



Lower Blue Mountains Conservation Society

WINTER NEWSLETTER '84

P.O. BOX 119,
SPRINGWOOD. 2777

FUTURE EVENTS

WALKS

- August 12th - Florabella Pass - meet at the end of Florabella Street, Warrimoo at 11am. Bring a drink and a bite to eat. We end up at Blaxland Library so some transport arrangements with cars will have to be organised on the day.
- September 15th - Barbecue and spotlighting at Murphys Glen, Woodford. Meet 5pm at the Glen. Bring your own BBQ goodies. With Mick Dark's guidance, we should be able to spot some gliders.
- October 13th and 14th - Weekend trip to the Colo Wilderness. Bookings please, to 39-1748 before 1.10.84.
- November - Members suggestion!!!

MEETINGS

- August 10th - Policy Night - another of our popular forums for developing policies. The main topic on the agenda is Urban Bushland Management and Fire Control.
- September - Speaker yet to be confirmed.
- October - Annual General Meeting and members slides.

OTHER EVENTS

- August 4th - HIROSHIMA DAY MARCH AND RALLY. Assemble 10am, Belmore Park, march to Circular Quay.
- September 16th - Open Day at Wirrimbirra Sanctuary, Hume Highway, Bargo. Phone 046-84-1112 for details. A structured programme of talks and walks will help participants enjoy a very rewarding day.
- August 18/19,
September 1/2, 15/16,
September/October 29,30/1.- Australian Trust for Conservation Volunteers (see P.9 last newsletter) will be undertaking a project to restore the area around the Explorers Tree to look like it was in 1814, putting back the original plant species, linking the historic sites by bush paths, repairing drainage, weeding and mulching. If you would like to participate phone Sue Baker on 02-570-5084 or write to P.O. Box Q397, Queen Victoria Building, Sydney.

A thought on the Uranium Debate.... The ultimate end....is not knowledge but action. To be half right on time may be more important than to obtain the whole truth too late.

Aristotle.

PAST EVENTSLapstone Zig-Zag Walk

Our walk for March was short but crammed with interest. The morning was glorious and sunny. It is a walk which has been prepared by the Lands Department and Local Council and is well signposted at places of interest; at the old Lucasville Platform there is an exhibit of a page from the Sydney Morning Herald of 3rd March 1886 and one of the Sydney Mail of 23rd July, 1892. The first of these describes an accident on the old rail line and the second describes an individual's enjoyment of and interest in an early train trip across the mountains, and both carry historical photographs.

The walk re-traces the original rail line from the end of Knapsack Street to an area across the highway from Skerrat Park. The brochures and instruction sheets printed for teachers taking classes or for visitors on the walk are detailed and well-prepared. It is 2½ kms return and an easy walk for explorers of any age. It gives time for leisurely interest in plant and bird life, the geology of the escarpment, all traces of building of the line and scenic outlook. The only fauna noted on the walk were odd skinks and colonies of mosquito-like insects dancing on their webbed abodes - mostly in depressions or under overhangs of rock walls.

At the first lookout there is a delightful view of the stone-arched bridge over Knapsack Gully. On the return, which mainly deviates from the Zig-Zag, another lookout gives a view over the Nepean River and coastal plain. Here a little more protective fencing is needed to prevent erosion (already appearing) by walkers taking a short cut. Higher up, this portion of the walk offers good inspection of the filling of a gully and creation of drainage beneath the fill. The eternal problem of weed infestation is very noticeable on this walk, both along the made track and into the bushland. One cannot help wondering whether, in time, there may be enough interested and properly educated people to attack and overcome this. There is a good variety of native flora and some rare species along the way. To preserve and exhibit these effectively it is necessary to have the foreign competition eradicated.

Thanks to Besse Irvine-Bransen
for contributing this article.

THE FOLLOWING EXTRACTS ARE INCLUDED FOR MEMBERS PERUSAL - especially in view of our forthcoming Policy Night in August.

FUEL REDUCTION BURNING - the policies of the N.S.W. Voluntary Conservation Movement by C.H. Pratten, Chairman, Nature Conservation Council of N.S.W., the organisation which represents 75 scientific, conservation and environmental groups in N.S.W. (one of which is us).

"The main policies of the major conservation organisations in N.S.W. include the following recommendations:

- 1) Management plans (including a fire hazard and suppression plan) should be prepared for all bushland areas.
- 2) Large conservation reserves, especially wilderness areas, should not be subjected to broad area intentional burning, except where determined in a management plan for biological reasons.
- 3) Where a fire risk is clearly identified to a neighbour, limited perimeter burning may be appropriate at the reserve boundary.
- 4) Land management, fire prevention and suppression authorities should be adequately trained to recognise the ecological significance of the change of fire regime consequent upon repeated intentional burning.
- 5) The construction of fire trails through large conservation reserves should be prevented.
- 6) Where a real hazard exists in a small urban reserve, fuel levels should be reduced by using selective hand clearing, and ensuring that hazard is mitigated on adjoining developed properties.
- 7) Areas of severe bushfire hazard should be identified and zoned

under regional and local planning instruments with the effect of excluding or restricting development.

- 8) Greater controls should be exercised over urban planning design and house construction materials used in fire prone areas.
- 9) Research programs should continue, and should include more emphasis being placed on the ecological responses of native plants and animals to fire; the ecological behaviour of identical or similar species in non fire prone areas; and the effects on fuel load and flammability of withholding fire from different communities for significant periods.
- 10) Greater emphasis should be placed on the apprehension and prosecution of persons illegally lighting fires.
- 11) N.S.W. legislation should be amended to ensure that a much greater recognition is given to the nature conservation, recreation and aesthetic values of bushland by land management and fire protection and suppression authorities.

Conclusion.

The Australian 'bush' will always be a fire risk. We can only remove that risk by removing the bush. This is unacceptable, and we must seek to reach a compromise between total protection of life and built property and unnecessary risk and loss from fire by an expanded program of education, the exercising of human care, planning controls and the reduction of hazard. Fuel reduction burning has a role to play in that program, but it is not the panacea to solve all the problems of the impact of bushfires in Australia."

PENRITH LAKES SCHEME.

Response to the Regional Environmental Study by the L.B.M.C.S.

The Society proposed a Wetlands/Regional Park concept as the preferred alternative for rehabilitation of derelict quarried areas in the Penrith Lakes Scheme.

The R.E.S. has understated the recreational, educational and pollution control potential of the Wetlands Alternative. We do not agree that this alternative will offer less recreational opportunities than the Preferred Option as stated in the R.E.S. There are, with some forethought and planning, similar, if not more, employment and development opportunities in our proposal.

The Society is impressed with the recreational facility in Mirambeena Regional Park and Lake Gillawarna as managed by Bankstown City Council. It caters for the widest spectrum of the community possible; this concept should be extended by using the derelict quarried areas of the Lakes Scheme. This could improve the desperate absence of passive recreation facilities in the Outer Western Sydney areas centred around Penrith. However, principally the area should be rehabilitated as a Wetlands nature conservation reserve existing in conjunction with a major passive recreation facility. In our submission we stressed the strong advantages of our alternative and indicated the many weaknesses of the Preferred Alternative in the R.E.S. It is obvious that the Penrith Lakes Development Corporation envisages a final 'kill' on the land resources at Castlereagh once they have finished excavating; the advantages to them of creating one major deep lake are that the excavated material could be used as fill in surrounding areas to create areas of non flood-prone land suitable for selling off as residential properties. Then everyone can sit on their ex-Lakes scheme balconies watching the speed boats dominate the water-based areas and 'improving' the recreational amenity of the area with their droneful noise!

In contrast, our proposal offers the following type of facility;

- a peaceful natural setting where people can picnic, barbecue, jog, cycle, hire canoes, play chess, go on wetland boardwalk tours, listen to music in an outdoor amphitheatre and watch their children enjoy an adventure playground; camping and caravan parks will also be suitable for development in this setting.

Definitely a proposal to cater for the type of community that survives in the Outer Western Suburbs of Sydney. The more elitist activities (eg. power boating etc), per capita, are adequately catered for.

4.

Pages 4 and 5 are reproduced from "Pesticides and Alternatives" by the Brisbane Organic Growers Group. Members should find these tables most useful when selecting (or not) pesticides for any use. This page details the meaning of the numerical values used in the tables.

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TABLE OF NOTABLE CHARACTERISTICS

1. Persistent chemical, accumulated in the body.
2. Carcinogenic properties indicated in animal tests.
3. Toxic to worms at normal concentrations.
4. Toxic to fish at normal concentrations.
5. Toxic to birds at normal concentrations.
6. Toxic to bees at normal concentrations. Note that certain insecticides e.g. Pyrethrum, may be fatal to bees on direct contact, but may not leave toxic residues.
7. Teratogenic properties indicated in animal tests.
8. Mutagenic properties indicated in animal or bacterial test systems.
9. High toxicity to poultry, birds and domestic animals.
10. Lead and arsenic are both serious environmental pollutants.
11. Recorded evidence of blood and/or bone disorders in humans.
12. Attractive to dogs.
13. Not attractive to birds; may attract dogs.
14. Extremely toxic at low concentrations to some non-target plants, e.g. roses.
15. Corrosive of lung tissue, causes nose bleeding, and nail distortion.
16. Biodegradable, low toxicity.
17. Highly corrosive of skin.
18. Metabolite (break-down products) considered hazardous e.g. Mancozeb - Ethylene Thiourea.
19. Copper is toxic to worms and certain fish at some concentrations.
20. Recommended by Environmental Protection Agency in U.S.A. for use in American hospitals.
21. Systemic or semi-systemic insecticide.
22. Hormone weed-killer.
23. 2,4,5-T contains an extremely poisonous impurity in minute amounts. This Dioxin impurity is suspected of causing birth defects in many countries, including Australia recently.
24. 2,4-D and 2,4,5-T show varying toxicities to fish, oysters, crustaceans and plankton.
25. Suspected teratogen and carcinogen because of metabolite Ethylene Thiourea (ETU).
26. Quassia can be used to eradicate head lice instead of Malathion or DDT.
27. Used by commercial pest control companies.

NOTE: The toxicity of pesticides to wildlife will depend in many cases on direct contact being made with sprays and dusts, even Pyrethrum may kill bees on direct contact. However, it should be recognised that other factors must be considered, such as the mode of action of the pesticide and its persistence.

UNDERSTANDING THE FOLLOWING TABLES

Most of the pesticides listed in the tables are available to the householder in Queensland, although a few may not be available in some stores. Also included are several agricultural chemicals that are well-known or notorious e.g. Parathion, Endrin.

Throughout the tables, N.A. means either "Not Available" or "Not Applicable."

Column (1) is the accepted common name of the pesticide.

- " (2) is a common trade name. This is purely an informative guide and may be one of several trade names under which the chemical is sold. It is not meant to be a recommendation for that particular brand. If you have to buy a pesticide, and this includes household sprays and dusts, always read below the trade name of the preparation to see the common name of the pesticide involved. You will then be able to refer to it in the tables following.
- " (3) Oral LD50 and Dermal LD50 are toxicity ratings. As mentioned earlier, LD50 is the amount of the compound in mg/kg body weight that will kill 50% of the experimental animals used. Therefore, the lower the LD50 figure the more toxic the chemical. Lethal dose - LD50 - should only be used as a basic guide. The toxicity of a particular pesticide will vary according to percentage formulation, whether liquid or solid, etc. For example, although Rotenone (Derris Dust) has an LD50 of between 132 and 350 mg/kg (for different animals), it is usually only formulated in preparations of about 1%, similarly with Pyrethrum. This indicates that about 500 grams would have to be consumed for poisoning to occur in an adult. Also being of vegetable origin, the natural environment can break them down easily.
- " (5) Notable characteristics may be related to a pesticide's health or environmental impact. The list given is most likely incomplete. In the last five years, a tremendous amount of research has been conducted into the properties of pesticides. It is most difficult to keep pace with the latest findings, so a blank space does not necessarily denote a clean bill of health.
- " (6) Poisoning reference symbols are listed as keys to the "Poison Action Schedule" which follows this section. The instructions for poisoning action are straightforward. A supply of Ipecac syrup and Atropine tablets should be kept if using pesticides.

Column (7) Withholding periods shown here are the maximum recommended by the Australian Department of Agriculture. As space prevents listing of individual periods for particular crops, the maximum figure is shown in the belief that any error will be on the safe side. It should not be assumed that the pesticide has completely disappeared after the withholding period has elapsed. Crops should still be washed thoroughly before consumption in case unusual circumstances have prolonged the life of the chemical.

N.F. indicates not recommended for use on food crops.

The section on herbicides has an indication of "persistence" instead of withholding period. The degradation of herbicides is a complex subject, but very broad parameters are as follows: Low 0-6 weeks; Medium 6-26 weeks; High 26-104 weeks.

- " (8) Ecology rating is an indication on a scale of 1 - 10 of the overall effect of a particular pesticide on the global ecology. It reflects all of the negative and positive qualities of that particular pesticide and is intended to indicate the overall acceptability of a pesticide for domestic use. It is suggested that those below 6 points not be considered at all. Most choices should come from 8, 9 and 10 ratings.

*Withholding period is the length of time that should elapse before crops are consumed, after application of the pesticide.

POISONING ACTION SCHEDULE AS PER Q.L.D. POISONS REGULATIONS 1973

- (A) If poisoning occurs, contact a doctor or poisons information centre.
- (B) If swallowed, induce vomiting. Use Ipecac syrup if available.
- (C) If swallowed, do not induce vomiting. Give plenty of water or milk.
- (D) Avoid giving milk or oils.
- (E) Avoid giving alcohol.
- (F) If skin contact occurs, remove contaminated clothing and wash skin thoroughly.
- (G) Remove from contaminated area. Apply artificial respiration if not breathing.
- (H) If swallowed, induce vomiting. Use Ipecac syrup if available. Give one Atropine tablet every quarter hour until dryness of the mouth occurs. If poisoned by skin absorption, remove contaminated clothing and wash skin thoroughly. Give Atropine tablets as above.
- (I) If poisoning occurs, get to a doctor or hospital quickly. If swallowed induce vomiting. Use Ipecac syrup if available.
- (J) Give activated charcoal and keep patient quiet, in a dark place if possible.

PESTICIDE INFORMATION TABLE

COMPON NAME	A TRADE NAME	ORAL LD50 MG/KG	DERMAL LD50 MG/KG	NOTABLE CHARACTERISTICS	POISONING REFERENCE	WITHOLDING PERIOD	ECOTOX RATING
INSECTICIDES							
Acetate (OP)	Orthene	945	2,000	6	A.H.	14 days	6
Aldrin (OC)	Aldrex	40-40	200	1,2,3,4,5,6,7,27	A,B,D,F	13 weeks	2
Asprocarb (CA)	Baygon	80	2,400	27	A.H.	N.F.	6
(see Propoxur)							
Bendiocarb (CA)	Ficam	119	2,500	20,27	A.H.	N.F.	6
Borax (S)	Borax	2,600	N.A.	27	A.B.	N.F.	8
Carbaryl (CA)	Bugmaster	400	500	2,3,6,7,8	A.H.	3 days	5
Chlordane (OC)	Chlordane	283	1,600	1,2,3,4,5,6,8,11,27	A,B,D,F	N.F.	3
Demeton-methyl (OP)	Metasystox	57-106	303	6,21	A.H.	3 weeks	4
Derris (S)	Derris Dust	132-150	940-3,000	4,16	A	1 day	8
DDT (OC)	DDT	100-400	2,500	1,2,3,4,5,6,8,27	A,B,D,F	4 weeks	1
Dieldrin (OC)	Dieldrin	40	100	1,2,3,4,5,6,7,8,27	A,B,D,F	13 weeks	1
Dicrofol (OC)	Kelthane	575-2,000	100-1,200	2,8	A,B	1 week	5
Dichlorvos (OP)	Shelltox	25-30	75-900	6,8,27	A.H.	2-7 days	4
(DDVP)	Pestiscipia						
Diazinon (OP)	Diazinon	75-300	500-1,200	5,6,27	A.H.	2 weeks	6
Disulfoton (OP)	Rogor	200-300	700-1,150	2,6,7,8,21	A.H.	1 week	5
Dyloxon (OP)	Dyloxon	4	50	3,21	A.H.	10 weeks	4
Endrin (OC)	Endrin	3-6	6-120	1,2,3,4,5,6,7	A,B,D,F	6 weeks	2
Endosulfan (OC)	Endosulfan	35	74-680	1,2,4,5,6,7	A,B,D,F	2-4 weeks	5
Fenitrothion (OP)	Sumitron	150	1,000	6	A.H.	14 days	5
Fenitrothion (OP)	Lebaycol	200	1,300	5,6,9,21,27	A.H.	1 week	5
Formothion (OP)	Anthio	400	400-1,680	6,21	A.H.	1 week	5
Hepachlor (OC)	Hepachlor	40	195-250	1,2,3,4,5,6,8,18,27	A,B,D,F	N.F.	2
Lead Arsenate	Arsenate of Lead	10-100	2,400	2,3,10	A,B	8 weeks	2
Lindane (OC)	Camthane	230	500-1,000	1,2,4,5,6,8,11,27	A,B,D,F	2 weeks	3
Line Sulphur (S)	Harola	N.A.	N.A.		A	nll	8
Malathion (OP)	Malathion	500-1,400	4,000	6,27	A,B	3 days	7
Methaldenylde	Defender	600	N.A.	12	A,B	10 days	6
Methiocarb (CA)	Baycol	60-135	2,000	13	A.H.	1 week	6
Saled (OP)	Dibrom	350-430	800-1,100	6,17	A,H	2 days	6
Nicotine (none made)	(Unavailable)	70	140		A,B	1 week	8
Oil Sprays (S)	White Oil	N.A.	N.A.		A	1 day	7
Parathion (OP)	Folidol	3-6	4-35	5,6,11	A,H	14 days	1
Permethrin (OC)	Ambush	4,000	4,000	4,6,16	A,B	2 days	7
Phenathion (OP)	Nemacur	15-19	500	3,5	A,H	N.F.	4
Propoxur (CA)	Baygon	80	2,400	27	A,H	N.F.	6
(see Asprocarb)							
Piperonyl Butoxide							
Pyrethrin, Pyrethrum	Various	7,500	N.A.		A	1 day	8
Pyrethroids (S)	Household Sprays	Various figures of low toxicity			A,B	N.F.	
Allethrin, Tetra-methrin, Bioresmethin, etc.							
Quassia (S)	Quassia Chips	N.A.	N.A.	26,16	A	Nll	9
Rotenone (S)	Derris Dust	132-350	940-3,000	4,16	A	1 day	8
Sulphur (S)	Dusting Sulphur	N.A.	N.A.		A	Nll	9
Sodium Fluoride		60	N.A.	27	A,B	N.F.	3
Trichlorfon (OP)	Lawn Crab Killer	650	2,800	2,6,8,27	A,H	2 days	6

COMPON NAME	A TRADE NAME	ORAL LD50 MG/KG	DERMAL LD50 MG/KG	NOTABLE CHARACTERISTICS	POISONING REFERENCE	PERSISTENCE	ECOTOX RATING
HERBICIDES & WEEDICIDES							
Amitrole	Weedacrol	1,100-5,000	10,000	2,8	A,B	Low	5
Ammonium Sulphamate	Amamate	3,900	3,000	16	A,B,F	Low	7
2,4-D (OC)	Astine 50	400-500	1,500	2,6,7,8,14,22,24,27	A,B	Low	4
2, 2-DPA (OC)	Shitron	3,800-9,330	Nll	16	A,B	Low	7
Dicamba (OC)	Banex	1,100	1,000	14,22	A,B	Medium	6
Diquat	Reglone	231-440	500	6,15	A,B	Low	5
DSMA	Pastox	1,800-2,800	Nll		A,B	Low	6
Gllyphosate	Roundup/Zero	5,000	N.A.	16,27	A,C,F	Low	7
Kerosene	Kerosene	10-100	2,400	2,3,10	A,B	Medium	2
Lead Arsenate	Arsenate of Lead	800	1,000	14,22	A,B	Medium	6
MCPA (OC)	Methoxone	700-1,800	Nll		A,B	Low	6
MSMA	MSMA	100-200	80-480	6,15,27	I	Low	4
Paraquat	Gramoxone	280	105-350	2,4,6,7,8,17,27	A,B,D,F	High	3
Pentachlorophenol (OC)	P.C.P.	8-200	4,000	8	A	High	6
Pictorox (OC)	Tordon	5,000	8,160	3	A	High	6
Slimazine (OC)	Geacrop	3,300	N.A.	3,17,27	A,B	Low	6
Sodium Trichloro-acetate (OC)	T.C.A.	300	N.A.	2,6,7,8,14,22,24,27	A,B	Medium	1
2,4,5-T (OC)	Creeping Oxalis & Clover Killer	1.25	N.A.	27	A,B	N.F.	5
RODENTICIDES							
Coumatetralyl	Racumin	.22	N.A.	5,27	A,B	N.F.	1
Sodium Fluoroacetate	1080	5	N.A.	27	A,J	N.F.	1
Strychnine		16	N.A.	1,27	A,B	N.F.	1
Thallium Sulphate	Warfarin	50-100	N.A.	7,27	A,B	N.F.	6
Warfarin							
FUNGICIDES							
Methyl-2-Benzimidazole	Bavistin	6,400	2,500	3,8	A	Nll	6
Dactole							
Benomyl	Benlate	5,000	1,000	3,8	A	Nll	6
Cadatum Chloride	Caddy	88	N.A.	2	A,B	N.F.	2
Captan (OC)	Captan	8,400	nll	2,4,7,8	A	1 day	4
Bordeaux Mixture	Bordeaux	1,000-2,000	2,000	19	A,B,F	1 day	7
Copper Sulphate (S)							
Copper	Copper Oxy	Low	Low	19	A,B,F	1 day	7
Oxychloride (S)							
Dinocap	Karatane	2,000	9,400		A,B	21 days	6
Line Sulphur (S)	Harola	N.A.	N.A.		A	Nll	8
Maneb (CA)	Maneb	6,750	N.A.	18,25	A,E	7 days	4
Mancozeb (CA)	Dithane	6,750	N.A.	18,25	A,E	7 days	4
Thiram (CA)	TMTD	375-1,000	2,000	18,25	A,E	7 days	4
Zineb (CA)	Zineb	5,200	N.A.	18,25	A,E	7 days	4

FUNGICIDES: FUNGICIDES SUCH AS ETHYLENE DIBROMIDE AND METHYL BROMIDE ARE HAZARDOUS TO HANDLE AND DESTROY SOIL LIFE: IT IS DIFFICULT TO JUSTIFY THEIR USE IN A DOMESTIC SITUATION.

CLASSIFICATIONS: (OC) - ORGANO-CHLORINE PESTICIDE (CHLORINATED HYDROCARBONS)

(OP) - ORGANO-PHOSPHOROUS PESTICIDE (ORGANO-PHOSPHATE)

(CA) - CARBAMATE PESTICIDE

(S) - SAFE PESTICIDE

N.B. (1) Toxicity Guide to LD50: 1-50 Very Highly Toxic; 50-200 High; 200-1000 Moderate; 1000 and over - Low; (2) *Bacillus thuringiensis* is not a chemical. It has no witholding period, and has an Ecology Rating of 9.

NATIONAL PARKS AND WILDLIFE SERVICE - KANANGRA, BLUE MOUNTAINS AND
WOLLEMI NATIONAL PARKS - PLAN OF MANAGEMENT.

All public natural or semi-natural lands should preferably have a Plan of Management drawn up to enable sound decisions to be made regarding what should or should not be done to, or on, that land. Plans of Management prepared for a National Park or Nature Reserve are done so in response to an explicit direction in the National Parks and Wildlife Act. Members have been invited to contribute information to the N.P.W.S. which would be useful to them in managing the plant and animal communities in each of the 3 national parks cited above. In their letter, the Service states;

"Individuals and organisations are invited to contribute any information they have available on plant and animal species and communities within the Management Area. This includes;

- i) records of individual plant and animal species by data, location and/or habitat
- ii) specimen records of plant, animal, rock and soil, date, location, habitat and place of lodgement.
- iii) publications on projects of relevance to management of fauna and flora of the Sydney sandstone complex
- iv) information concerning the response of plants to:
 - fire
 - water sedimentation
 - detergents, boron, chlorine, salts
 - lead, mercury and zinc
- v) information on the life cycle of plants and animals of the Management Area.
- vi) in addition the Service welcomes any suggestions respondents may make for survey and research projects in the Area. In doing so you should note that the Service intends to establish a system of monitoring the effects of fire on biota, fire mapping, and the effects of a range of developments."

Now is the time to pass on all our experiences and knowledge about the Blue Mountains 'bush' so that it can get looked after properly. One member recalled recently that it was a shame that the Brush Turkeys had not been seen in Birdwood Gully for a long time; they used to be seen regularly. That sort of information is useful in assessing the sort of impacts that can affect the survival of those birds. So jot down your memories and the Service would only be too pleased to receive them. Blackheath office is the place to contact if you would like to speak to them about the Plan of Management. (87-8877).

BIRD BANDING IN AUSTRALIA

In October 1953, the Australian Bird Banding Scheme was launched to stimulate wider interest in bird banding and provide a national centre to coordinate the work.

Since the scheme started, 780,000 birds of 657 species have been banded. Of these, 70,500 have been recovered. 15% have been retaken more than once. The most often captured bird is an Eastern Silvereye that was banded in Sydney and subsequently retrapped no less than 401 times in 670 days!!!!

More Eastern Silvereyes (88,000) have been banded than any other species. Others in which upwards of 20,000 specimens have been given bands include: Silver Gull (76,000), Tasmanian Mutton-Bird (49,000), Crested Tern (45,000), Pied Cormorant (33,000) and Yellow-faced Honeyeater (22,000).

On a continental scale, banding has shown that the Grey Teal, is completely nomadic. Grey Teal banded near Darwin during July and August 1957 have since been recovered in every State except Tasmania. Banding also revealed that young Straw-necked Ibis and White Ibis will disperse widely from their natal colonies, and movements beyond 1500 miles are

not uncommon. More recently, large-scale banding of Pied Cormorants, Little Pied Cormorants and Black Cormorants has shown that even these species will undertake journeys longer than 200 miles. Silver Gulls and Crested Terns also disperse widely. One Silver Gull banded at Lake Thurrumbong in Victoria was recovered 8 months later, 1050 miles away near Pialba, in Queensland.

The young of many species of birds of prey are being banded. These too, it turns out, are highly mobile. Young Wedge-tailed Eagles have been recovered at distances of over 500 miles from the nest in which they were banded, and a young Whistling Kite covered a distance of 1020 miles. Migratory and nomadic movements have also been charted for many species of honeyeaters and other small passerines.

Besides tracing migrations, banding also enables life histories to be studied. Although the Scheme is still too young to provide accurate information on the longevity of birds, some interesting data are emerging, as the following records of the longest elapsed time between banding and recovery for some species show.

(With the exception of the wandering albatross and silver gull, all these birds were banded as adults, and are therefore older than the records indicate).

Black-browed Albatross	13.2 years.
Giant Petrel	13.1 "
Wandering Albatross	12.6 "
Crested Tern	11.7 "
Black-backed Magpie	12.0 "
Wedge-tailed Shearwater	11.0 "
Black Duck	11.0 "
Silver Gull	10.5 "
Magpie Goose	10.0 "
Fuscous Honeyeater	8.8 "
Eastern Silveryeye	8.5 "
White-browed Scrub Wren	7.0 "
Superb Blue Wren	5.8 "
Striated Thornbill	5.3 "

"FIRE AND THE AUSTRALIAN ABORIGINE - AN ENIGMA" Part 3.

The final condensed extract from Chapter 3 of Fire and the Australian Biota, by Phyllis H. Nicholson, Australian Academy of Science.

"Finlayson (1936) gave an account of a dramatic and highly skilled management of fire to capture specimens of the rare hare-wallaby, called 'maala'. He enlisted the help of a group of Aborigines who knew where the animals still survived in a desert area south of the Musgrave Ranges in Central Australia. The hunt was delayed until the wind conditions were favourable for their manipulation of the fire to produce a wide horseshoe of flame encircling the observed maala tracks. With the open end of the horseshoe facing into the wind the flames advanced slowly and as they progressed animals left the protecting grass tussocks of *Triodia*. The subsequent stages were intensely exciting. The burrowing habit had saved many reptiles and small mammals which were subsequently dug out, but the maala with only a shallow 'pop' hole was easily caught. Finlayson summarises the operation as 'it is their sport, their spectacle, and their meat-getting all in one'.

Perhaps the ultimate in control of fire and understanding of fuel is to be found in Eyre's description of the fire used for lighting and possibly for cooking in the Aboriginal canoes on the Murray River while fishing at night. Men travelled considerable distances to obtain a special wood, 'false sandalwood', which burnt with a most agreeable fragrance and a powerful light almost free of smoke. The quantity of wood calculated to last the duration of the fishing trip was broken into small pieces and placed aboard. A piece of bark about 1m. by .5m. was covered with wet mud and placed in the stern of the canoe on a framework of sticks. Upright sticks in the form of a cone were then stuck into the mud and a fire lighted beneath them.

Accompanying many reports of the hunting fires of the Aborigines of the Western Desert there is the observation that these fires were extensive and were allowed to burn out of control in the desert complex. Gould (1971) referred to the indiscriminate use of fire and the

casual attitude of the people to fire. On the other hand, de Graaf reported that 'Hunting fires can be very large, especially if the number of Aboriginal participants is large...' and 'despite the size of fires, they do not seem to get out of hand, certainly not in Aboriginal terms' (de Graaf, 1976).

Jones, while living with the Anbara community of the Gidjingali, near the mouth of the Blyth River (N.T.), observed their use of fire. It is a well populated area with reliable and abundant seasonal supplies of plant products, seafood, reptiles, birds and mammals (Meehan 1977). Fires were lit almost daily from the end of the wet season until just before the monsoon, 'both to clear the ground for easier walking and also as part of their hunting regime (Jones, 1975) in grasslands, open savannahs, and eucalypt woodland.

In any burning operation, seasonal influences and species behaviour were understood by those responsible for the operation, and care was exercised to avoid burning those serial parts of plants, such as the vines of yams or the flowers of plants, which yielded edible fruits so that the maximum yield could be harvested. When there is sufficient soil moisture after the fire, regrowth of the vegetation occurs from propagules and becomes an attractive source of food for insects, birds and grazing herbivores, and this in turn then was the site of hunting and foraging by Aborigines. To this practice of using fire to increase his food supply Jones (1968) applied the term 'fire stick farming'. In a recent study of the effects of grazing by native animals on burnt and unburnt understorey plants in a eucalypt forest near Canberra, Leigh and Holgate (1979) found that animals preferred to graze on regenerating plants in the burnt plots. Although not associated directly with any food procuring activity, fire is sometimes used by Aborigines in the custom 'to clean up the country'. Controlled burning was considered necessary because the place must be returned to its traditional orderly state and cleansed of its evil spirits.

There remains one aspect of the control of fire that has not been mentioned; there are places which must not be burned. Jones (1975) described 'one vegetation type...."the jungle" with its complex floral association including many edible species which do not readily regenerate after fire.

The Effects of Aboriginal Fire

Much of the work on this subject has been directed to the effects of fire on grasslands, open-scrub and open-woodlands. These formations probably were most subject to burning by early hunters since many of their prey animals could be found in their varied habitats. The Australian Aborigines lived in most parts of the continent, although their intrusion into the closed-forests was probably limited, and into the subalpine regions was only within the last 5000 years (Flood, 1976).

The evidence that fire was the indispensable agent by which Aboriginal man extracted many of his resources from the environment is irrefutable. The effect of his fire regime directly on the vegetation and indirectly on the habitat and food supply of native animals, including the prehistoric megafauna, is a matter of considerable debate.

The occurrence of seed grinding equipment among Aboriginal artifacts from about 5000 B.P. caused Tindale (1959) to question whether the rise of the grassland economy after mid-Recent times was due to the increasingly dominant role of Man and his firestick; or was it due to the changing role of climate in destroying earlier forests? Merrilees (1968) explored the problem of the late Quaternary extinction of some Australian marsupials as the result of destruction or modification of their habitats by mid-Recent aridity or alternatively by Man-made fires 'by man the destroyer'. From the evidence derived from marsupial-bearing deposits in W.A. he concluded that the gradual impoverishment of the marsupial fauna 'may be due to repeated firing of the bush'. Calaby (1976) believed that the weight of evidence at present available 'favours climatic change as the ultimate cause of extinction'. The only evidence implicating Man as the destroyer is the supposed coincidence in the time of the arrival of Man and the extinction of the fauna. Without the support of stratified palaeontological evidence the chronology of extinction cannot be established. Witter (1978) found it difficult to believe that fire 'could have had a disastrous effect

on the megafauna' and he pointed out that even at 20,000B.P. some of the megafauna was still extant in Australia. He suggested that climatic changes at the end of the Pleistocene resulted in a reduction in megafaunal habitats and then competition at the level of reproductive physiology and offspring maintenance becomes a plausible cause of extinction.

The central problem, the enigma, the situation hard to understand is: did the grasslands develop as a result of Aboriginal fire, or were they formed during earlier, possibly arid climatic conditions and were simply maintained by fire?

There is nothing recorded scientifically; there are no basic data from the contact period when European man and his domesticated herbivores arrived. They rapidly destroyed the evidence. In all such situations, conclusions about the effects of fire are personal opinions rather than incontrovertible facts. Perhaps the question is unanswerable.

Vogel (1974) saw the origin and maintenance of true grasslands as being 'related to a multiple of environmental factors reacting with vegetation. Fire is just one of these factors'.

Anthropogenic grasslands may have resulted from the Aboriginal fire regime in favourable habitats such as the open river valleys of eastern Victoria described by Howitt (1890). Here the first settlers found valleys and hillsides 'clothed with grass' and with a few large scattered trees. It was kept open by the 'annual bushfires of the Aborigines' but as the settlers' material possessions increased the dangerous practice of burning the country was discouraged. Soon young saplings appeared and 'after some years of occupation whole tracts of country became covered with forest' (Howitt, 1890).

There are some points which should be emphasised when the effects of Aboriginal use of fire are being assessed:

1. The Aborigines operated from a cultural background that European man is only recently beginning to appreciate.
2. Fire was a common tool that he used with control and understanding both in his domestic life and in the processes of obtaining his food from the environment in which he lived.
3. He not only harvested his food for today but he must take care not to destroy the food source of tomorrow.
4. His fire regime was evolved from centuries of experience in gaining his subsistence directly from his land. "

End of Extract.

N.B. No doubt many members would want to comment on some of these statements, all contributions are welcome. Send to 7 Kent St, Glenbrook.

URANIUM AND THE NATIONAL A.L.P. CONFERENCE.

How electorally secure does the A.L.P. want to be before they tackle some of the really tough issues, such as Uranium? They are more concerned about the effects of a ban on mining and export, on overseas diplomatic relations than the real issue. Congratulations to the new New Zealand government on their stand against the use of their ports by nuclear-armed U.S. ships. The Australian government could do well by taking a few pointers from New Zealand.

W.G.

ENVIRONMENTAL COUNCIL???????????

The Society is getting a trifle tired and increasingly angry with B.M.C.C. and their environmental point-scoring tactics off other statutory bodies eg Prospect County Council and the M.W.S. & D.B. We have found both these bodies most co-operative on matters we have raised with them and as for the condition of sewerage treatment plants in the City, B.M.C.C. did, after all, build them in the first place and now expect the Board to fix up Council's mistakes as soon as they take over responsibility for those plants. B.M.C.C. should look to their own record on planning and engineering matters before they sling mud elsewhere!!!!!!