No. 29

Newsletter

Friends of Stirling Linear Park Inc. Summer 2002-03

In this issue.....

Dogs overboard

Should dogs be allowed to swim in the lake?

This vexed question has exercised the minds of many Park users recently. At one extreme, there are dog owners who assert that their pets have an inalienable right to swim in any body of water in a public place — including Woorabinda. Opposing them are those who counter with the environmental case — that dogs in such sensitive wetland areas should be on-leash at all times and never allowed in the water.

The 'dogs rights' defence is based on rewarding the dog for the affection, loyalty and trust that it gives to its owner. Dogs become an important part of the lives of many people, and are often treated and indulged as family members. Walking the dog in natural surroundings is a pleasant daily routine. Allowing the dog to run and play off the leash is regarded by some owners as normal and necessary — even in areas of high conservation value. They will insist that their dog is not harming anyone or anything — even when confronted with evidence to the contrary.

Take swimming in the lake. Many dogs love to swim, but hardly a thought is given to the consequences of throwing a stick into the water for the dog to swim out and retrieve. It seems harmless enough, yet there is a wealth of evidence to show that free-ranging dogs and sensitive wetlands are incompatible.

The most serious effect of swimming dogs at Woorabinda is the effect on the water birds and their environment. While dogs and some of their owners regard chasing ducks as good fun, this sport is having a very negative effect on the birds who use the reed beds for nesting and feeding. Coots and moorhens for instance are fairly tolerant of humans close to their surroundings, but they are definitely put off by a dog rampaging around close to their nesting sites, breaking down the reeds and disturbing other essential habitat.

Although quantitative bird surveys around the lake have yet to be done, there's mounting visible evidence that birds are refusing to nest in their previous numbers. Hatchlings are fewer and their survival rate appears lower. No bird likes to raise its young in such a threatening environment.

Dogs also introduce other problems. Their continual entry into the water is eroding areas of the shoreline. This is especially evident at the southern end of the lake and at places along the dam wall, where tree roots are now exposed and vegetation has ceased to grow.

When a dog plunges into the lake it muddies the inshore water, putting at risk the birds' food source of water plants and macro-invertebrates. And of course there's the perennial problem of owners refusing to collect their dogs' droppings. Ultimately the stuff washes into the lake — adding unwelcome nutrients and pathogens.

None of this means much to the kind of dog owner who places his or her dog ahead of the welfare of other living things in the environment. Although such people have learned they can get into trouble if their dog is out of control in an urban setting, the message is not getting through that Woorabinda is also a public place, with the added claim to special environmental protection.

Both the Adelaide Hills Council and the earlier

Stirling District Council have endorsed our view that owners should keep their dogs out of the lake and that no dog is under effective control unless it is leashed. This is stated unequivocally in the Stirling Linear Park Management Plan.

The problem we now have is that increasing numbers of people and their dogs daily visit the Park. The word is out that right in the heart of Stirling, in the beautiful Adelaide Hills, lies a lovely pond with lots of nice scrub around it. You can take your dog there, let it run off the leash, allow it swim if it wants to — and generally let it experience the freedom it so richly deserves. This misconception needs to be changed — and soon, if Woorabinda is not to degenerate into just another 'pond'.

Sadly, in the absence of good will on the part of some members of the public, we have to rely on laws to regulate appropriate behaviour in environmentally sensitive areas. Dog control regulations are undergoing a fairly major review at present at both local government and state level, and there is little doubt that the days of free-running your dog in conservation areas are coming to an end.

While we are waiting for the law to come up to speed, we can only hope that major damage to the lake's unique environment is avoided.

Some members of the Friends committee are doing what they can to draw the attention of dog owners to the damage being done by dogs in the lake. Naturally some dog owners feel offended by this, but the members feel they have to defend the lake's wildlife when they witness blatant abuse.

A special plea

So here is a special appeal to all our members: If you walk your dog around Woorabinda, please keep it leashed and away from the lake. And if you feel sufficiently incensed by the irresponsible actions of other dog owners, you have some options:

- Gently remind the owner of the damage being done by his/her dog.
- Immediately phone, email or write to the Adelaide Hills Council about the concern you have for what you have seen.
- Write to us.

Rare fish discovered in the Park

In mid-December, we received a report entitled: *Fish survey in Woorabinda Lake and Aldgate Creek*, by Scotte Wedderburn of Adelaide University.

The recent Wetland Care Australia funding enabled us to commission this survey as part of a more detailed study of the Woorabinda environment.. Our understanding of the wetland ecosystem has up to now been mainly restricted to plants, macro-invertebrates and amphibians. Little definitive information has been available about the fish population.

Two sampling locations were chosen in the creek and three in Lake Woorabinda. The samples were collected using netting and baited traps, collections being made every two hours over an eight-hour period. A dip net and spotlight were also used to take samples after dark.

Three fish species were found in the survey:

Redfin *(Perca fluviatilis);* was found to be very abundant in the lake. 68 individuals were netted , including one haul of approximately 50 (less than 3 cm long). No redfin were observed in the creek.

Plague minnow, aka Mosquito fish *(Gambusia holbrooki)* were also very abundant (including many breeding females), especially in the western part of the lake, where the extensive aquatic vegetation and shallow water is a preferred habitat. Again none of this exotic species were recorded in the creek.

Mountain galaxias (*Galaxias olidus):* Schools of 50 or more, all less than 3 cm in length, were observed at both creek sites. None were found in the lake. This is likely due to the warmer water and the presence of large numbers of predatory redfin.

The report recommends that efforts be concentrated on managing the creek because:

- It is refuge for an important population of native fish – the mountain galaxias *(Galaxias olidus),* which is about to be listed as Rare in South Australia under the National Parks and Wildlife SA Threatened Species Schedule, based on IUCN criteria, abd(ii).
- No exotic fish species were detected in the creek (they may be present at other times of the year when conditions favour exotics or they may be present in other parts of the system).
- It is a natural system.

Regarding Woorabinda Lake, the report concludes that:

- Native fish (eg. the mountain galaxias) may be present in the lake but were not detected in the survey due to difficulty using sampling equipment in the deep water (galaxias prefers colder water, and water temperature at the peripheral edges of the lake are too warm). Also, sampling results may vary between seasons.
- It would be very hard to sustainably reduce the

high numbers of the exotic redfin *(Perca fluviatilis)* and plague minnow *(Gambusia holbrooki)* due to their prolific nature, their preference for the conditions found in the lake and the lack of predators.

- Connecting the lake to the adjacent Aldgate Creek may unnecessarily introduce predatory exotic fish to the natural creek system and may provide little benefit to native fish.
- A precautionary approach would be to leave the lake disconnected from the creek. It would be beneficial to monitor the lake's overflow drain. When it is overflowing into the Aldgate Creek catchment the movement of exotic and native fish should be determined. If exotic fish are moving out of the lake into the creek then it may be necessary to prevent further overflow. On the other hand, if the overflow allows native fish to move up into the lake then the benefits (ie. the trade-offs) may need to be studied and determined before such a decision is made. However, the benefits of the lake to local native fish are questionable (ie. the lake ecosystem is likely to be unsuitable for local native fish species but suitable for exotic species).

The survey has expanded our knowledge of the Woorabinda aquatic ecology, and confirms our own observation that introduced mosquito fish and Redfin dominate the lake's fish population to the exclusion of native species. The discovery of Mountain Galaxias in the creek is an unexpected bonus. It reminds us that nothing in the environmental scheme of things can ever be taken for granted, and that special note must be taken of the advice to monitor the lake's winter overflow. It would be a disaster for the rare galaxia population if redfin and plague minnows found their way down to the creek.

Sources: Fish survey in Woorabinda Lake and Aldgate Creek: Scotte Wedderburn, 28.11.02.
Australian Museum Fish site; *www.amonline.net.au/fishes/fishfacts/fish.*
WA Dept of Fisheries; AquaInfo: *www.fish.wa.gov.au/aqua/broc/aquainfo/aqinfo19.*
Environment ACT; Fish Info: *www.environment.act.gov. au.*
South Australian Native Fish Association; Freshwater fish: *www.sanfa.org.au/fw-fish-03-redfin.*
Friends of Scott Creek Conservation Park; Native Fishes and the Restoration of Scott Creek: *homepages.picknowl.com.au/peters/ScottCreekFish.*

New Management Plan for the Park

The Stirling Linear Park Management Plan has not had a major overhaul since 1998. During recent years the Park has seen a great many changes. It is timely therefore to have another look at long-term planning for the Park and how best to balance environmental protection with increasing visitor impact.

As we reported in our Spring newsletter, a major ecological survey of the Park is now underway, and the results of this will provide the structure for a new Management Plan.The survey is being funded by an NHT grant from Australian Wetland Repair, and is coordinated by Wetland Care Australia,

Extensive GIS mapping is providing a base map for a detailed understanding of the Park's natural resources. A botanical survey is nearing completion and a study of frog, reptile and bat populations is being carried out by the Herpetology Group, who are affiliated to the SA Museum.

It is anticipated that the new Management Plan will be ready in draft form in July.

If any members have suggestions for the management plan or have general queries about the study, please contact Russell Seaman on 0429.678.741.

Water quality in the Park

In our summmer 2001/2002 newsletter, we showed tables of water quality values recorded in the Park since 1999. The accompanying tables are updates of the same tables to September last year.

As was expected, the creek salinity is an order of magnitude greater than that of the lake, but it is still well within acceptable limits. Water with salinity measured at less than 1000 ECUs (microSiemens/cm) is regarded as good quality.

Although a year ago the accumulated results indicated a slightly increasing salinity in the creek, the update does not support this. Salinity levels in both the creek and the dam seem fairly stable, showing seasonal fluctuations only.

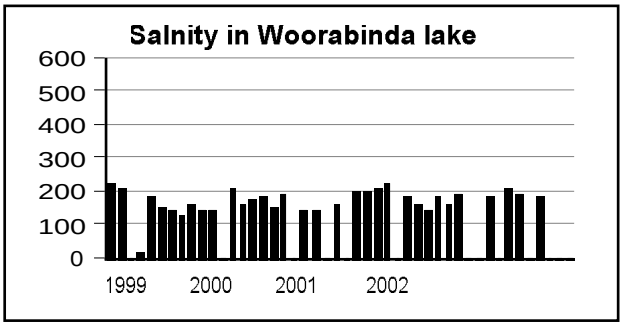
Both locations continue to record very low levels of turbidity and nutrients, providing excellent habitat for the wetland fauna food source.

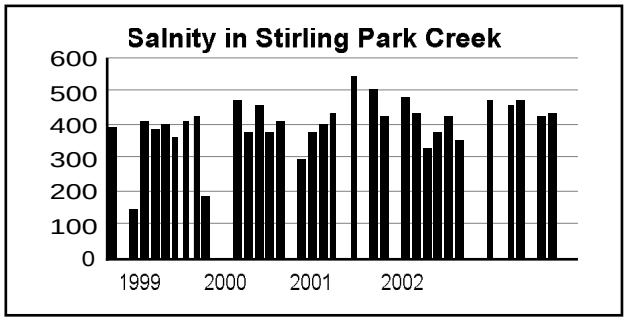
Woorabinda lake

Month	pH	Salinity	Turbidity	Phos-phates	Nitrates Nitrites
Feb 1999	5.5	220	0	3	0
March	5.5	210	0	0	0
April	-	-	-	-	-
May	5.5	160	15	0	0
June	5.5	180	0	0.02	0
July	5.5	150	0	0	0
August	6	140	0	0	0
September	6	130	-	0.04	0
October	5.5	160	0	0	0
November	5.5	140	0	0.12	0
December	5.5	140	0	0.1	0
January 2000	-	-	-	-	-
February	6	210	0	0.08	0
March	5.5	160	0	0.16	0
April	6	170	0	0.03	0
May	6.5	180	0	0.08	0
June	6	150	0	0.06	0
July	5.5	190	0	0.02	0
August	-	-	-	-	-
September	5	140	0	0.03	0
October	5.5	140	0	0.12	0
November	-	-	-	-	-
December	5.5	160	0	0	0
January 2001	-	-	-	-	-
February	5.5	200	10	0	0
March	5.5	200	20	0	0
April	5.5	210	0	0	0
May	5.5+	220	-	0	0
June	-	-	-	-	-
July	5.5	180	<10	0	0.006
August	5	160	<10	0.03	0.009
September	5	140	<10	0	0
October	5.5	180	<10	0	0
November	5	160	<10	0	0
December	5	190	<10	0	0
January 2002					
February					
March	5.5	180	<10	0	0
April					
May	5.5	210	0	0.02	0.05
June	5.5	190	0	0.01	<0.05
July					
August	5	180	10	0.01	-
September					
October					
November					

Stirling Park Creek

Month	pH	Salinity	Turbidity	Phos-phates	Nitrates Nitrites
Feb 1999	-	-	-	-	-
March	5.5	390	0	0.06	0.051
April	-	-	-	-	-
May	5.5	140	80	0.54	0.18
June	6	410	0	0.16	0.068
July	6	380	0	0.14	0.051
August	5.5	400	0	0.14	0.17
September	6	360	-	0.1	0.13
October	6	410	0	0.16	0.015
November	6	420	0	0.28	0
December	6	180	0	0.28	0.009
January 2000	-	-	-	-	-
February	-	-	-	-	-
March	6	470	80	0.54	0
April	6.5	370	0	0.20	0
May	6	450	0	0.22	0
June	6	370	0	0.24	0.22
July	6	410	0	0.24	0.35
August	-	-	-	-	-
September	5.5	290	0	0.2	0.006
October	6	370	0	0.16	0.13
November	5.5	400	0	0.26	0.051
December	6.5	430	13	0.4	0
January 2001	-	-	-	-	-
February	5.5	540	100	0.38	0.043
March *	-	-	-	-	-
April	5.5	500	20	0.30	0
May	5.5	420	65	0.30	0.003
June	-	-	-	-	-
July	6	480	<10	0.10	0.17
August	6	430	15	0.14	0.17
September	5.5	330	<10	0.16	0
October	6	370	<10	0.16	0.24
November	6	420	<10	0.30	0.12
December	6	350	<10	0.16	0
January 2002					
February					
March	6	470	12	0.36	0.032
April					
May	6	460	?	0.1	0.4
June	6	470	0	0.05	0.8?
July					
August	5.5	420	0	0.006	0.28
September	6	430	<10	0.007	0.04
October					
November					





Waterwatch news

In December the Friends of Stirling Linear Park received two more certificates to add to our growing collection. On this occasion, it was the turn of Waterwatch SA to present us with a 'Certificate of Achievement'. This is in recognition of the high quality data that our Waterwatch group members, past and present, have consistently delivered to the ongoing State's waterways monitoring program.

Waterwatch also awarded our group with another 'Certificate of Outstanding Achievement (Regional Winner)'. This was a special 'thank-you' for voluntary support of the Waterwatch program by all those Friends who so generously contributed their time towards the refurbishment of the Woorabinda main building.

Because of this voluntary labour and the dedication of all those who played a part in launching Woorabinda as an Environmental Resource Centre, the Onkaparinga Waterwatch Network now at last has a permanent home.

The Waterwatch coordinator, Sheralee Cox, will now have a full time education oficer with her at Woorabinda. Suzy Mills replaces Steve Paterson and Nerida Matulik, who are both leaving for overseas. Suzi is a recently-returned South Australian who has been working as coordinator for 'Wastewise' at the Swan Catchment Centre in Western Australia.

Other news:

The main Woorabinda building is to have a reverse cycle air conditioner.This willl be installed in the office area.

More educational graphic aids are proposed for the Waterwatch area, such as removable wall panels depicting the plants and creatures in and around a typical stream. Additional aquariums will also be a feature of the new premises.

Mt. Lofty Scout Group 'Patch'

The Mt. Lofty Scout Group recently registered in the 'Our Patch' scheme, and has obtained funding to rehabilitate the seasonal waterway flowing through their Pine Street premises. The project is officially known as 'Aldgate Creek Rehabilitation at the Mt. Lofty Scout Patch'. Signs acknowledging the project will be erected along the Pine Street fence line.

Rehabilitation by the Scout Group members will include seed collection and propagation, herbaceous and woody weed removal, and revegetation. Contractors will remove non-indigenous trees and prepare the area for planting. Adelaide Hills Council will remove rubbish and carry out drainage remediation.

The Mt. Lofty Scout Group is the first scout group to be registered in the Our Patch scheme and wishes to thank the Friends of Stirling Linear Park for their encouragement and support of their project.

Walkways and signage

Walkers will have welcomed the recent upgrading of the walking track leading from the lake to the Linwood link (Woorabinda Track). Instead of the customary quarry rubble, the walkway has been topped with dolomite.

In the past, rubble was preferred for this purpose in environmentally sensitive areas because of its low pH value. It has a neutral effect on surrounding soil and thus did not threaten the adjacent native vegetation. Dolomite (calcium magnesium carbonate), although used as a popular topping for driveways and parking areas, was considered to be too alkaline for native flora which generally prefers acid soils.

However the use of dolomite elsewhere in trail construction has not resulted in any noticeable effect on nearby native vegetation. In fact It has now been realised that the mildly alkaline properties of dolomite can provide a prophylactic barrier to the spread of *Phytophthora cinnamomi*. If walkers and their dogs stick to the constructed trails (as they should), there is a greatly reduced risk of *Phytophthora* spores spreading into the surrounding soil via their feet. Conversely, if *Phytophthora* is present in an area there is less chance of it hitching a ride on boots and paws and finding its way elsewhere in the environment.

Renate Velzeboer, Phytophthora Project Officer with National Parks and Wildlife SA, reports that a dolomite / bitumen mix has been used on pathways in Cleland Wildlife Reserve, with no ill effects being observed in the adjacent bush.

Aesthetically, and from the point of view of walking comfort, dolomite provides a much better surface than the lumpiness of quarry rubble. It is more stable, beds down well and is more pleasing to the eye once it has weathered and settled down.

Interpretive signage

The dying days of the past year also saw the appearance of some long-awaited new signage in the park. These are the interpretive panels designed by environmental consultant, Janet Pedler.

The signs illustrate simple picture stories of the way plants and creatures interact with each other and their habitat. They describe basic ecological and revegetation processes at work, and demonstrate the need for good environmental management if the Park is to maintain its reputation as a clean contributor to the Onkaparinga catchment.

A study of the signage is recommended for all visitors and regular users, young and old.

Janet is to be congratulated for having diagrammed essential information about the Park that is easy for everyone to understand.

The costs of design, production and installation were shared by Onkaparinga Catchment Water Management Board, Stirling Lions Club, Adelaide Hills Council and the Friends of Stirling Park.

Bandicoot in Hender Reserve

In late January, Bob James reported sighting a bandicoot in the reserve while he was clearing weeds near the rail line.

This is indeed good news. The Southern Brown Bandicoot is the only bandicoot species remaining in South Australia. And even this hardy survivor is threatened, being officially listed as a vulnerable species. The bandicoot was at one time a common resident in the Mt. Lofty Ranges, but has suffered severely from habitat loss and the predation of foxes and domestic cats.

Recently however, there has been a surge in community interest in bandicoots, triggered perhaps by the recently-initated Southern Brown Bandicoot Recovery Program.

The Aldgate Valley Landcare Group also aims to establish a wildlife corridor they call *The Valley of the Bandicoots*. This will be in Aldgate Valley between Aldgate and Mylor (for details, phone David Mussared, 8388-5608).

Bandicoot signs

Shy and mainly nocturnal, the bandicoot is rarely seen, even though it often lives in close proximity to human habitation. It is an omnivorous feeder and will visit gardens to feed on scraps and to scavenge from mulch heaps. In the bush, the observant walker will often see signs of bandicoot foraging — distinctive small cone-shaped excavations in the ground where the animals have grubbed for insects and roots.

The bandicoot prefers the protection of thickly vegetated understorey as a refuge from its predators and it is ironic that one of our most pernicious weeds may in fact be largely responsible for helping the bandicoot to survive. The common blackberry, with its dense tangle of sharp dead canes at ground level appears to provide an effective barrier against foxes and cats.

Wildlife authorities and environmental officers now advocate a cautionary approach to clearing blackberry — particularly along creek lines.

So, if you live near some native bush and you have a large blackberry thicket at the bottom of your garden, you may be providing a home for a Southern Brown Bandicoot.

We would love to hear about your own recent bandicoot sightings.
Phone David Ragless (8339-1038) or Shirley Benlow (8339-2218)

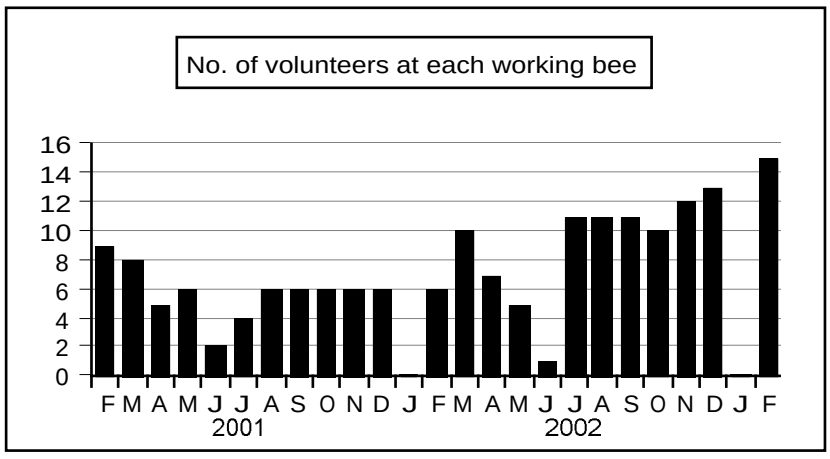
Currently a study of Southern Brown Bandicoot populations is underway in the Mt. Lofty Ranges.
During February, local volunteers assisted in the trials of various survey techniques in Cleland, Belair and Mark Oliphant Parks.
Information from this work will enable the Southern Brown Bandicoot Recovery Team to determine suitable survey methods.
The work is supported by the Yurrebilla initiative and Nature Foundation SA.

Why not come along to a working bee?

Working bees are easy work and you'll get a warm inner glow from having done something to help your environment. They're also a good way to learn how to look after your own patch of bush — how to use minimal disturbance techniques and how to discern weeds from similar-looking native species.

The Friends spend a Sunday morning each month doing bushcare in the Park. Why not come along and join in? All equipment is provided, and all you need is sensible clothing and a good pair of gardening gloves.

The accompanying chart shows the increasing popularity of our monthly working bees since the beginning of 2002. From February 2001 to February 2003, members have donated a conservative estimate of over 350 hours to the Park. If this is calculated at the accepted nominal rate of $15/hr, the Friends have saved the Adelaide Hills Council and the community over $5000 in essential Park maintenance costs over the past two years. And that's just in working bees.



Recent Working Bees

Date	No. of volunteers	Area	Work done
10.11.02	12	Woorabinda	Clearing and ring-barking longifolia along the edge of the rail line.
8.12.02	13	Stirling Park	Cleared a variety of weeds along SE boundary with residential boundaries
9.02.03	15	Walkways	Cleared most of the weeds along the whole length of the Bogaduck Track.

Forthcoming Working Bees
(Volunteers meet at 10am as noted)

9 March.....**Madurta Reserve.....** meet at cnr Bogaduck Rd/Linwood Av, Aldgate.
13 April.....**Hender Reserve**.....meet at Hender Road entrance, Heathfield.
4 May.....**Woorabinda** .....Meet at Woorabinda Drive entrance, Stirling.
1 June.....**Stirling Park**.....Meet at Branch Road entrance, Stirling.

Why so many wattles?

The thriving forest of young Acacias in Stirling Park results from careful choices made in the early days of the revegetation program.

A walk along the track would have the casual observer thinking perhaps that Swamp Wattles (Acacia retinoides) must have been the only species available at the time time of planting. Other native trees were planted of course, but Acacias make up the bulk of all the plantings.

Acacias generally are widely recognised as 'pioneer' species. That is, they are among the first species that will move into an area after a major disturbance such as land clearing or bushfire. Their fast growing characteristics and their ability to fix atmospheric nitrogen (essential for a balanced ecosystem) make them especially valuable for revegetation projects. Although most wattles are short lived, they reproduce rapidly and will naturally thin out as other species emerge to take their place.

Once weed levels are reduced and other slow growing species such as eucalypts become established, the grasses, orchids and other understorey species will emerge and eventually form what is known as a 'climax community' or end point.

Attempting to create a vegetation community all at once without first planting wattles could result in costly disappointment. The site is unlikely to regenerate naturally, and will thus require extensive manual replanting in the years to come.

When revegetating a natural area it is essential to try and imitate the vegetation association that would have occurred originally. The use of wattles is a valuable strategy for doing this. They can greatly assist successional changes and long term rehabilitation as well as providing habitat for native wildlife.

Planting a diverse range of Acacias in the early stages of a revegetation project will quickly give structure to emerging bush. Taller species are used by birds of prey while the small Acacias provide habitat and shelter for the smaller birds.

Protein-rich wattle seeds are eaten by a variety of mammals, birds, and insects. The early colonising of a regenerating area by wattles is therefore fundamental to developing the complex web of life that forms what we all know as 'good bush'.

Disclaimer: Contributors' views and opinions expressed in this newsletter are not necessarily the views of the editor, the committee or the general membership of the Friends of Stirling Linear Park Inc. Contributors to this issue include David Ragless, Elizabeth Ganguly, Russell Seaman, Lorri Ragless and Jack Benlow.

Not a member yet?

The purpose and commitment of the Friends of Stirling Linear Park is to help restore the Park to natural bushland and to ensure its preservation as a public open space in perpetuity. If you share this vision, why not join us?

Active participation in working bees etc, is entirely voluntary. Membership is open to anyone who has the best interests of the Park at heart. This newsletter is distributed quarterly to all members.

Friends of Stirling Linear Park – Membership application/renewal

I/we would like to join/renew membership of the Friends of Stirling Linear Park (strike out word not applicable).

$.....membership fee is enclosed.

$..... donation is included. Donations of $2.00 or more are tax-deductible. A separate receipt will be issued.

Name:.....
Address.....
.....
.....
Phone no: .....

Membership fee for both individuals and family:
1 year..... $5.00
5 years.....$20.00

Please return to: David Ragless, Friends of Stirling Linear Park Inc., 6 Branch Rd, STIRLING SA 5152.