on selected trees. This will enable appropriate tree removal or pruning. It is anticipated that similar sums will be needed each year in the future.

It was also agreed that a sub-committee be set up to consider various ideas for our 75th anniversary.

NOTES FROM THE PRESIDENT

Our 2002 year was a year of much achievement by the dedicated volunteers who have made some significant changes within several areas of the Arboretum and the gardens. The band of volunteers working in the north west corner of the Arboretum have dealt with

patches of weeds, mown the grasses, identified and staked native grasses and plants and propagated extra plants. After our hot summer we hope that the autumn rains will give everything a new lease of life. Andrew Crompton's Management Plan is certainly taking shape.

The Garden of Discovery has evolved in leaps and bounds with new plantings and the installation of the drip irrigation scheme. The plants are growing well and the listening posts and the pathways being used more and more by visitors to the site.

The Sensory Garden has been given a new lease of life by the team which has adopted this part of the Precinct. It is looking much loved and cared for and is thriving with the added attention.

The Rose Garden is a constant delight to all those who visit the grounds of Urrbrae House. It was the focus for our very successful Champagne & Roses evening with Maureen Ross, who generously provides all the rose bushes to the garden.

Over the last couple of years, the Salvia Society has donated many varieties of salvia plants to the different areas of the gardens and these have become quite a feature of their Salvia Show which was held in November.

After much concern about the future of Urrbrae House, the visit of the new Vice-Chancellor, Professor McWha, with Mrs McWha in late October, helped to allay some fears when they joined us for morning tea and spoke of continuing support of the Precinct.

Our final event for the year was the combined Christmas party of the Friends groups from the Arboretum, the Reserve and Urrbrae House. It was a very happy occasion for all who attended and one which we hope will become a tradition.

The year of 2003 promises to be an eventful one with celebrations in November of the 75th anniversary of the Arboretum. With our AGM in April, I look forward to seeing many of our supporters on that date and on many other occasions during the year.

Warmest regards,
Cicely Bungey

How can I fill in the following empty space??

NOW you can understand why this newsletter is in desperate need of a new EDITOR.

We shall try Judith Wright, "*The Wattle-tree.*", first verse.

The tree knows four truths --
earth, water, air and the fire of the sun.
The tree holds four truths in one.
Root, limb and leaf unfold
out of the seed, and these rejoice
till the tree dreams it has a voice
to join four truths in one great word of gold.

BIRDS OF THE WAITE ARBORETUM AND THE WAITE CONSERVATION RESERVE

PART 3

A plan for monitoring bird species in the Waite Arboretum was developed by Field (2000) and a preliminary article on the birds likely to be recorded, based on historic data and current knowledge, was published by Possingham (2000). This article reports the results of this monitoring of the Waite Arboretum from January 2000 to November 2002.

The Arboretum was divided into ten patches, each about 2 hectares in area (see Map), and ten observers recorded the birds observed in 20 minutes on standard record sheets. Birds occupying a site, flying overhead or in another site were recorded together with other observations such as breeding or immature birds present. Those actually occupying the site being surveyed are termed "on-site", flying overhead and not utilising the site are termed "overhead-transients (OHT)", and those heard or seen in another site, ie the site not being surveyed, are termed "off-site".

A useful statistic for birdwatchers is the probability or chance of recording a species in the Arboretum. A probability greater than 0.5 means that there is a greater than a 50% chance of recording the species on a visit to the Arboretum. It is calculated from the number of site visits on which the species was recorded (regardless of the numbers recorded) divided by the total number of visits made in the survey. This statistic refers to the conditions that occurred during the survey, ie a single 20 minute visit made to any site on any month at any time of the day. The accuracy of this calculation assumes that all sites, months and times-of-day are uniformly covered by the survey. See the next paragraph for details of how well (or poorly) these conditions are met.

Ten observers participated, submitting 104 record sheets containing 899 observations. Most observers submitted from one to 5 sheets, with Janice Menz excelling with 74. Coverage of the sites is fairly uniform with seven sites visited from 10 to 14 times and three from 7 to 8 times. Coverage by month is less uniform with two months visited less than 5 times, seven from 6 to 10 and three greater than 10. The month most often visited is September with 18 visits. Coverage during the day is quite uniform with 29 visits from 8:00 to 10:00 hours, 32 from 11:00 to 13:00, 32 from 14:00 to 16:00 and 11 from 17:00 to 19:00. The times with lowest visits are 8:00 with 4, 13:00 to 14:00 with 4 and 18:00 to 19:00 with 3 visits.

The results of this survey are presented in two tables, Table 1 shows the species recorded and total visits on each site and Table 2, the same information categorised by month of recording. In addition, Table 1 also gives the total number of birds recorded on-site, overhead transients and off-site and Table 2 gives the probability of recording each species. The recordings of Corella Species (i.e. when the observer could not distinguish which corella species was observed) has been removed from the analysis.

The tables show that the six species most likely to be recorded are the Noisy Miner, White-backed Magpie, Eastern Rosella, Rainbow Lorikeet, Galah and Adelaide Rosella; they were recorded on all sites, on all 12 months and have a probability of recording greater than 50%. In contrast to these five species, there are 9 species very unlikely to be recorded with a probability less than 1%. In between are 10 species with probabilities between 50% and 10% and 14 species between 10% and 1%.

Table 2 also indicates how different species favour different seasons. The wetland species are mainly present in Autumn, Winter and early Spring. The large numbers of Australian Wood Duck, Mallard and Pacific Black Duck are attracted by the good breeding sites near the dam, Site 4. Water birds might also be expected over summer, but the records show large numbers only in December. A more detailed examination of the records shows no visits to the dam in January and February.

The month most favoured by birds appears to be July, with 26 species recorded, although August, September and December are almost as good. Site 4, the dam, has the highest species total with 26 (because of the water birds); Site 1, with the watercourse running through it, is near with 21 (four being water birds) while remaining 8 sites slowly decrease from 18 to 11 species. It is difficult to be precise about these observations, as the visit numbers are not uniform over the month or site, precluding more definite conclusions.

The bird fauna of the Arboretum is substantially impoverished compared with the nearby Waite Conservation Reserve, where over 60 species have been recorded in recent years. For example, as noted in Part 1 of this series of articles, there is a notable lack of honeyeaters in the Arboretum. One would expect four common honeyeaters on the Adelaide Plains, the Red Wattlebird, New Holland Honeyeater, Little Wattlebird and White-plumed Honeyeater to be present. All could make good use of the food (nectar and insects on the eucalypts) in the Arboretum. This situation is common across south-eastern Australia and is usually attributed to the Noisy Miner, the most commonly reported species during the survey with an average of 6.5 birds per site. Noisy miners form large aggressive colonies and harass other honeyeaters (and indeed any possible competitor species), often to their exclusion from the habitat. One observer recently reported Noisy Miners harassing a Red Wattlebird. They can also often be seen chasing Striated Pardalotes, which occasionally venture into the suburbs from the foothills, and which would otherwise probably be much more common in the Arboretum, where the large eucalypts provide ideal habitat.

If more honeyeaters and small insectivorous birds are to be recorded in the Arboretum, two options are available. One is the removal and ongoing control of the Noisy Miners. Another is the reinstatement of an understorey, as being carried out in the Grey Box woodland restoration in Site 8. Noisy Miners tend not to dominate in areas with substantial understorey plantings. This can be seen in the Urrbrae Wetland, where the abundance of young eucalypts has created dense cover near the ground layer, resulting in White-plumed Honeyeaters being very abundant and Noisy Miners relatively scarce.

Other species, already present in the nearby foothills, might move into the Arboretum when the Grey Box woodland habitat planned for site 8 is fully mature (possibly in 10 years). These include the Brown Thornbill, Superb Fairy-wren, Grey Fantail, Red-browed Finch and Yellow-rumped Thornbill might find the habitat acceptable. They may, however, find it hard to negotiate the intervening suburban development and require a larger area of habitat than this small section would provide. Control of predators (mainly cats and foxes) would also be necessary for them to maintain a successful breeding population.

After some 100 visits to the Arboretum, some 38 on-site species have been recorded. An analysis shows, that as the survey progressed, the species count increased by 20, 8, 3, 5 and 3 as the visit count increased from 0 to 20, 20 to 40, 40 to 60, 60 to 80 and 80 to 100. Thus we have a process of diminishing returns in the Arboretum survey and I suggest that most of the future effort be transferred to the Conservation Reserve. A small, low level of survey effort could be retained in the Arboretum to record any unusual species that visit, perhaps because of habitat change or reduction of the Noisy Miner population.

The author acknowledges useful comments on this article made by Dr Scott Field.

References

Field, S. A. (2000). Waite Conservation Reserve and Waite Arboretum Bird Monitoring Project. *The Friends of the Waite Arboretum Newsletter*, No 24, Winter, 2000.

Possingham, M. L. (2000). Birds of the Waite Arboretum and the Waite Conservation Reserve Part1. *The Friends of the Waite Arboretum Newsletter*, No 25, Spring, 2000.

M Possingham

Table 1 Birds recorded on-site categorised by site

COMMON NAME	Site number										Total On-Site	Total OHT	Total Off-Site	
	1	2	3	4	5	6	7	8	9	10				
Australian Wood Duck	88	107	28	130	6				1		360	4	80	
Mallard	5	1		64	5						75		2	
Feral Duck				3							3			
Pacific Black Duck	18	8		160	6						192	1	22	
Hardhead				2							2			
Australasian Grebe				18							18			
Little Pied Cormorant	1			6							7			
Little Black Cormorant				1							1			
Australian Pelican												2		
White-faced Heron		1	2	4							7	1	17	
Brown Falcon				1							1			
Australian Hobby	1					1	3	2			7		1	
Nankeen Kestrel												1		
Dusky Moorhen				3							3			
Black-tailed Native-hen				6							6			
Masked Lapwing				4							4	1	3	
Rock Dove									9		9	5	100	
Spotted Turtle-Dove				6					1		7		3	
Crested Pigeon	8	9	20	37	7	7	6	6		14	114	6	24	
Galah	16	41	3	3	52	47	31	96	39	24	352	96	102	
Long-billed Corella		37	8	7	25	14	56	41		1	189	208	165	
Corella Species		4						1			5		1	
Little Corella		4					17		2		23	5	2	
Sulphur-crested Cockatoo							1	1			2	1	2	
Rainbow Lorikeet	70	57	25	28	20	28	38	106	27	17	416	218	104	
Musk Lorikeet	7	10			2	4		7	2	1	33	34	15	
Purple-crowned Lorikeet									2		2			
Adelaide Rosella	8	14	13	12	26	40	10	21	4	5	153	9	36	
Eastern Rosella	64	52	18	11	32	58	31	26	22	39	353	30	40	
Red-rumped Parrot													1	
Elegant Parrot												5		
Tawny Frogmouth								1			1			
Laughing Kookaburra	4	2	4	3		1		2	1		17	4	4	
Red Wattlebird	1					1		2		1	5	4	1	
Noisy Miner	71	64	20	48	55	73	117	98	67	71	684	53	42	
New Holland Honeyeater									4		4		1	
Magpie-lark	2	7		12						4	25	4	62	
Willie Wagtail	1										1		1	
White-backed Magpie	43	52	22	16	26	26	33	16	14	35	283	19	92	
Little Raven	5	6	1	6	7	1	4	1	2		33	17	29	
House Sparrow	3										3		1	
Welcome Swallow	18	5	7	23			2		5		60	7	1	
Tree Martin			2						1		3			
Common Starling	2				5						7	28	25	
Total Species	43	21	18	14	26	14	13	13	15	17	11	39	25	28
Total Visits	104	13	10	7	11	10	12	12	14	8	7			

Table 2 Birds recorded on-site categorised by month

COMMON NAME	Total On-Site	Month of Year												Prob. of Rec
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Australian Wood Duck	360			17	72	34	39	38	18	87			55	0.32
Mallard	75				3	2		6	14	21			29	0.12
Feral Duck	3							3						0.01
Pacific Black Duck	192			32	12	17	8	49	25	10		1	38	0.20
Hardhead	2								2					0.01
Australasian Grebe	18			4		2		2	3	1			6	0.08
Little Pied Cormorant	7			1		1		1	1	1			2	0.07
Little Black Cormorant	1												1	0.01
White-faced Heron	7			1	1			3	2					0.04
Brown Falcon	1												1	0.01
Australian Hobby	7	1			2	1	1			1	1			0.07
Dusky Moorhen	3							1	1				1	0.03
Black-tailed Native-hen	6				4				1				1	0.03
Masked Lapwing	4				2								2	0.02
Rock Dove	9						8	1						0.02
Spotted Turtle-Dove	7		1	6										0.02
Crested Pigeon	114	7	7	2	9	9	14	29	13	7	2	5	10	0.37
Galah	352	7	6	7	55	31	2	18	61	59	57	42	7	0.54
Long-billed Corella	189	2	5	1	41			2	33	33	9	49	14	0.24
Corella Species	5			1	4									0.02
Little Corella	23		17					2		4				0.04
Sulphur-crested	2									1		1		0.02
Rainbow Lorikeet	416	14	20	36	34	24	12	25	43	134	19	29	26	0.67
Musk Lorikeet	33			6	9	1		7	1	9				0.13
Purple-crowned	2									2				0.01
Adelaide Rosella	153	5	6	5	24	5	3	14	26	38	18	7	2	0.52
Eastern Rosella	353	13	12	21	30	18	65	39	45	46	30	22	12	0.70
Tawny Frogmouth	1		1											0.01
Laughing Kookaburra	17				2	2	2	7	2	1			1	0.11
Red Wattlebird	5				1					1		3		0.05
Noisy Miner	684	30	32	25	46	36	44	93	102	89	81	78	28	0.95
New Holland	4						4							0.01
Magpie-lark	25			4		2	1	4	4	2			8	0.13
Willie Wagtail	1							1						0.01
White-backed Magpie	283	5	16	20	22	11	26	32	34	54	29	18	16	0.76
Little Raven	33	2	2	3	12	2	4	3	1	3			1	0.20
House Sparrow	3							3						0.01
Welcome Swallow	60			2	6	4		10	18	15			5	0.19
Tree Martin	3							2					1	0.02
Common Starling	7						7							0.02
Total Species	38	10	12	18	20	18	16	26	22	23	9	11	23	
Total Visits		4	8	4	7	8	8	11	14	18	9	7	6	

IN THE ARBORETUM

Acorns and *Quercus emoryi*

Acorns are relatively large seeds and as such are potentially valuable food for predators. You will all have seen nature programmes on TV of squirrels and woodpeckers storing acorns for later consumption. The oaks respond by loading the acorns with tannins and other unpalatable substances, which have to be removed by leaching to make them palatable for humans.

The table below gives some analyses of dried acorns of Californian Oaks, all of which are in The Arboretum.

Species	Water	Protein	Fats	Fibre	CHO	Ash
<i>Q. kelloggii</i>	9	4.5	17.9	11.4	55.5	1.6
<i>Q. lobata</i>	9	4.9	5.5	9.5	69.0	2.1
<i>Q. agrifolia</i>	9	4.4	20.4	11.7	52.7	1.7
Barley grain	10	8.7	1.9	5.7	71.0	2.6

These figures show a dominance of carbohydrates (CHO), however fresh acorns would have a much higher percentage of water; tannin and unpalatables which are not shown and it is known in both Eurasia and America that some species are more palatable than others. Many acorns were, and I suppose still are, eaten by pigs and stock in Europe as well as some "sweet" acorns by humans. As well as producing unpalatable fruits, oaks also 'trick' potential predators by the irregular production of light and heavy crops. The very years in which the crops are very heavy are known as mast years -- the predators maintained at the levels of the lower yielding years are quite incapable of coping with the massive crops of the mast years and the surplus acorns have a greater opportunity of becoming established. As with our large and long-lived River Red Gums (*E. camaldulensis*), establishment of new trees may be a relatively rare event.

To American Indians, acorns were a major source of food. The amount of acorns harvested and utilised by them was tremendous. In brief, these acorns were shelled, ground up and then the rough flour leached before the mush could be eaten.

Our young trees of *Q. emoryi* (both 1985) have grown quite well to produce rather open, lightly branched trees now about 5 m in height. This species is native to south-western USA and Northern Mexico, "the most abundant oak of southern New Mexico and Arizona, forming a large part of the forest covering the mountains slopes and attaining its largest size and beauty in the moist soil of sheltered canyons". It is one of the sweet acorns and formed an important item of food for Mexicans and Indians, being frequently sold in the towns of southern Arizona and northern Mexico.

David Symon

Nature gives to every time and season some beauties of its own, and from morning to night, as from the cradle to the grave, is but a succession of changes, so gentle and easy that we can scarcely mark their progress.

Dickens
(thanks to Bryan Milligan).



THE FRIENDS OF THE WAITE ARBORETUM INC.

MEMBERSHIP RENEWAL 2003

Title:Name

Address:

.....Postcode:.....

Telephone:Email:

- Yes, I would like be a volunteer.
- Yes, I would like to help staff exhibitions.

Membership fees for 2003:

- Individual \$10
- Family \$18
- Institutional \$40

I enclose my fee of \$.....

A donation of \$.....

Total amount \$.....

(Subscriptions are due on January 1st.)

*Please make cheques payable to "The Friends of The Waite Arboretum Inc." and return to:
Friends of The Waite Arboretum, University of Adelaide, PMB 1, Glen Osmond, SA 5064*

NAME of NOMINEE (please print):

Address:

Telephone number(s): HomeWork

E-Mail address (If any):

Signature of Proposer:

Signature of Nominee: