



The Australian Rangeland Society

RANGE MANAGEMENT NEWSLETTER
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Range Management Newsletter

Official newsletter of the Australian Rangeland Society

Editor — Mr G. Tupper, CSIRO, Private Bag,
P.O., Deniliquin, N.S.W. 2710



No. 76/2 June 1976

ANNUAL GENERAL MEETING

The first AGM of the Society was held in Perth on May 31, 1976. A high percentage of the membership in W.A. attended but this only amounted to five members! The members present were Ray Perry, Alan Payne, Bob Rummery, Malcolm Howes and Andrew Mitchell. The President, Dave Wilcox, was overseas and unable to attend.

The Minutes of the Inaugural Meeting held in Canberra in January 1975 were read and confirmed. The only matter arising from these Minutes was a query as to what the four Committees listed therein had been doing. The Committees are: Membership, Publicity, Conference Organization and Editorial. It was suggested that the Committees be asked to produce a report on their activities to date.

(Editor's Note: I know that the Editorial Committee has been extremely busy in the last few months preparing for publication of the first volume of the Society's Journal. I think our membership figures also speak for the activities of the Membership Committee.)

A report was tabled from Council, the main points from which are as follows:

The Council has met six times since the Inaugural Meeting of the Society and has been gratified by the response to call for membership.

The Society held its first General Scientific Meeting at CSIRO Laboratories at Deniliquin on October 18, 1975. About 15 papers were presented and some of these are to be published in the first issue of the Society Journal.

The first issue of the Society Journal is being type-set and will go for printing very shortly. Publication date will be sometime in July. There has been quite a bit of work to do formulating such things as format, cover and style.

There have been two issues of the quarterly Range Management Newsletter, the first in December 1975 and the second in March of this year. The first was a good effort with quite a few interesting notes and letters. The second was rather light on. The Newsletter is only going to be as good as members make it and we should support Graeme Tupper's plea that each member resolve to make at least one contribution per year.

Council has decided that the Society is financial enough to go ahead and publish the proceedings of the 2nd U.S./Australia Panel on Range Science held in Adelaide in 1972. This meeting dealt with the effect of herbivores on arid lands. At the moment we are waiting on the papers and art work to be forwarded over from U.S.A. and these are on their way.

The Council thinks that it is important that consideration be given to the formation of State or Regional branches in due course. With the present Articles of Association these branches will have to be considered as committees or sub-committees but there is no reason why they can't go ahead on this basis.

John Taylor (University of New England) and Wal Whalley have formed the "Northern Tablelands Sub-committee of the A.R.S." and are actively campaigning and recruiting membership. We haven't heard how they are progressing but expect a report shortly.

Most members will know that the Australian Arid Zone Conference is being held at Kalgoorlie in July this year. This is going to be an excellent opportunity for members from different states to get together formally and informally and we hope members will make the most of it. Delegates to the Conference include economists, sociologists, administrators and pastoralists, all with a common interest in arid rangelands. It should also be a golden opportunity for some recruiting publicity for the Society, and especially for members to meet some leading individuals from the pastoral community.

Council would like to say that they have enjoyed their work since the formation of the Society. We thank members for their support and hope that they feel, as we do, that the Society has made some worthwhile progress during the year.

Arising from the reference to the Arid Zone Conference in the Council report and the fact that quite a few members would be present, it was moved that the meeting should recommend that Council consider holding a General Business Meeting followed by a social function, if possible.

The Treasurer presented the year's financial statement which is reproduced in this Newsletter. At this stage the statement has not been audited due to the deliberate mental block the Treasurer had when he took five weeks vacation in April through to late May. Fishing and balance sheets don't mix! Audit is now proceeding.

Our financial position is quite sound but expenditure on the first issue of the Journal will require a large part of our accumulated funds. Later in the year the publication of the U.S./Australia Proceedings will temporarily empty the kitty, but sale of Proceedings will quickly redeem the situation. Many advance orders are already to hand.

Membership is currently 130 financial and 54 unfinancial. The high percentage of unfinancial members is misleading because renewal notices were not circulated until late April. (At the time of writing the number is 42). We are receiving about one application for membership per week. It seems that our original estimate of 200 potential members will not be too inaccurate.

As explained at the Deniliquin General Meeting and also in the March Newsletter there were a number of reasons why it had been recommended that Council should remain in W.A. for a further year. These were to do with organisation and publication of the first issue of the Journal and because Mr. Condon was unavailable to take up the position of President in 1976 but would be available in 1977.

Nominations received

Vice President - R. Condon
Hon. Treasurer - M. Howes
Hon. Secretary - A. Payne

Nominated/Seconded

Howes/Rummery
Rummery/Mitchell
Mitchell/Howes

There being no other nominations the above officers were declared elected to Council. Council must elect President at next Council Meeting.

There being no other business those present retired to the Perry's home to test his refrigeration equipment and to listen to the latest Monty Python record.

EDITOR'S JOTTINGS

As readers will note, this issue of the Newsletter contains contributions from members from various parts of Australia. Keep up the good work!

Contributions for the Newsletter are sought on the following and related matters:

1. Range assessment
2. Details of proposed experiments and investigations
3. Research problems
4. Letters and other contributions from pastoralists
5. Management strategies for pastoralists
6. Articles on administration
7. Alternative uses for rangeland
8. News and views
9. Personal paragraphs
10. Financial situations as they affect rangeland managers

The Newsletter comes out in March, June, September, and December. Copy for the next issue is required in Deniliquin by 31st August 1976.

I apologise for the late appearance of No. 76/2, but yours truly has been unexpectedly removed from normal activities due to illness. All is now well.

Note that in future all communications regarding contributions to the Journal should be addressed to Dr. R. B. D. Whalley. It is expected that the publication date of the first issue of the Journal will be late July-August. Members of the Society are asked to solicit their institutions to become subscribers to the Journal. A subscription will be about \$15. All enquiries should be channelled through Mr. K. M. W. Howes.

The Council hopes that a social function come business session will be held at Kalgoorlie as an adjunct to the Australian Arid Zone Research Conference in July. A report of this activity will appear in the next Newsletter.

There has been only one response to the suggestion made by Keith Hyde (76/1) for a photographic contest. There must be many members with lots of slides, some of which would be suitable for at least one category. So let's hear from you.

I expect that we will publish guest editorials in some issues of the Newsletter. If you would like to volunteer, please drop me a line.

LETTERS

From - Mr. E. Gwynne Hughes, Clifton Hills Pastoral Company, Box 1147, G.P.O., Adelaide, S.A.

Problems of the Rangelands

The main problem confronting Rangelands is the lack of rain in dry times - over the years we have seen a number of rainmaking experiments and their success was dependent upon them being carried out in wet years.

Stocking rates are an endless problem, particularly in the drier Rangelands where the variation between dry and wet seasons is vast. Hence, it is always 'a feast or a famine' (more often the latter). Whichever way it is, problems are presented to the grazier. In the dry years economic loss follows and a barrage of abuse is received from the periphery about the misuse of country. In the wet years store stock prices rise whilst fat stock prices fall, but the most frustrating thing of all is to see feed going to waste and there is no economic way of storing it. Nature then steps in; because 'Nature abhors wasted Protein' (a simple example of this is to watch the various creatures that visit a dead sheep or cow). Similarly when vast areas of grass or clover remain uneaten, plagues appear, breeding rapidly, to consume the surplus and convert the protein to a different form. These plagues usually consist of grasshoppers, locusts, rabbits, rats, mice, kangaroos, emus, cockies, pigs, goats, horses, camels, which are followed by wild dogs, foxes, cats, eagles, crows, etc. etc. (At the present time there is a plague of Kite Hawks across the Lake Eyre basin. They are cleaning up the fish, crabs and yabbies spread by the recent floods).

Following the conversion of the plenty by the plague, there arises the problem of the dissipation of the instrument - locusts and rats tend to disappear, but the larger mammals not only compete with commercial stock, but they range far and wide causing the destruction of both feed and animals. The destruction of vermin by the landholder is not an easy task, and this again draws a heap of criticism from the uninformed.

We are beginning to see in our larger National Parks, all these problems compounding, as one good season follows another, building up the variety of pests. These man-made sanctuaries have many disadvantages - shooting, trapping and poisoning being forbidden, there is no landholder with an incentive to do anything about the problem, and so gradually these Parks become a haven for pests and vermin. The day must come when some sort of stocking rate or even agistment be utilised to reduce the surplus, the waste and the pests.

TREASURER'S REPORT

AUSTRALIAN RANGELAND SOCIETY
FINANCIAL STATEMENT - 1ST APRIL 1975 TO 31ST MAY 1976

Balance Sheet

<u>Income</u>		<u>Expenditure</u>	
Annual Subscriptions	3,782.77	Incorporation	780.60
Sale of U.S./Aust. Proc.	545.60	Return of overpaid subs.	58.00
Newsletter Subscriptions	84.45	Return of overpaid U.S./Aust.	32.00
	<u>4,412.83</u>	Petty Cash - Secretary	45.00
		Treasurer	60.00
		Postage	97.55
		Printing, Paper, etc.	199.21
		Newsletter	280.60
		Journal	134.00
		Bank charges	14.10
		Northern Tablelands Subsidy	50.00
		Office sign	7.12
		Rejected postal notes	12.00
			<u>1,770.18</u>
		<u>Cash on Hand</u>	
Income - Expenditure =	2,642.65	Petty Cash - Secretary	18.82
Owing to S.R.M. =	545.60	Treasurer	7.90
		Subscriptions	30.00
A.R.S. BALANCE	<u>2,089.05</u>	Newsletter subscription	4.00
			<u>60.72</u>

REPORT ON SOCIETY ACTIVITIES AT ALICE SPRINGS

From - Keith Hyde, A/Senior Agronomist, Animal Industry & Agriculture Branch, Department of the Northern Territory, Alice Springs, N.T.

Members of the Australian Rangelands Society plus a few guests met together in Alice Springs on 2nd June 1976 and had a very useful informal discussion. Some of the topics discussed might be of interest to other members of the Society.

The group generally discussed local membership, pastoralist membership, the Newsletter, the Journal, then got around to what we as a group of the Society could do. A show display seemed the obvious answer as the Alice Springs Show comes up on 9th July. Room could readily be found for a display and members had some materials available. It was also thought some materials might be available from the Perth group who, it was reported, mounted a display at one of the W.A. country Shows.

This discussion started the tongues rolling on what we could do generally to make the average Australian more informed on Rangelands. Some thousands of tourists and school children come through Alice Springs each year but learn very little. A small pamphlet, well illustrated, was thought a good medium for distribution at points of visitor concentration, e.g. Ayers Rock. A slide set and tape was discussed for screening to visiting groups and at tourist information centres. One illustrious member suggested a short film and this may be a very good idea. The thought was that if we could send only a portion of the visitors away more informed about Rangelands the impact over the years would benefit the Society.

Field days, seminar and discussion sessions under the sponsorship of the Australian Rangeland Society became the next topic for discussion. It was agreed that the Society could play an important role through organization of local events with local or interstate guest speakers. Peter Latz offered to lead the first Society discussion session on the impact and importance of Rangeland fires in Central Australia. A community conference room has been booked for the session on the afternoon of 2nd July and it will be advertised in the press and Newsletters.

Society awards were discussed, and here the experience of Deniliquin visitor Allan Wilson was of benefit. The Society needs to recognise services in some way, whether it be a grazier who has put up with Rangeland students trampling his pastures for years, an excellent paper at the annual conference, outstanding service to the Society, or an outstanding contribution to the Society objectives. We left the discussion open-ended and would be appreciative if it could be taken up by others.

These are just a few of the ideas for Society activities tossed around by Central Australian members. We would certainly like to hear what others are planning.

(How about it, members? - Ed.)

HARVESTING OF FERAL GOATS

Dr. P. J. Holst, New South Wales Department of Agriculture, Condobolin, N.S.W.

F.A.O. (1971) figures indicate that 15% of the total world population of grazing domestic animals are goats. This represents 385 million goats in the world with some 100 million and 77 million in Africa and India respectively. One Sydney felt manufacturing company alone imports 77,000 kg hair, representing the hair from approximately 160,000 goats of India and Pakistan - per month!

Surprisingly, Australia with its vast rangelands and grazing potential contributes little to the world population of goats. We have only 5,000 pure and grade Angoras, some 600 registered Anglo Nubians, a number of miscellaneous milch breeds such as Saanan and Toggenberg, and an unknown number of feral goats. There is no accurate estimate of the number of feral goats, but they represent a natural resource that occupies the pastoral zone from Western Queensland around to Western Australia. In many parts of this zone they are shot as vermin.

Australia exported some 2,073,127 kg of goat meat in 1973-74 to most countries of the world, including 418,000 kg to the United Kingdom. Meat exported would be the product of approximately 142,500 goats. In addition, there is a growing trade in live goats to Singapore and the Middle East.

Present harvesting procedures involve the use of dogs and motor bikes to assemble sufficient goats in temporary yards to justify the use of a large truck for transport to the abattoirs. Depending on expertise and location, a good harvesting operator only leaves behind rogue billies, heavily pregnant does and young kids.

As a natural resource the feral goat is fecund, viable and free of diseases other than lice (strain specific to goats). Since ease of management can be improved if all billies older than yearlings are removed, an annual harvesting of "managed" feral goats is a possibility. At this muster, the consignment would consist of mature billies (migrated), all yearling billies less 2% for breeding purposes,

cull does with damaged teats, and sufficient old does to reduce goat flock numbers to desirable levels and/or to fill the truck.

In many rangeland situations, the annual harvesting of goats is a realistic alternative to the present practices of destruction, periodic harvesting of accessible areas, or "laissez-faire". The motivation is money but the real benefit comes in the grazer accepting some managerial responsibility for what can amount to large numbers of animals on his property.

RABBIT CONTROL RESEARCH IN THE WESTERN PASTORAL AREA OF N.S.W.

John Martin, Research Officer (Noxious and Feral Animal Research Section),
Condobolin Agricultural Research Station, Condobolin, N.S.W.

The control of rabbits in semi-arid areas has rarely been considered an essential land management practice. This is, in part, because the high costs involved in traditional control measures makes the removal of rabbits from country of low stocking capacity, an unattractive economic investment.

However, with the decreasing effectiveness of myxomatosis, and a series of good years, rabbit numbers have increased to the level where many people feel that unless some attempt to control rabbits is made, the economic and environmental consequences may be disastrous.

The recognition that rabbit populations fluctuate enormously in density in response to the favourability of the seasons, has provided the clue to the best approach to animal control. When rabbit densities are high, not much can be done about control. However, when rabbit densities get very low, such as during a drought, their distribution tends to become very restricted and the only animals to survive are those which live in "superior" or "survival" warrens. This surviving population remnant represents the source from which recolonisation and future plagues may develop. If these survival warrens, and the populations which live in them can be positively identified across a range of environmental types, and control is aimed at these areas, plague mitigation, or even extermination of rabbits over a large area, may be obtained for relatively little cost.

My project, then, is aimed at investigating the practicability of rabbit control in a semi-arid environment. The programme is divided into two sections; a study of the dynamics of rabbit populations across a range of semi-arid environmental types, in order to get a better understanding of where and when to exert control effort for maximum effectiveness; and an investigation of the effectiveness of a range of control techniques and strategies in order to define more clearly how to conduct control operations for best results.

Results so far suggest that there is an enormous variation in the potential of populations to undergo density "explosions".

A range of control techniques have also been tried, but as with much of the data so far collected, it is not fully analysed and trials are still in progress.

BOOK REVIEW

Rangeland Management
Harold F. Heady
1975 460 p
(New York: McGraw-Hill)

Harold Heady is well-known to most Australian range workers through his many visits to this country, his warm hospitality for visitors to the U.S.A. and his extensive research and teaching in rangeland management. His new book "Rangeland Management", published last year, reflects the depth of his experience in rangeland management around the world.

"Rangeland Management" is written as a text for intermediate level university students in the management of range animals and vegetation. It is written in three parts.

The first part - grazing animals as ecological factors - dissects the various influences of the grazing animal on range vegetation. The intensity, frequency and season of defoliation, selective defoliation, physical effects, nutrient cycling and redistribution of plants are treated in separate chapters. They are bound together to emphasise the total effect of the grazing animal in the range ecosystem and management system.

Part two covers the management of grazing animals. It encompasses the important topics of animal numbers, the mix of animal species, animal distribution and seasonal grazing. The variability of forage supply on rangeland from year to year and the need to secure a proper utilization level are discussed. Chapter nine introduces the multiple use of rangeland by various domestic and wild species. One gains the feeling from the text that this is a favourite subject of Harold Heady. The chapter on seasonal grazing provides comprehensive review of the various grazing systems and their use on rangeland.

Part three groups the "other" rangeland management practices. It introduces mechanical and chemical control of range plants, the effect and use of fire, biological control of weeds, rangeland seeding and fertilization, and conservation of soil and water. Each chapter discusses why, when and where each practice is used and the relationships with other management practices.

"Rangeland Management" covers the practical aspects of management of interest to the farmer, the rancher, the grazier, the student and the research worker.

Harold Heady does not purport to cover all aspects of rangeland management, but the aspects he does include are discussed in breadth and depth. He discusses both the principles involved and the numerous variations. Several sections are also left open-ended where our knowledge of the range ecosystem is meagre or unknown.

The text has its forte in rangeland vegetation/animal interactions, the discussion of which occupies half the book. The discussion on the mix of animal species and on grazing systems will be welcomed by many rangeland workers.

My criticisms of the text are few and I am lodging them as the new chum up against an old hand. I am disappointed that a book titled "Rangeland Management" does not have an introductory chapter giving an overall perspective to the discipline for the student or the layman. The importance of range economics, range policy, range resources should not be relegated to the preface. My pet subject, grazing capacity assessment, is also only briefly covered. Though methodology is specifically excluded from the text, I would have appreciated a coverage of grazing capacity assessment, considering its importance to rangeland management. The use of grazing animals to manage range vegetation was also, I felt, treated only indirectly.

Rangeland workers at any level will find "Rangeland Management" good reading and a handy text. My main complaint is not related to the contents of the book. My copy cost me \$19.50 in Australia when it was selling for less than half this price in the U.S.A.

KEITH HYDE

JOURNAL OF THE AUSTRALIAN RANGELAND SOCIETY

The object of the Journal is to develop an Australian approach to all aspects of rangeland science and art. Council is particularly keen to include papers on administrative, social and operational aspects of rangeland use as well as scientific papers. Contributions could fall under the following headings or others -

- (a) Scientific research or review papers on any aspect of rangeland use
- (b) Papers on administrative or social aspects of rangeland use
- (c) Discussion or case history papers in the operational field of rangeland use.

The Journal contents will include:

Scientific Papers
Communications
Articles
Society Business

Book Reviews (invited)
Thesis Summaries
Editorials (guest)
Editorials (Editorial Board members)

All communications regarding contributions should be addressed to:

Dr. R. B. D. Whalley,
Chairman,
Editorial Committee,
The Australian Rangeland Society,
Department of Botany,
University of New England,
Armidale, N.S.W. 2351.

Copies of "Instructions to Authors" are available from the Chairman of the Editorial Committee. Enquiries regarding subscriptions should go to Mr. K. M. W. Howes, whose address is shown on the last page of the Newsletter.

NOTES FROM THE MANAGEMENT OF RANGELANDS PROGRAM,
CSIRO DIVISION OF LAND RESOURCES MANAGEMENT

An audio-visual entitled "Australia's Arid Interior" has been prepared by the Division's Communications Group, to be shown to visitors as a general introduction to Australia's arid rangelands.

Mr. O. B. Williams has taken over from Allan Wilson as Australia's representative in the United Nations' Environmental Program, International Co-operation to Combat Desertification, and he will be attending a Case Studies Workshop in Geneva in late July.

Dr. M. A. Ross, formerly at Alice Springs, has joined the group at Deniliquin, to investigate the role of plant nutrition in range management.

Mr. M. D. Young has been appointed to Deniliquin as a Socio-Economist, to help formulate alternative management practices for rangelands and will study their economic and social implications.

Dr. J. A. Ludwig, Associate Professor of Biology at New Mexico University, U.S.A., is spending a sabbatical year in Australia to work in the fields of quantitative plant ecology and systems ecology. He is currently based at Deniliquin.

Dr. D. G. Goodall moved from Canberra to Deniliquin for several months, and is now located at the Division's headquarters in Perth.

Membership form for The Australian Rangeland Society. Detach and send, with cheque to Mr. K. M. W. Howes

For full membership of the Society

THE AUSTRALIAN RANGELAND SOCIETY

Mr. K. M. W. Howes, (Hon. Treasurer),
Australian Rangeland Society,
CSIRO,
Private Bag, P.O.,
WEMBLEY, W.A. 6014.

Dear Sir,

I
of
. State and Country

apply for membership of the Australian Rangeland Society and agree to be bound by the regulations of the Society as stated in the Memorandum and Articles of Association in existence from time to time.

I enclose fifteen dollars (Australian currency) being my subscription for the year 1976.

Signature

Date

Date of Approval of Council

Entered in Register of Members

Date

Signed

Signed

(Members of Council)

For individuals and institutions wishing to subscribe to Newsletter only

Mr. K. M. W. Howes (Editor),
Australian Rangeland Society,
CSIRO,
Private Bag, P.O.,
WEMBLEY, W.A. 6014.

Dear Sir,

I wish to receive the Range Management Newsletter and enclose my ^{cheque} bank draft for \$4.00 money order
Australian currency, being for one year's subscription.

My address is
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Post Code