



## *The Australian Rangeland Society*

### RANGE MANAGEMENT NEWSLETTER

An official publication of The Australian Rangeland Society

ISSN 0812-4930

#### Copyright and Photocopying

© The Australian Rangeland Society

For non-personal use, no part of this issue of Range Management Newsletter may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without prior permission of the Australian Rangeland Society and, where possible, of the author (or the organization they work or have worked for). Permission of the Australian Rangeland Society for photocopying of articles for non-personal use may be obtained from the Secretary who can be contacted at [rangelands.exec@gmail.com](mailto:rangelands.exec@gmail.com). Requests will be considered only if applicants can demonstrate they have obtained the permission of the author (or the organization they work or have worked for), or have made a reasonable attempt to do so.

For personal use, temporary copies necessary to browse this material on screen may be made and a single copy of an article, or the entire issue, may be downloaded or printed for research or personal use, but no changes are to be made to any of the material. This copyright notice is always to be included in any material downloaded.

#### Notice to authors

This material has been placed on the Australian Rangeland Society web site without the permission of individual authors. If you believe your copyright has been breached please notify us immediately and the material will be removed from the site.

#### Citation

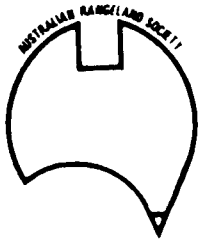
The material in Rangeland Management Newsletter has not been subject to peer review and may not be acceptable to some editors.

#### If cited it should be in the form:

Bastin, G. and Allan, G. (2012). After the smoke has cleared: 2011 fire in Central Australia. In: Range Management Newsletter (Ed. N Duckett). 12/2:3-6. (Australian Rangeland Society: Australia).

#### Disclaimer

The Australian Rangeland Society and the Editor of Range Management Newsletter cannot be held responsible for errors in information contained in this issue, or any consequences arising from the use of this information. The views and opinions expressed do not necessarily reflect those of the Australian Rangeland Society or the Editor. Publication of advertisements does not constitute any endorsement of the products by the Australian Rangeland Society or the Editor.

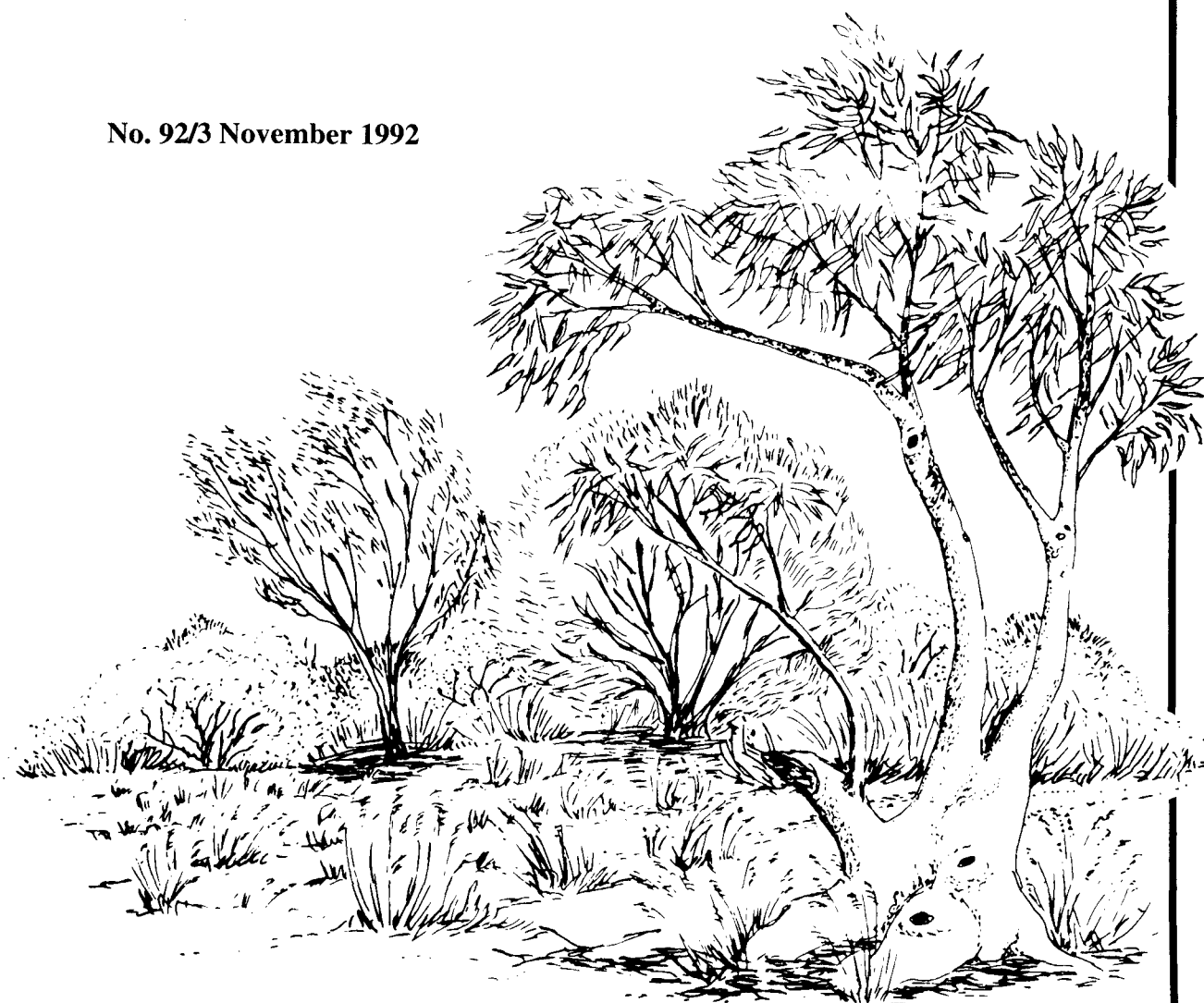


ISSN 0812-4930

*The Australian Rangeland Society*

# **Range management Newsletter**

No. 92/3 November 1992



Registered by: Australia Post - Print Post No. 545270/00001

**EDITOR (RMN)**  
Gary Bastin  
CSIRO, PO Box 2111, Alice Springs NT 0871  
Phone (089) 524255 Fax (089) 529587

**EDITOR (Rangeland Journal)**  
Dr Allan Wilson  
“Cal Col”  
Deniliquin NSW 2710  
Phone and Fax (058) 823338

**PRESIDENT**  
Bill Low  
PO Box 596, Alice Springs NT 0871.  
Phone and Fax (089) 555222

**VICE PRESIDENTS**  
David Liddle  
Northern Territory Conservation Commission  
PO Box 496, Palmerston NT 0831  
Phone (089) 221744 B.H. (089) 277758 A.H.  
Fax (089) 221739

Alec Holm  
Western Australian Department of Agriculture  
Baron-Hay Court, South Perth WA 6151  
Ph (09) 368 3333 B.H. Fax (09) 3681205

**IMMEDIATE PAST PRESIDENT**  
Martin Andrew  
Roseworthy Campus, University of Adelaide, Roseworthy  
SA 5371  
Phone (085) 248057 B.H. (085) 230298 A.H. Fax (085) 248007

**SECRETARY**  
Greg Campbell  
PO Box 596, Alice Springs NT 0871  
Phone (089) 518138 Fax (089) 518112

**TREASURER**  
Bruce Strong  
PO Box 596, Alice Springs NT 0871  
Phone (089) 524516 B.H (089) 530410 A.H.

**SUBSCRIPTION SECRETARY**  
Ashley Sparrow  
PO Box 596, Alice Springs NT 0871  
Phone (089) 524255 Fax (089) 529587

CONTENTS

|  |    |
|--|----|
| Editorial .....  | 1  |
| Wooded Rangelands in the Decade of 2040 - David Freudenberger .....      | 1  |
| Frontier Kings Canyon - Paul Lovell & Gary Bastin .....                  | 2  |
| A Landscape Approach to the Use of Site Information - Joel Brown .....   | 6  |
| National Workshop on Feral Goat Management - David Freudenberger .....   | 9  |
| Report on the North West Pastoral Conference - Gary Bastin .....         | 10 |
| Conference Impressions - Allan Wilson.....                               | 11 |
| The '92 Conference Organisers' Perspective - Russel Harland .....        | 12 |
| Legalisation of Kangaroo Meat for Human Consumption - John Pickard ..... | 12 |
| Pest Animals In Australia - George Wilson and others .....               | 13 |
| Cobar Questionnaire Results - Greg Campbell .....                        | 13 |
| Kangaroo Policy Group - Greg Campbell .....                              | 14 |
| Australasian Society Proposal - Bruce Alchin.....                        | 14 |
| Special Interest Register - Greg Campbell .....                          | 15 |
| Rewards, ARS Logo and Society Promotion - David Eldridge .....           | 15 |
| Rents: Reasonable, Rip-off or Rort - Allan Wilson .....                  | 16 |
| National Rangelands Strategy - Bood Hickson .....                        | 16 |
| Rangeland Society Scholarship - Geoff Gaskell .....                      | 17 |
| Application Abstracts - Rangeland Journal Vol 14 No 1 1992 .....         | 18 |
| Pastoralist Wins Ibis Award - Gary Bastin .....                          | 19 |
| Managing Native Pastures - Piet Filet .....                              | 20 |
| From the President - Bill Low .....                                      | 20 |
| New Members .....  | 21 |
| Subscription Renewal Form.....   | 23 |

## FROM THE EDITOR

Gary Bastin, CSIRO, PO Box 2111, Alice Springs NT 0871

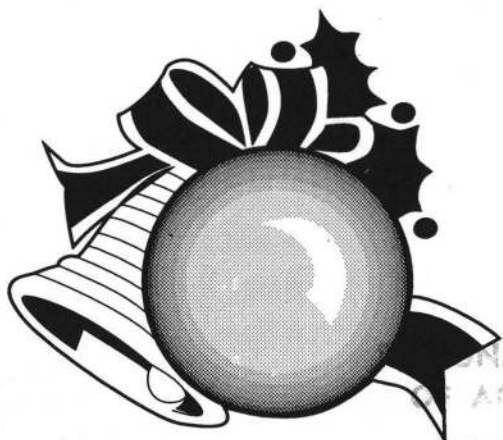
This issue is the sequel to the very successful recent biennial conference in Cobar. There is considerable information in the way of follow-up reports from our Secretary, a transcript of Allan Wilson's concluding remarks and a copy of the resolution sent to NSW parliamentarians regarding kangaroos.

I, for one, found the conference most worthwhile. I was particularly impressed with the behind-the-scenes organisation which resulted in a smoothly run conference for the delegates. Keynote speakers gave good presentations and I am still reflecting on the particularly sobering material presented by John Chudleigh in his address on "Changing financial environments". Another lasting impression was the general breadth and quality of the posters and the way in which the Organizing Committee was able to provide a suitable forum for delegates to view all, and hear a selection of, the many and varied posters. Congratulations to the hard working Organising Committee for a well run and successful conference.

Features in this Newsletter include the first of a three-part contribution from David Freudenberger on thought-provoking scenarios for possible future land use in the rangelands. This series of articles should provoke some response from the membership. On the wider issue of land use, I have written an article with Paul Lovell on the landscaping of a major tourism development in central Australia. This article touches on some issues, such as sensible water usage and environmental education of rangeland users, which are common areas of concern to the wider rangeland community. I have also included an abridged version of a paper provided by Joel Brown on the broader usage of site-specific information. Joel was guest speaker at the AGM of the Society in May.

This issue has several letters to the Editor, which shows that Society members are responding to some of the issues being addressed by Council or raised by other members. This exchange of views is good for the future of the Society - if for no other reason than it makes my job a little easier in bringing you a Newsletter. In particular, I would like to draw your attention to David Eldridge's letter (page 15) in which he raises the issue of Society promotion and questions whether we need a new (and better) logo. Please keep your contributions coming - my deadline for RMN 93/1 is the end of February.

It is subscription payment time again and a Renewal Form is included at the end of this Newsletter. Finally, I wish you a merry Christmas and a successful 1993.



## SUBSCRIPTION RENEWAL FOR 1993

Ashley Sparrow, ARS Subscription Secretary, PO Box 596, Alice Springs NT 0871

Yes, it is that time of year again - time to renew your membership of ARS.

This year (1992), three-quarters of the membership had to be sent a subscription reminder notice after the supposed latest date for payment - 31 March - at considerable cost and effort to the Society. For next year, I hope that members will be a little more forthcoming.

A renewal form is included at the back of this issue. Please complete it and return it with your cheque as soon as possible. If you think that you have already paid for 1993, check the details on the address label on your RMN envelope, or write/phone me to look up our database.

---

## WOODED RANGELANDS IN THE DECADE OF 2040 A Letter to the Editor

### Mining the Land - 1990's Revisited

David Freudenberger, CSIRO Division of Wildlife and Ecology, PO Box 84, Lynham ACT 2602

How might the rangelands be managed in 50 years? There are many possibilities, of course. Here is the first of three. Two other scenarios will be presented in future issues of RMN.

We keep on as we have, struggling from drought to drought, wool booms to busts. We still live out on the rangelands, always busy repairing fences, racking up the fuel bills on mill runs, struggling to send our kids away to school, and hoping and searching for extra income when the times get tough. Some have it easier than others if the rains come their way, others miss out.

Rabbits, roos and ragged goats still abound. Something gets done when the drought's real bad and prices real low, but it's tough to get the neighbour to cooperate and get the job of getting rid of these critters done right - someone is always short of funds. The myxo/sterility fix for rabbits, as dreamed up by the CSIRO blokes, is still just that - a dream. The old myxo strains worked well at first, but the last few got away. Someone didn't get around to ripping those last warrens out the back. A few bunnies hung in there during the drought and bred up during the wet like only bunnies can. The roos got out of hand one year, a few cock-eyed cockies tried a round-up, the press found out, the politicians got burned and the whole roo industry was wiped out. The annual quota and destruction permits are a fond memory. Goats keep bringing the drought on 6 months early. There have been some big musters, the

RECEIVED  
DUBBO



meat market gets flooded, money is lost, interest declines, our markets get miffed and look to the Kiwis. The cycles continue.

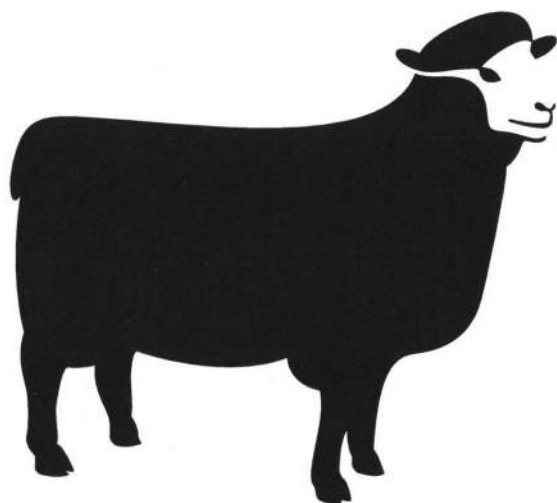
Speaking of burning - it's still a tough thing to do. With so many mouths munching, there's not much of a chance to build up fuel during those rare occasions of good summer rains. There's not a chance of conserving enough spring fodder. Even if there was, the Fire Brigade lads would ban any possibilities because it's not the right month. The woodies are here to stay and have effectively closed a lot of country to sheep. Even when there is a bit of feed, it's so tough to muster.

The flow of cash follows all the other cycles. Like the rain and the roos, sometimes we have it and sometimes we don't. When there is a bit left over after all the bills, the family reckons a new kitchen and car are in order. I guess converting the mills to solar-powered pumps will have to wait yet again, though they sure would make life easier and save on fuel. Each month is a gamble. Do we buy in stock before the price rises and hope for more rain, or sit tight and slowly breed up? I'd have to borrow to buy in, and there is talk of interest rates going up again. But then I'm not sure if the bank will wait for us to breed up.

Some blokes have it better - they're able to keep buying more blocks as the shrubs thicken up. There are some pretty huge holdings these days, but they're financed by the banks so they have little flexibility, even though they have plenty of land. There was a myth back in the 90's that market forces would take care of things; properties would amalgamate with ensuing management flexibility and gradual improvements. But it's tough financing a loan with no rain, no matter how big you are.

It's been a long haul weathering through. The grass isn't as sweet as it used to be. I haven't seen the lambs really bloom for a while and the rain doesn't seem to do much except fill the tanks with more mud than water. I'm not sure if I can face another drought and see so much wool rot in the paddocks. I sure wish that I had sold out during the last good year.

(Ed. To be continued. Next issue, David's crystal ball describes the situation of a grazier who used the opportunities presented by Landcare to move towards conservative stocking and who now has a much easier life.)



## FRONTIER KINGS CANYON A NEW RESORT WITH ENVIRONMENTALLY SENSITIVE LANDSCAPING

*Paul Lovell, Company Horticulturist, Frontier Kings Canyon, Private Mail Bag 136, Alice Springs NT 0871*  
*Gary Bastin, CSIRO, PO Box 2111, Alice Springs NT 0871*

Frontier Kings Canyon, a tourist resort located 325 km south west of Alice Springs, opened to the public in July 1991. The resort is situated within the Watarrka National Park and has direct links with Aboriginal organisations through its financing arrangements.

Key considerations in the development of this resort were that the buildings blend into the surrounding landscape and that the facilities not be unnecessarily exploitive of the Park's natural resources, particularly in regard to water usage and firewood consumption by campers. This has required some careful planning to meld the company's desire to provide attractive accommodation for tourists into the constraints imposed by building in a national park.

### Watarrka National Park

The name, Watarrka, derives from the local (Luritja) word for umbrella bush (*Acacia ligulata*) which is common throughout the area. The Park includes the western end of the George Gill Ranges and contains the majestic Kings Canyon. This feature is a plateau of rock domes and sheer sandstone walls rising 100 m above a rocky valley floor. Several waterholes surrounded by lush vegetation, including relict species, occur within the canyon.

Ernest Giles and his party were the first Europeans to visit the area. Giles named, amongst other features, the George Gill Range, Kings Creek and Carmichaels Crag - a prominent sandstone bluff which is clearly visible from the new resort. Sheep and, later, cattle were run on the better country fringing the George Gill Range from the 1920's up until the area was resumed as a park in the mid 1980's.

The Park contains plant communities which represent the three main floristic regions of central Australia; the western deserts, the MacDonnell Ranges and the Simpson Desert regions. Over 600 species of plants have been recorded, many of which are unique to the region or are poorly represented elsewhere. Bird and reptile communities also contain scientifically important overlaps between the faunas of the western deserts and central ranges. Indeed, as early as 1894, the Horn Scientific Expedition in their narrative described two of their depots in this area (at Bagot Creek and Reedy Creek) as "amongst the most pleasant from their picturesque surroundings" and "the best from a collecting point of view".

The Luritja people, who are the traditional custodians of Watarrka, still have strong traditional ties with the land.

There are three Aboriginal communities within the Park and these people are involved in tourism ventures such as horse trail-riding and bush-tucker experiences.

## Landscaping the Resort

The location of tourism infrastructure in an arid-zone national park presents several potentially conflicting ideals. Park management does not wish to see its conservation goals compromised. Private enterprise, in investing large sums of their own money, require a facility that is attractive to, and well patronised by, tourists. Visitors probably have a wide range of expectations ranging from air-conditioned comfort to an appreciation of the natural beauty of the area in a minimally disturbed setting.

The experience at Frontier Kings Canyon has shown that through careful planning and liaison with park management (the NT Conservation Commission), facilities can be provided with minimal disturbance to the native vegetation during the construction phase. The former obtrusiveness of these amenities are now largely screened by Paul Lovell's successful landscaping activities. However, rapid establishment of plants has required heavy water usage while the recent level of firewood usage is also posing a conservation dilemma. In the longer term, it may be necessary to educate those tourists expecting an 'oasis in the desert' on their arrival to what is physically and socially acceptable in an arid environment.

Paul had previously landscaped a large caravan park for his employer on the edge of Kakadu National Park using largely exotic species. Such landscaping is environmentally inappropriate because it has a high initial, and continuing, water requirement, is susceptible to disease and provides visitors with a false impression of the environment. An approach of replacing the native vegetation with introduced plants would not have worked at Kings Canyon where explicit government approval is required to introduce any exotic species. Instead, the company retained as much native vegetation as possible during the construction phase, has only used lawns in camping areas and where dust and erosion control is necessary, and has planted local tree and shrub species to provide shade and screening.

The company was required to protect the native vegetation during the construction phase. Vegetation further than 5 m from proposed buildings was designated an 'environmental area' and fenced off. These areas were regularly inspected to ensure that they were not disturbed by builders. In particular, park rangers oversaw the clearing and rehabilitation of easements associated with power, water and sewerage reticulation.

While building was progressing, Paul developed a landscaping plan which eventually required approval from the Conservation Commission before work could commence. This was, in some respects, a compromise between the stipulations of management, the conservation ideals of the Commission and practicality. As examples, all caravan and camping areas had to be grassed and this required approval to introduce kikuyu

as a lawn species. Management wanted to plant river red gums as fast-growing shade trees but due to public risk and maintenance problems associated with limb drop, Paul has used slower growing bloodwoods, whitewoods and ghost gums. Motel units are located immediately below a 6 to 8 m ridge and resort management required that shrubs be grown which would screen the buildings but not obscure the ridge (Figure 1). Similarly, landscaping in front of the restaurant was not to impede the view of Carmichaels Crag, again dictating that low shrubs and rapid growing ground-cover species be used.

## Landscaping Program

Landscaping work commenced in November 1990 with Conservation Commission rangers collecting seed of native species. This seed was gathered in the Kings Canyon area to preserve the genetic integrity of the indigenous flora. Paul then propagated this material in Alice Springs using established germination criteria such as heat treatment or soaking of seed. Seedlings were pricked out into tubes and small pots and grown to the stage where they could be transplanted into designated areas at the developing resort.

The next major stage was installation of the irrigation system at the developing resort. The resort is spread over five separate areas covering more than 40 ha. This has required at least 20 km of main (25 mm diameter) irrigation line. Smaller (4 mm) lines branch off these mains to carry water to individual plants where it is delivered via a multiflow dripper.

Planting out commenced in September 1991 with about 25,000 trees and shrubs being required to complete the landscaping process. Sturt desert pea has been used extensively to provide colour while desert rose and the umbrella bush are rapid growing and effective screening shrubs. Conservation Commission approval was required to introduce the desert pea as it is not native to the area. As a safeguard against its possible spread, the Commission stipulated that seed pods be harvested before shedding their seed and this is now proving to be a labour-intensive task. Other species used for landscaping, and their purpose, are listed in Table 1.

Approximately 25,000 sq m of kikuyu have been planted through the resort as part of management's desire to provide an attractive environment for tourists. This area has a huge water requirement and unfortunately, some areas which are little used must continue to be maintained. As an example, 1,000 sq m of instant turf were laid around the swimming pool in the motel-restaurant complex to culminate with the official opening of the resort last October (1991) and this area has been used for very few functions since. Lawn areas through the camping ground are used in rotation and Paul has attempted to rationalise water usage by irrigating rested areas for three hours only once a week. This schedule will continue through the hotter summer months. Unfortunately, overhead watering of lawn areas through sprinklers and the use of fertilizer is damaging to the native vegetation. Mulga has suffered from stem splitting due to excessive crown growth, while mistletoes are much larger and healthier on those trees receiving extra water and nutrients.

Table 1. A selection of the species used for landscaping at the Frontier Kings Canyon.

| Species                         | Common Name           | Status                          | Purpose and Comments  |
|---------------------------------|-----------------------|---------------------------------|---|
| <i>Acacia aneura</i>            | mulga                 | local tree                      | screen, shade<br>existing pockets left throughout camping area where appropriate  |
| <i>A. estrophiolata</i>         | ironwood              | local tree                      | shade; long term shade tree in caravan sites  |
| <i>A. ligulata</i>              | Watarrka wattle       | local shrub                     | screen, fill-in in garden beds - used extensively<br>has responded well to slow-release fertilizer tablets<br>but problem now with stem splitting |
| <i>A. murrayana</i>             | colony wattle         | local shrub                     | screen to segregate caravan sites<br>very quick growing   |
| <i>A. pruinocarpa</i>           | black gidyea          | local tree                      | shade; slow growing<br>used in caravan sites and around staff quarters to blend in with existing vegetation                                       |
| <i>A. tetragonaphylla</i>       | dead finish           | local shrub                     | barrier - where required to keep people to paths<br>slow growing  |
| <i>Alocasuarina decaisneana</i> | desert oak            | local tree                      | shade; extremely slow growing but excellent establishment<br>200 planted in approx. 1 ha to create forest effect                                  |
| <i>Atalaya hemiglauca</i>       | whitewood             | local tree                      | shade - caravan sites & car-parks; good growth rate   |
| <i>Eucalyptus camaldulensis</i> | river red gum         | local tree                      | firewood plantation   |
| <i>E. papuana</i>               | ghost gum             | local tree                      | shade & feature tree - healthy specimens  |
| <i>E. opaca</i>                 | bloodwood             | local tree                      | shade - healthy specimens   |
| <i>Callistemon pauciflorus</i>  | desert bottlebrush    | local shrub                     | screen and showy; planted extensively throughout  |
| <i>Capparis spinosa</i>         | wild passionfruit     | local shrub                     | barrier, screen & bush tucker<br>successful establishment but prone to insect attack  |
| <i>Crotalaria cunninghamii</i>  | Cunninghams rattlepod | local shrub                     | colourful; mass planted in beds   |
| <i>Enchylaena tomentosa</i>     | ruby saltbush         | local shrub                     | ground cover - fill-in & bush tucker<br>attracts euros & eaten quite extensively  |
| <i>Gossypium stuartianum</i>    | Sturt's desert rose   | local shrub<br>NT floral emblem | screen - grows rapidly with fertilizer & pruned into hedges<br>high maintenance - stem splitting & low tolerance to wind                          |
| <i>Pandorea doratoxylon</i>     | spearwood             | local shrub                     | twining growth - screen around swimming pool fences<br>good growth rate   |
| <i>Petalostylis cassioides</i>  | butterfly bush        | local shrub                     | showy & fill-in<br>quick growing & good success rate  |
| <i>Senna pleurocarpa</i>        | chocolate bush        | local shrub                     | screen & showy when in flower<br>fast grower; mass planted to good effect   |
| <i>Swainsona formosus</i>       | desert pea            | introduced shrub                | ground cover - very showy when in flower<br>untidy when finished flowering & labour intensive   |
| Citrus spp                      | Washington navel      | introduced tree                 | fruit - matures mid winter in main tourist season<br>good growth rate   |
|                                 | Meyer lemon           | "                               | fruit - good growth rate  |
|                                 | mandarin              | "                               | fruit - excellent growth rate   |
|                                 | grapefruit            | "                               | fruit - Marsh seedless & Ruby red varieties   |
| Grapes                          | Cardinal              | "                               | fruit, shade  |
|                                 | Flame seedless        | "                               | good growth rates but high maintenance with limited labour  |
|                                 | Tokay                 | "                               | future problems with pruning requirement, leaf fall   |
|                                 | Perlette              | "                               | and birds eating fruit  |



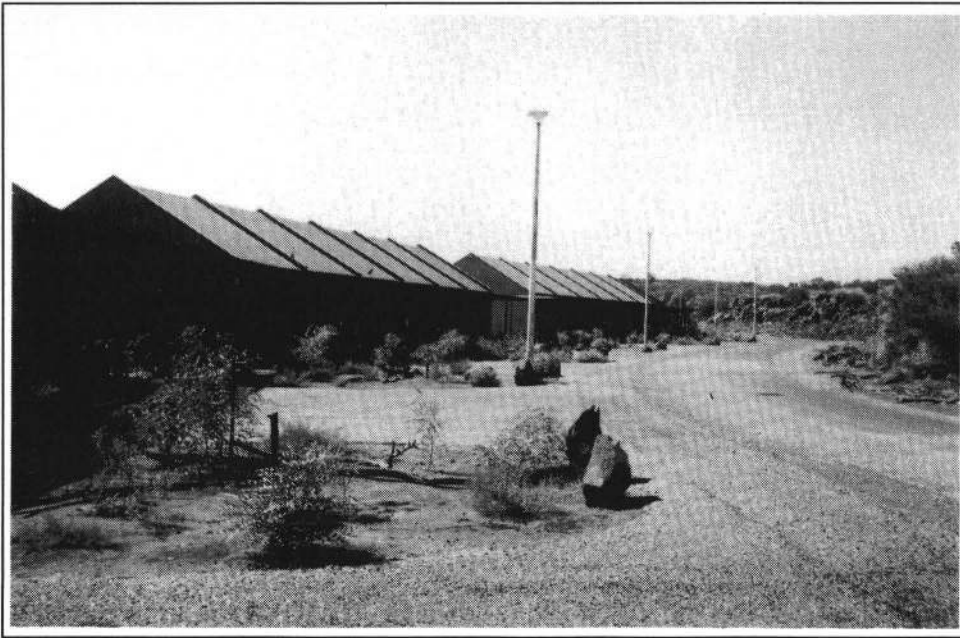


Figure 1: Showy native shrubs have made rapid growth and now effectively screen the motel accommodation without impeding views of the surrounding landscape. The top photo was taken in December 1990 and the bottom photo in September this year.



## Firewood Production - a Conservation Dilemma

Campers are proving to be exceptionally heavy consumers of firewood. Paul and his team regularly collect fallen timber from designated areas surrounding the resort and deliver it to a central woodheap. Campers then burn this wood, principally for warmth, in communal fire pits. A common sight at night is a mini-bonfire with people sitting well back from the fire.

As a worthy longer term solution to excessive removal of dead timber from within the Park and along roadside verges entering the Park, Frontier Kings Canyon have installed a woodlot of 2,200 river red gums. These trees will eventually be irrigated with sewerage effluent and, when of a sufficient size, felled for firewood and then allowed to coppice and regrow. At this stage, the woodlot is irrigated with bore water as the resort does not have a sufficiently high occupancy rate to produce the required volume of waste water for flood

irrigation. Irrigation with fresh water is an inappropriate use of this scarce resource but the company is locked into this program until such time as the Watarrka National Park becomes better known to southern tourists and occupancy rates increase.

Allocating firewood to individual coaches and families might restrict its total consumption. However, campers could regard this as an excessive imposition and it may create the real risk of less responsible campers raiding fallen timber on 'environment areas' surrounding the resort, thereby denuding these areas. As a short term solution, Paul and his team hope to make more efficient use of existing firewood by reducing the number of communal fireplaces from 45 small ones (for the 300 campsites) to 9 larger ones. Frontier Kings Canyon also plans to produce an educational video for distribution to



coach companies, schools and other groups likely to visit the area. As well as advertising the scenic wonders of the Watarrka National Park, this video would emphasize the fragile nature of the environment and the need to conserve water and firewood.

## Conclusion

Frontier Kings Canyon management have endeavoured to provide attractive accommodation within the Watarrka National Park. Prime requirements in landscaping the resort have been to:

- provide shade and lawn to discrete camping areas;
- provide ground cover through the extensive use of lawn, thereby reducing dust problems;
- screen buildings using local and introduced plant species (including grapes); and
- provide ground cover with showy shrubs that do not impede views of the surrounding spectacular scenery.

Native species have been 'force-fed' with fertilizer and intensive watering in the desire to achieve rapid growth. Some native species have suffered as a result (e.g. stem splitting in mulga) while the longevity of other species (e.g. umbrella bush and desert rose) is questionable under such artificial conditions. In the longer term, Paul hopes that the 'hardening-off' of established native species and lawn areas through restricted irrigation will result in more conservative water use. Firewood production using recycled water is commendable but unfortunately, at this stage, irrigation continues with fresh water as the resort does not have the occupancy rate required to generate a sufficiently large volume of effluent. So, for all rangelanders, a stay at the Frontier Kings Canyon is thoroughly recommended, both for the scenic attractions and for the landscape management that is in keeping with the arid climate.



## A LANDSCAPE APPROACH TO THE USE OF SITE INFORMATION

*Dr Joel Brown, US Soil Conservation Service, Davis California*

(Ed. Dr Joel Brown was guest speaker at our AGM in Alice Springs in May. I reported briefly on that talk in RMN 92/2. Joel kindly left me a paper titled "*Using Soil Survey Information for Site Descriptions: A Landscape Approach*" written by D. S. Smith and himself which encompassed facets of his talk. Parts of that paper, which is included in the Proceedings of the International Soil Management Meeting, 10-24 July 1992, Soil Science Society of America, are reproduced here to show how the importance of managing country at the landscape level (rather than site level) is being increasingly recognised. I thank Joel for allowing his information to be reproduced in RMN.)

## Introduction

Soil survey information has been an invaluable aid to planning and implementing conservation practices and systems in the US. Soil descriptions and interpretations have guided the application of conservation systems resulting in substantial improvements in land management.

Until now, most soil survey work has been descriptive and directed towards determining if one soil, or site, is "different" from another. This has helped in defining concepts of soil formation and its control on vegetation. Now, the emphasis is shifting towards investigating the how and why of soil/vegetation relationships.

## Describing Ecosystem Dynamics

Information relating offsite values such as water quality and quantity and biological diversity to onsite management is now increasingly required. Many descriptions of onsite processes formulated in the past do not reflect the current state of our knowledge or are irrelevant. For example, we now recognise that sustainable stocking rates of domestic herbivores may not necessarily be derived from linear combinations of forage production on all of the sites within a landscape. As a result, our concept of functional soil groups needs to be re-evaluated to better integrate time (i.e. processes) and space (i.e. patterns).

## Temporal Dynamics

Traditional views of plant succession explained structure and function of ecosystems through competition when disturbance was excluded. Disturbance was viewed as an "unnatural" phenomena while recovery from disturbance was viewed as a linear, single pathway process. Non-equilibrium ecology views the natural and semi-natural world as one in which the relationships in an ecosystem reflect disturbance rather than

Table 1. Time and area scales for various levels of the rangeland ecosystem

|                      | Level of Ecological Hierarchy   |                           |  |  |
|----------------------|---------------------------------|---------------------------|--|--|
|                      | Organism                        | Community<br>(range site) | Catena<br>(site cluster)                       | Landscape  |
| Process              | Effects on individual           | Grazing by individuals    | Grazing by groups                              | Grazing by herds                                       |
| Emergent property    | Growth \reproduction            | Plant succession          | Soil/Veg changes                               | Geomorphic changes                                     |
| Temporal scale       | days-season                     | seasons-years             | years-decades                                  | decades-centuries                                      |
| Spatial scale        | cm <sup>2</sup> -m <sup>2</sup> | m <sup>2</sup> -ha        | ha-km <sup>2</sup>                             | km <sup>2</sup>  |
| Management units     |                                 | Range sites               | Pasture  | Operating units  |
| Management decisions |                                 | Range improvements        | Season of use<br>Stocking rate<br>Distribution | Enterprise mix<br>Grazing regimes<br>Kind/class animal |

competition. It means that multiple stable states and pathways of succession, irreversible transitions and thresholds between states and spatial heterogeneity can be incorporated into predictive models for ecosystem behaviour.

Spatial Pattern

At any spatial scale, patches of different sizes and shapes are apparent. Patch distribution and extent affects the rate and magnitude of ecological processes, imparting a unique set of outputs for each system. Patch size reflects the spatial scale of observation, so that observations should focus on the spatial scale of the process of interest. For instance, the quantity and quality of water that leaves a 100 ha catena is not simply the sum of runoff or pollutants from discrete areas. It is this sum, plus the interactions between these areas - and we all know from introductory statistics and years in the field, that the interaction term is always significant! Therefore, the appropriate scale at which to draw inferences about ecological processes is completely dependent upon what questions we want to ask or what products we want to harvest.

The discipline of landscape ecology has integrated theories of spatial pattern and temporal process into principles for predicting how ecosystems respond to disturbance at large scales. Concepts and methodologies from landscape ecology can aid in making more enlightened inferences about how different types of disturbance or management will affect the properties of the large areas that concern us.

Defining the Appropriate Scale

It is important to recognise the scale that is appropriate to the system we are managing or the problem we want to solve, e.g.

our earlier examples of livestock grazing and water quality. In Table 1, we show the time and area scales at which various parts of the ecosystem operate. When we have decided which is the appropriate level at which to make inferences, the problem can then shift to:

- 1. identifying pattern at the appropriate scale and
- 2. linking pattern to process. We want to link pattern to process because the rate and magnitude of the process directly affect outputs.

Years of work by range conservationists have shown that stocking rate, season of use, livestock distribution and kind and class of animal are the most ecologically and economically influential decisions managers make. Thus, they are the fundamentals of grazing management and decisions intended to alter grazing-influenced processes should address them first and foremost. One distinguishing characteristic of arid and semi-arid rangelands is the variability contained in management units and this has been particularly recognised by some Australian workers. However, it is not economically feasible to fence arid and semi-arid rangeland into smaller units regardless of the goal. Information is required at a higher, paddock level to make more informed management decisions. For example, in a paddock with a mix of pasture types, livestock will focus on some types and leave others. The carrying capacity of the whole paddock cannot be predicted by summing the potential carrying capacity of the individual pasture types.

Identifying Pattern

Techniques to identify pattern are now available. Most are based on matrix algebra and like most other computer-based mathematical analysis techniques, they require more effort

and caution in interpretation than in execution. Here, we suggest a hierarchical framework for the processing of standard soil survey data to provide appropriate information at each level of organization.

### **Major land resource area (MLRA)**

These areas are essentially clusters of landscapes and integrate all of the properties of landscapes plus their interactions. The value of MLRA's will be greatly improved when information describing their spatial extent is incorporated with attribute data allowing a quantitative model to be constructed for each major land resource area. Our inability to do this has so far prevented us from designing the concepts of ecological sites.

### **Landscape**

Landscapes are amalgamations of landforms and may be viewed as subdivisions of MLRA's. New techniques in the spatial interpolation of remotely sensed data can be used to detect naturally occurring patterns across large spatial scales. Inferences can then be made about how those patterns affect such processes as transport of material by wind, water, or animal movement. We have used a simple equation based on remotely sensed reflectance values to delineate three basic landscape types; low hills and floodplains, mountains, and riparian areas. These areas were common across MLRA's within the area. Landscape groupings based on the clustering of site-based soil and vegetation data gave good agreement with the groups obtained from the remotely sensed data.

### **Site clusters**

A site cluster represents the level of the ecological hierarchy that integrates sites into components of the landscape. This level of organization is inherently useful, corresponds well conceptually with catenas, and captures variability at a pasture level. We propose 'site clusters' as a new level of integration for interpreting basic rangeland resource data.

### **Sites**

Sites are soil/vegetation combinations analogous to plant communities. This is the level at which we have the most experience and have developed many techniques for determining how to describe and differentiate plant communities. However, we suggest that while many sites may be inherently apparent at the level of walking around a pasture, their hypothesized uniqueness is lacking when temporal and local (within groups) variance is compared to spatial (site) variance as a statistical test. If that is the case, then it follows that it may be possible to combine some sites and encompass that real-world variability rather than attempting to externalize it. This would allow us to focus on site dynamics rather than site uniqueness.

### **Linking Pattern and Process**

Predicting the effect of spatial and temporal patterns (natural or human-induced) on ecological processes should be at the

very core of natural resource management. At the site scale, there is minimal spatial variability and the focus, therefore, is on how to describe and manage temporal variability. We see the 'state and transition' model as a suitable means of conveying information to land managers about vegetation states and pathways of change. This should assist them in making decisions about stocking rate, season of use, and kind and class of grazing animal required to achieve a resource-related goal. Each state may be evaluated in terms of a range of economic outputs, stability (tendency to remain the same) and resilience (tendency to return after change) for a variety of scenarios. This type of information allows managers to set realistic goals and determine costs and risks associated with management objectives for that site.

When stepping up in scale from the site level, state and transition models for individual sites can be combined with nearest neighbour analysis of groups of sites via Geographic Information Systems. This allows predictions to be made at the landscape scale of how that level of heterogeneity interacts with disturbance due to, for example, grazing. The most obvious use of this approach for our purposes is to evaluate the effects of livestock grazing on hydrologic processes within a catena that encompasses several sites. These types of analyses allow land managers to predict the effects of pattern (spatial and temporal) on an ecological process (e.g. water movement) when disturbance (grazing) is imposed. Other applications include improving grazing systems, creating habitat for endangered species and designing fire control strategies.

Effects of pattern on process at the landscape level is a much less quantitative exercise. Identifying site clusters that may be particularly susceptible to landscape level disturbances (fire, drought, plant invasion, climate change) can be very useful in designing technical assistance programs. Biological conservation, in particular, requires an understanding of habitat relationships at the landscape level as many species require a wide range of habitats as well as corridors to connect habitat elements.

### **Conclusions**

While this approach may appear complicated, it is important to remember that the management of natural and semi-natural lands via extensive practices is a very complex activity. We do not suggest that data from every soil survey be subjected to this type of analysis. Our purpose here has been to illustrate the logical foundations for approaching the description of soil/vegetation relationships on rangelands in a more holistic manner. Each technique can be reduced to a few simple rules with field applications. In fact, we believe that this approach largely reflects what professionals in the field actually go through to describe and interpret soil/vegetation data and develop technical assistance rules. Our approach is intended to encourage integration of information and capture the knowledge for transfer and application. Table 1. Spatial and temporal hierarchies relevant to grazing in rangeland ecosystems.

# NATIONAL WORKSHOP ON FERAL GOAT MANAGEMENT

## Planning for Action

*David Freudenberger, CSIRO Division of Wildlife & Ecology, PO Box 84, Lyneham, ACT 2602.*

Thirty of us from four States gathered in Dubbo on 11 October for two and a half days of intensive discussion with the following aims:

- determine the nature and scope of the feral goat problem
- develop a consensus on what should be done
- develop plans of action from regional & national perspectives

We were successful in meeting these aims, which was a considerable achievement considering the disparate views represented at the workshop. Invited participants included pastoralists, animal welfare representatives, individuals from the goat industry, scientists, people from nature conservation groups and a contingent from various State agencies.

## The Problem

We agreed that feral goats are a problem for a complex of reasons; ten discussion papers and four case studies made this point clear. We acknowledged that feral goats are a threat to the conservation of natural resources and the long term productivity of pastoral enterprises. However it was also recognised that goats are an economic resource to many pastoralists, transporters, processors and marketeers. Within this context, the community at large demands that the welfare of feral goats be considered during all management activities from the paddock to the abattoir. Finally, a lack of resources, motivation and coordination has hindered the control or eradication of feral goats.

## Solutions

Establishing a common goal is the first step in any strategy. We began the workshop by developing a common vision for the rangelands in which the grazing pressure of all herbivores; domestic, feral and native, is managed in order to achieve ecologically sustainable pastoralism and the conservation of natural resources.

We developed management strategies for four case studies (individual properties and regions). These cases studies were put together by our facilitator, Rob Brennan, with the help of some of the participants. Consultation and coordination were identified as essential strategies for each case study. The feral goat problem is not owned by any single manager or group. There are insufficient resources for either pastoralists, professional musters or state agencies alone to effectively reduce or eradicate feral goats on either a local or regional basis. Consultation and coordination among lessees, national parks services, rural lands protection boards, goat buyers and

other parties affected by goats in a particular region is essential. Landcare, or Land Conservation Districts (WA), were seen as useful means of establishing coordinated efforts. However, there needs to be subunits within Landcare groups as well as coordination between groups.

Mustering goats for commercial sale was seen as an initial means to an end. Eventually goat numbers will become too low to muster enough to sell in commercial lots (road trains). Coordination with goat industry representatives can assist in making feral goat reduction cost-free or even profitable during initial phases. Eventually, shooting is the only option left for small numbers. Who pays for this, and for how long, is a difficult issue. It was acknowledged that high standards for animal welfare were required at all stages of feral goat management.

Community motivation was ranked as the most important issue as, without it, nothing happens. Again, the Landcare framework was seen as an effective means of generating and sustaining coordinated control efforts. Regulations and penalties were seen as a last resort to motivate laggards.

There was considerable discussion as to whether goats could be eradicated. It was generally felt that eradication was a desirable aim that helped motivation. However, it was recognised that eradication may not be possible, except in localised areas and given the right conditions.

Monitoring the effectiveness of goat removal operations was seen as an important element of any strategy, both to help maintain motivation as well as to justify the costs incurred. Goat control or eradication campaigns ought to have a monitoring scheme to go with them. Research is required to design and test efficient regional monitoring systems as part of an adaptive management process in which management strategies change based on the monitored effectiveness of previous activities.

Finally, it was recognised that effective reduction of feral goats in many areas of the rangeland depends on the financial position of pastoral enterprises. Again, control efforts at the community level can reduce costs, benefit from coordinated commercial sales and attract outside funding for follow-up measures.

## Actions

Participants from western NSW agreed that coordinated action initiated by the pastoral community was sorely needed. Representatives from the West Darling Landcare groups agreed to form a steering committee to develop a program for their area which would determine the role of a coordinator, initiate funding submissions, arrange publicity and coordinate with other areas including neighbouring South Australian groups. There was agreement that community efforts need to be spread. This could be done by regional field days to promote the benefits of Landcare groups and the utility of coordinated goat removal in the context of management of total grazing pressure.



Finally, the results of the workshop were seen to be of great value for planning efforts in other states and at the federal level. The Bureau of Rural Resources' Feral Goat Task Force was initiated at the workshop and will prepare national guidelines for managing the impact of feral goats.

---

## REPORT ON THE NORTH WEST PASTORAL CONFERENCE

*Gary Bastin, CSIRO, PO Box 2111, Alice Springs NT 0871*

This conference, held in Katherine from 27-29 October 1992, was the fourth in a series involving government agencies and producers in the north western rangelands. The series of meetings originated in 1983 with the idea of bringing together representatives of the WA Department of Agriculture, NT Department of Primary Industry and Fisheries, and CSIRO Division of Tropical Crops and Pastures. This was in recognition of the fact that cattle production issues are contained within ecological, rather than administrative, boundaries. A logical extension of this fact was that the beef industry could only realise the full benefit of research when the different agencies were aware of each other's activities and were in a position to complement each other.

Subsequent meetings have been held at three-yearly intervals and have grown to include cattle producers, the NT Conservation Commission, Queensland Department of Primary Industry and other institutions connected with the northern beef industry. The latest conference was a little different to earlier ones in that it had a higher overall attendance and a much greater level of participation by producer representatives. Approximately 100 people were at the most recent meeting.

The theme for this year's conference was "Focussing research for a profitable and sustainable cattle industry in northern Australia". Sessions dealt with:

- future industry directions
- profitable cattle production
- rangeland management
- monitoring of rangelands
- property management planning
- landcare

The opening session on "Future Directions" featured addresses by the pastoral managers of two companies holding substantial areas of grazing land in the north. Both agreed that the face of the northern cattle industry was changing. Gone were the days of the bull catcher, the rip, tear and bust chopper pilots, and the big old bullocks which sagged the chain at the meatworks. The way of the future will be characterised by attention to the cow: better stock control, better land management, improved nutrition, and improved herd productivity through higher weaning rates and reduced cow mortality. Both speakers also stated that methods had to be found for achieving a better trained and more stable workforce.

The industry required stockmen who knew the ways of cattle rather than the present unsatisfactory situation where most ringers are young people from the cities looking for temporary adventure.

The middle section of the conference then presented considerable technical material on how to improve production levels, including strategies such as wet-season phosphorus supplementation, early weaning and new cattle handling technology. This section also dealt with the present level of ecological understanding of grazing impact, rangeland regeneration and the social behaviour of dingoes as it related to production losses through calf predation.

The value of Landcare in maintaining and improving the northern rangelands was recognised. For one region at least, where conflicting landuse (cattle production and conservation of wildlife habitat) is an issue, a particular achievement has been the coordination of advice from Government agencies. However, the emerging concept of property management planning appears to be a contentious issue in some areas. One producer from Western Australia highlighted its value in allowing him to evaluate assembled information for the development of pastoral leases under his management. Another speaker, representing a Landcare group, warned that plans should not be (or seen to be) imposed by Government; the final plan must be "owned" by the pastoralist if it is to have any credibility.

The final session focussed on where we go from here. Issues raised included:

- having a more flexible industry focussed on the smaller, and more productive, rangeland areas
- value adding
- alternative and complementary land use (e.g. tourism or recreation on leases)
- appropriate packaging of technical information
- and the general spectrum of education and changing community attitudes.

As a scientist on the periphery of the northern rangelands, I found the conference most rewarding and stimulating. I was particularly impressed by the breadth of material covered, the quality contained in some very good presentations and the way in which Neil MacDonald and his small band of helpers ran the conference so smoothly. Cross-border communication and collaboration should be encouraged where adjoining states share common environments and problems, and this series of conferences has surely done much to achieve that objective. Having participated in the last three conferences, I have noticed that advice to the pastoral industry on aspects of beef production has advanced considerably, while aspects of rangeland management, such as appropriate stocking rates, woody weeds, use of fire and reclamation, are now receiving due recognition. A further pleasing aspect from a professional viewpoint has been the noticeable improvement in the confidence and presentation skills of young scientists working in this remote region. I wish the organisers well as they move towards the next conference in three years time.

## Postscript

Neil MacDonald, one of the main organizers, informs me that copies of the Conference Proceedings are available at \$15 each (including postage and handling). Anyone wishing to purchase a copy should communicate with Neil at:

Dept. Primary Industry and Fisheries  
PO Box 1346  
Katherine NT 0851

Ph: (089) 738739 or Fax: (089) 723532

Cheques should be made payable to Receiver of Territory Monies

---

## CONFERENCE IMPRESSIONS

*Dr Allan Wilson, "Cal Col", Deniliquin NSW 2710*

(Ed. The following remarks were made by Allan at the conclusion of the 7th Biennial Conference of the Australian Rangeland Society in Cobar. They are presented here for the benefit of Society members who were unable to attend the Conference.)

The theme of this conference was 'Australian Rangelands in a Changing Environment'. Presented papers concentrated on situations in the rangelands that have changed, might change or ought to change.

I have been visiting and working in the Cobar region since the 1960's. At my first visit, it seemed to be a difficult environment characterised by bare soil, woody weeds and hardship for the landholder. During the 1970's there was apparent improvement with grass appearing after good rains. This was followed by wildfire in the 1980's with the events of both decades suggesting improvement in the rangelands. However, on returning in 1992, I am left with the impression that perhaps these changes were largely due to season and not to improved management. This reminds us that rainfall is the overriding influence in the rangelands, as John O'Brien noted back in 1923 when he wrote "Said Hanrahan".

"We'll all be rooned," said Hanrahan,  
In accents most forlorn,  
Outside the church, ere Mass began,  
One frosty Sunday morn.

"If we don't get three inches, man,  
Or four to break this drought,  
We'll all be rooned," said Hanrahan,  
"Before the year is out."

It pelted, pelted all day long,  
A-singing at its work,

Till every heart took up the song  
Way out to Back-o'-Bourke.

And every creek a banker ran,  
And dams filled overtop;  
"We'll all be rooned," said Hanrahan,  
"If this rain doesn't stop."

And days went by on dancing feet,  
With harvest-hopes immense,  
And laughing eyes beheld the wheat  
Nid-nodding o'er the fence.

"There'll be bush-fires for sure, me man,  
There will, without a doubt:  
We'll all be rooned," said Hanrahan,  
"Before the year is out."

Today, we could add the pressure of low wool prices and high interest rates. It is clear that avoiding this ruin, of both the people and the land, is an important objective in our rangelands.

This conference has been a valuable source of information for understanding the need for, and implementing, change. It commenced with reference to the physical world through the session on "Climate Change". In the past, I have considered that we had to live with the climate as it happened: there wasn't much we could do about it. However, papers at this conference showed that droughts can be forecast, at least to some extent, and these forecasts used to evade some of their worst effects on the people and the land. Ensuing sessions then dealt with the importance of stocking strategies through sessions on "Changing Landscapes" and "Changing Grazing Management". These sessions highlighted the particular needs to vary grazing pressure according to rainfall and to control total grazing pressure.

The flexibility to integrate grazing with marginal cropping in the interzone between the safe cropping and more arid grazing areas was recognised in the session on "Changes in the Pastoral/Cropping Zone". However, increasing damage to the soil resource associated with cropping was now becoming apparent and must be addressed as part of avoiding ruin of the land.

The future, therefore, offers some hope that we will be able to link our grazing and cropping management with predictions of above or below average rainfall.

The theme of change then moved to economic and social issues in the rangelands. Particular issues included community attitudes and expectations, the importance of economic structures from the international to the regional scale which have an influence on the rangelands, and how our own attitudes might change.

This conference also provided the opportunity for many delegates to present their work through posters with almost 100 on display. Most were of a technical and detailed nature,

while many were directed towards land damage or avoiding its ruin.

This conference has been clearly a great success. There was a great fund of new ideas presented by good speakers. There was also a wide range of topics covered, as is appropriate for improving land management in the rangelands. The attendance of members was large (300 attendees: membership < 500), providing excellent interaction and exchange of information at the personal level. On top of that, the organisation of the conference was excellent.

However, it was apparent that the information presented was very general. It was more a forum of new ideas, rather than a prescription for action. This is perhaps as it should be, given that it is a national conference, and action occurs mainly at a regional and local level. The challenge, therefore, to the delegates, is to take this fund of new ideas back to your workplace and apply them to local problems. The challenge is to focus that application on avoiding the "ruin" that seems to be an ever present threat in the rangelands. The long-term challenge is to return to some future conference and change the theme of "Said Hanrahan" to:

**"We'll all be rich," said Tony Grice,  
"Before the year is out".**

---

## THE '92 CONFERENCE ORGANISERS' PERSPECTIVE

*Russel Harland, Secretary, Organising Committee, PO  
Box 211, Cobar NSW 2835*

The morning of 5th October dawned overcast after rain during the weekend. Here was the moment of truth for the band of people charged with responsibility for organising the 7th Biennial Conference of the ARS. Fortunately, the weather cleared and the conference likewise appeared to shine. There were a number of things we could have done better and we shall pass these tips on to the next committee. On the whole though, from comments received, the conference was largely successful in achieving its aims whilst at the same time, giving people the required standard of social enjoyment - long held as a tradition amongst those who work in the rangelands.

For those who love statistics:

|                          |     |
|--------------------------|-----|
| the total attendance was | 310 |
| grazier attendance       | 35  |

I have not yet worked out many of the other statistics but from categorising the evaluation sheets, over half the delegates were researchers. On the financial front, there will be a substantial surplus to hand back to the Society's coffers.

This was my third conference as a member of the Society. It is apparent to me that the Society is still on a learning curve, with each conference a slight improvement on the last. I have no doubt that the '94 conference in Katherine will see further improvements and I would recommend that you attend it.

## LEGALISATION OF KANGAROO MEAT FOR HUMAN CONSUMPTION

### Resolution of Delegates to the 7th Biennial Conference

(Ed. Dr John Pickard forwarded this Resolution for inclusion in the RMN. There is presently a Bill before the NSW Parliament to legalise kangaroo meat for human consumption. Following discussion at the recent Biennial Conference held in Cobar, this letter was sent to the Rev. Nile and other politicians.)

The Reverend The Honourable Frederick Nile MLC  
Legislative Council of New South Wales  
Parliament House  
Macquarie Street  
Sydney NSW 2000

**Dear Mr Nile**

*Legalisation of kangaroo meat for human consumption*

1. The 320 graziers, land administrators and rangeland scientists at the 7th Biennial Conference of the Australian Rangeland Society strongly urge you to support the government bill to legalise human consumption of kangaroo meat in New South Wales.
2. Available data from both graziers and scientifically designed surveys show that kangaroo numbers in western New South Wales are increasing despite the approved cull.
3. Scientific evidence demonstrates that these high numbers are inhibiting regeneration of the rangelands.
4. Kangaroos (Red, Western Grey, Eastern Grey and Euros) are in no danger of extinction in the semi-arid rangelands of New South Wales.
5. There is ample evidence that kangaroo meat is low in fat and cholesterol. There is no scientific evidence that properly harvested kangaroo meat poses any danger to humans from disease or parasites.
6. It is inconsistent that residents of New South Wales must travel to South Australia, the Australian Capital Territory, Germany or Japan to eat kangaroo meat harvested in this state.
7. Grazer participation is essential for the future of both kangaroos and all biodiversity in the rangelands. However, the ability of graziers to participate in off-reserve conservation is restricted by their financial problems. Legalising human consumption of kangaroo meat will encourage some harvesting of kangaroos and thus contribute to the finances of graziers.
8. Environmental management of the rangelands must involve managing all animals - domestic, feral and native - living on the rangelands. All herbivores on the rangelands should be managed

to encourage and enhance the survival of the graziers, the biodiversity and the ecosystems.

9. In summary, we believe there is no good reason to oppose the bill, but many cogent reasons to support it. We strongly urge you to support the bill to legalise human consumption of kangaroo meat in New South Wales.

Yours sincerely,  
  
(signed) Dr John Pickard

on behalf of delegates to the 7th Biennial Conference of the Australian Rangelands Society.

Copies (for information) to:  
The Hon J Fahey (Premier)  
The Hon I Armstrong (Minister for Agriculture and Rural Affairs)  
The Hon C Hartcher (Minister for the Environment)  
Mr R Carr (Leader of the Opposition)  
Ms P Allan (Opposition Spokesperson on the Environment)  
Mr R Martin (Shadow Minister for Agriculture and Rural Affairs)

## PEST ANIMALS IN AUSTRALIA

### A Survey of Introduced Wild Animals

*George Wilson, Nick Dexter, Peter O'Brien, Mary Bomford*

Published by the Bureau of Rural Resources and Kangaroo Press

Twenty five exotic mammal species have become established in Australia in the last 4,000 years. They are major pests of agriculture and the environment, but are also a valuable resource. They now comprise some 10% of Australia's mammal fauna. These include deliberate introductions, such as cattle, pigs, horses, cats and dogs; game animals such as rabbits and foxes; and accidental introductions, amongst them mice and rats.

"Pest Animals" is the first national overview of the distribution and abundance of introduced mammals in Australia. The book includes a brief introduction and information on the ecology, behaviour, pest status, management and resource status and distribution maps of each species and has more than 50 full colour photographs.

The book can be obtained from the Bureau of Rural Resources at a cost of \$20.00 (which includes postage and handling). Please make cheques payable to the Bureau of Rural Resources and send to:

Deborah McLeod  
Bureau of Rural Resources  
PO Box E11  
Queen Victoria Terrace ACT 2600  
Telephone: (06) 2724092, Facsimile: (06) 2724533

## COBAR QUESTIONNAIRE RESULTS

*Greg Campbell, Honorary Secretary, PO Box 596, Alice Springs NT 0871*

Thanks to all of you at the Cobar conference who took the trouble to fill in the questionnaire on Society activities. Bruce Strong and I have made a quick tally of replies to give you some idea of the views held by respondents. Firstly, out of 300-odd participants at the conference, only 96 placed their completed forms in the appropriate box. Nine of the forms relating to impressions of the conference itself were also found in this box, researchers and advisory officers distinguishing themselves as the main culprits not able to follow instructions. There were also two condoms (packaged) and we were unsure how to rate this contribution (Ed. perhaps that is one way of protecting the rangelands). Of the 96 returns, 76 were made by society members, 18 were not, and 2 were not sure.

The responses are as follows:

| Question asked                                 | Replies | Yes% |    |
|--|---------|------|----|
| Include the title of Fellow into membership?   | 86      | 71   | 83 |
| Replace Honorary Member with Fellow?           | 86      | 53   | 62 |
| Do you receive or have access to the Journal?  | 96      | 89   | 93 |
| Do you like the Journal's design and format?   | 87      | 77   | 89 |
| Do you want more rigorous refereeing?          | 88      | 70   | 80 |
| Do you like the idea of special theme issues?  | 91      | 85   | 93 |
| Should we keep our own journal?                | 93      | 84   | 90 |
| Should we have more promotion of the Society?  | 95      | 94   | 99 |
| Promotion of the Society at conferences?       | 90      | 88   | 98 |
| Promotion of the Society through paid adverts? | 86      | 75   | 87 |
| Promotion through other means?                 | 61      | 57   | 93 |
| Prefer Townsville as IRC venue, 1999?          | 86      | 55   | 64 |
| Should the current award schemes continue?     | 90      | 62   | 69 |
| Should the schemes be made more attractive?    | 53      | 35   | 66 |

Over the coming months, Council will be considering these points of view, along with the numerous comments included on the returns. This will ensure that the Society remains relevant to its existing members and its activities are promoted so that others with rangeland interests are encouraged to join or interact for the benefit of rangelands.



## KANGAROO POLICY GROUP

*Greg Campbell, Honorary Secretary, PO Box 596, Alice Springs NT 0871*

During the recent Biennial Conference at Cobar, Bood Hickson, a grazier from north-west Queensland, requested "that the Australian Rangeland Society agree to examine the use of kangaroos as a complementary resource to domestic livestock to aid total grazing management in the rangelands". There was good support for this request and as a result, it is proposed that eight Society members will form a kangaroo policy group. They will review current recommendations and practices on kangaroo management, identify information gaps, and highlight inadequacies or discrepancies in existing legislation relating to kangaroo management. This review will form the basis of an Australian Rangeland Society position statement. Bood Hickson has volunteered to be the coordinator of the exercise and once sufficient information is collected, he will draw up a draft statement which will be circulated to the other policy group members for final presentation. It is expected that at least a draft should be ready for the March issue of the Range Management Newsletter, giving members the opportunity to comment. Any Society members with points of view, observations, or factual information which may assist in the development of this policy statement are urged to contact one of the policy group members whose names and contact details follow:

Bood Hickson (Grazier)

"Melinda"  
via Cloncurry  
QLD 4824  
Tel: 077 425983

John Pickard (Researcher)  
Grad. School of the Environ.  
Macquarie University  
Sydney NSW 2109  
Tel: 02 8057988  
Fax: 02 8057972

David Freudenberger (Researcher) CSIRO  
Div. of Wildl. and Ecology  
PO Box 84  
Lyneham ACT 2602  
Tel: 06 2421607  
Fax: 06 2414020

Les Lelievre (Grazier)  
"Tundulya" Louth NSW 2840  
Tel: 068 373808

Grant Norbury (Researcher)  
Ag. Protection Board  
PO Box 522  
Carnarvon WA 6701  
Tel: 099 418103  
Fax: 099 418334  
George Wilson (Researcher)

Bureau of Rural Resources  
PO Box E11  
Queen Victoria Tce  
Canberra ACT 2600  
Tel: 06 2724544  
Fax: 06 2724533

Mark Stafford Smith (Researcher)  
CSIRO  
Div. of Wildl. and Ecology  
PO Box 2111  
Alice Springs NT 0871  
Tel: 089 524255  
Fax: 089 529587

Allan Wilson  
(Grazier/Researcher)  
"Cal Col"  
Deniliquin NSW 2710  
Tel: 058 823338  
Fax: 058 823338

---

## LETTER TO THE EDITOR

### Australasian Society Proposal

*Bruce Alchin, University of Queensland Gatton College,  
Lawes Qld 4343*

Having just returned from running a short course with Dr Len Bahnisch on "Native Pastures and Rangeland Management" in West Timor for the Indonesia Australian Eastern Universities Project, I would like to make the following comments on Tony O'Brien's proposal presented in RMN 92/2:-

Rangeland science/rangeland management provides an excellent framework for an interdisciplinary approach to native vegetation. (Participants in the short course ranged from specialising in animal nutrition to agrostology.)

Whether there should be an amalgamation of the Rangeland Journal and the Tropical Grasslands Journal will no doubt spark some strong debate. However, there is an obvious overlap between the two fields. Would it be possible for the Rangeland Journal to run one issue on the theme of Tropical Grasslands? This may give some indication as to how the amalgamation would be received.

O'Brien's proposal for an Australasian Society deserves strong consideration. I am sure it would be a mutually beneficial arrangement for both Australia and its geographic neighbours.

## SPECIAL INTEREST REGISTER

Greg Campbell, Honorary Secretary, PO Box 596, Alice Springs NT 0871

During the “**Society Issues**” session at the recent Cobar Biennial Conference, it was suggested by a number of people that the Society should take more opportunity to comment upon specific issues of importance in the management of rangelands. It was felt by many that the Australian Rangeland Society, with its diverse membership, was the best body in Australia to present considered and rational information to government, research institutions and other interest groups, on subjects related to rangelands. It was suggested by Dr Ken Hodgkinson of CSIRO that one mechanism for making considered comment on issues was to have a register of people prepared to contribute expertise or information on issues which may arise. This would allow comment to be made when there is insufficient time to circulate details to members through the Range Management Newsletter. Following this suggestion, a number of people volunteered to be on the register as contacts for various topics should Society comment or position statements be required. To formalise things a little more, and to give Council some idea of the interest for this mechanism, I am proposing a number of subject areas and inviting members to put their names forward if they have skills or interests in these areas. If you can suggest other areas of importance, please do.

### Possible Areas of Special Interest

#### Vertebrate Pest Research

- Kangaroos
- Rabbits
- Goats
- Foxes
- Dingoes

#### Rangeland Monitoring

#### Rangeland Rehabilitation

#### Resource Mapping/Inventory

#### Pasture Improvement and Management

#### Livestock Husbandry and Management

- Sheep
- Cattle

#### Woody Weeds

#### Landcare/Rangecare

#### Agricultural Communication and Extension

#### Property Management Planning

#### Land Tenure and Administration

#### Flora and Fauna Conservation

#### Tourism

#### Mining

#### Aboriginal Land Management

#### Climate Change

#### Economics/Finances

#### Research Funding

#### Qualifications - Professional Accreditation - Training

If you wish to be on the register (or make suggestions), please forward your name, contact details and area of interest/expertise to me at the above address.

## LETTER TO THE EDITOR

### Rewards, ARS Logo and Society Promotion

David Eldridge, Graduate School of the Environment, Macquarie University, Sydney NSW 2109

I have been thinking for some time now about how the Society might reward members who do more than their fair share of Society business. It was suggested by some members that an incentive might be the waiving of subscriptions as a reward for service. I feel that this would be demeaning and would devalue the work of the many members who have put in a lot of work over the years for little or no gain. What I would like to flag with the membership, and suggest to Council, is that we issue **Certificates of Merit**. This is something which other organisations and some State Agencies already give to their members or employees as tokens of appreciation for meritorious service. The bestowal of a Certificate of Merit might be made to individuals who have spent a large amount of time on subcommittees, or who have organised a conference, or perhaps to Associate Editors of the Journal. Certificates could be bestowed on individuals at a conference or AGM in a similar fashion to the Honorary Membership awards.

The design of such a certificate of merit brings me to the next point. I feel that we desperately need a new **logo** for the Society, and something with which members will readily identify. The Trailboss is synonymous with the Society for Range Management in the United States, but all that our Society has is a somewhat stylised version of the map of Australia. Perhaps Council could consider developing a logo for the Society, with a competition and prize for the best logo. First prize might include a week for two in Cobar, and two weeks for two for the runners up! A colleague of mine has already suggested that a *Triodia* hummock might be incorporated in the new logo: it is quintessentially Australian and conjures up images of the arid zone, traditional ownership and fire ecology while its circular shape depicts the cyclic nature of our climate. Whatever the logo, once it has been designed and it is something which we can all relate to, we can start to promote ourselves more actively.

On the matter of promotion and advertising, I was very impressed by the way the Society for Range Management organised a stall and display at the American Institute of Biological Sciences conference in San Antonio, Texas last year. They sold t-shirts, stickers, badges, books and posters, thereby actively improving their image, attracting new members and improving cash flow. Why not ARS t-shirts with our new logo?

This brings me to my last point. We all need to be more active in **publicising** the Society at other meetings, particularly those overseas. Council might like to consider holding a stall at the next IRC in Salt Lake City in 1995. I believe that it is only fitting for members to do their bit, especially those who receive financial assistance from the Society.

So if you think that your logo is just what we need, then put pen to paper and get organised. That weekend in Cobar could be just around the corner.

(Ed. Council informs me that they want your opinions on the issues that David has raised. Please direct your responses directly to Council, or to me if you want them published.)

---

## LETTER TO THE EDITOR

### Rents: Reasonable, Rip-off or Rort

*Allan Wilson, "Cal Col", Deniliquin NSW 2710*

John Pickard presented a paper at the Biennial Conference at Cobar under the above title, which generated much heat but not much understanding. He showed that rents were not high (in the Western Division of NSW) in relation to other costs of running a lease, and had been more or less stable in real terms since the system started in 1901. He concluded that rents were far too low and that the NSW public were subsidizing the landholders. This conclusion was widely reported in NSW papers and on radio.

But one can be misled by different meanings of even common words. The wool tax is not a tax at all, but a market support levy. The Rural Lands Protection Boards concentrate their efforts on sheep and vermin, with a little on weeds, but don't do much on land protection. I think that rent in this case doesn't mean rent in the common usage of the word, as in rent for a flat.

Western Lands leases are perpetual and transfer at prices dictated by the market. Thus, a grazier pays the going price for land in addition to the annual rent paid to Government. The system may have started in a different way, but that is the present reality. The difference between the actual rent and the real rent has been capitalized into the value of the land. The rent payment is thus equivalent to a licence fee paid for the right to graze on a restricted basis. It is more similar to a taxi licence than to a house rent. The issue should be discussed more in relation to Government costs of administration and private v. public benefit. One could also examine whether the administrative system, which is financed by the licence fees, is actually achieving a nett benefit for the people of the State.

I therefore believe that the paper did not address the issue adequately. No conclusions are possible from the information presented. I hope that a more balanced paper can be presented at a future conference and that our grazier members will use the Newsletter to present other points of view.

## LETTER TO THE EDITOR

(Ed. In RMN 92/2, Brendan Lay reported that a resolution of the recent Arid Lands Administrator's Conference was to develop a National Rangelands Strategy. The following is a copy of a letter forwarded to Mr Nicholas Newland by Bood Hickson, a grazier near Cloncurry. Mr Newland, who is director of the Conservation Land Management Division of the SA Department of Environment and Planning, convened a meeting of State and Territory rangeland representatives in Adelaide in mid August to initiate the development of such a strategy. RMN readers may be aware of Bood's interests and activities in the Landcare movement.)

### National Rangelands Strategy

*Bood Hickson, "Melinda", Cloncurry, Qld 4824*

I write concerning the development of a National Rangelands Strategy. I congratulate you and your colleagues for proposing such an initiative, and believe such a proposal given due thought, consultation and explanation, would be of benefit to most inhabitants of arid and semi-arid Australia.

It is essential to clearly define what is meant by a National Rangelands Strategy, to dispose of the perceived territorial threats and misunderstandings. Where should its terms of reference begin and end? Should it be confined to sustainable agriculture, land utilisation or be even more broadly based?

In 1990, as the Rangelands and Landcare Groups' representative on the Queensland Landcare Council, I made several appeals to the Landcare community of Queensland not to follow the traditional Federal/State/Shire hierarchical model. I believe this tiered structure is largely responsible for many of the problems Landcare is now attempting to rectify. I argued that State boundaries had limited geographical relevance to Landcare, and that the State administrative layer should be shifted to the regions where watershed, climate, industry and local knowledge greatly helped to define the scope and detail of projects and initiatives.

My primary concern was that State forums are too far removed from most Landcare practitioners. If the regions could be made the key interchange between practical and political Landcare, there would be a real chance of drawing the two together. This would enable motivated individuals to participate in discussion and the development of strategies and action plans. Integrated Catchment Management has been proposed as a method of dealing with regional matters, yet in Queensland, only a few high profile coastal watersheds have been targeted to date. Consequently, I believe that the National Rangelands Strategy should be developed by rangelands inhabitants and not administrators in remote capital cities. The submissions and comments of any interested organisations or individuals living outside the rangelands should be encouraged.

Our rangelands are truly unique, and constitute one of the largest remaining wilderness areas on the planet. Despite

areas of severe soil erosion, dryland salinity and exotic plant and animal invasion, much of the rangelands remain in a relatively pristine condition; at least for the moment. With the expansion of permanent waters and communications links, the extremely arduous conditions that once protected our rangelands from over-population by man or animal are being overcome. This leaves the brittle landscape increasingly exposed to traditional as well as new forms of land degradation.

The National Rangelands Strategy needs to address the most fundamental issue facing the rangelands - what populations can the rangelands sustainably support? Most issues concerning rangelands management are dependant on this key factor and include:

- determining the productive and intrinsic value of the rangelands;
- methods of diversifying land utilisation;
- the maintenance of timber, pastures and soil resources;
- and the control and eradication of animal and plant pests.

The National Rangelands Strategy would also need to counter state and local government inconsistencies, by fusing together cooperative policy and action plans. This raises the crucial issue of administration - how can the rangelands be better managed? Administrative issues that need to be addressed include:

- securing appropriate amounts of funding;
- establishing cooperative research and extension programs;
- the development of more functional communication channels; and
- the education of all Australians, especially State and Federal Governments, of the issues threatening the rangelands.

The Rangelands Society conference in Cobar in October would be a most appropriate forum to gain additional input on the purpose and scope of a National Rangelands Strategy.

---

## DID YOU HEAR THE ONE ABOUT?

- the Territorians returning to the arid interior from the Cobar conference who ignored the old adage - "you never camp in a dry creekbed". Without a cloud in the sky, this group decided to camp in the Wilpena Creek on the eastern side of the Flinders Ranges. At about 4 AM, they were woken by the sound of a roaring wind - but the leaves weren't moving. He who was furthest upstream was then greeted by a wall of bubbling foam racing over his swag. The group gathered swags and bolted for the bank but then had to retrieve the vehicle which was by this time surrounded by rising floodwaters. Fortunately, all was saved apart from swag straps and a pair of shoes.

Apparently, heavy rains had fallen in the Wilpena Pound area on the previous day and it had taken at least 12 hours for the floodwaters to catch our Cobar companions napping. I hear tell that next time, they will camp amidst the abundant prickles to ensure a good night's sleep.

## LETTER TO THE EDITOR

### Rangeland Society Scholarship

*Geoff Gaskell, Northern Territory Rural College, PO Box 1196, Katherine NT 0851*

I read with interest the column "Some Hard Questions from Our Treasurer" in the July 92 edition of the Newsletter.

I agree with Bruce Strong that we would be looking to potential future members such as students and pastoralist's sons and daughters. I would like to pick up on his suggestion (albeit in question form) that a scholarship be provided at a College or University that provides a rangeland-related course.

Northern Territory Rural College offers an Associate Diploma of Applied Science (Tropical Beef Cattle Management) which has a substantial rangeland management content. It can be expected that graduates of this course will have a major influence on the management of pastoral areas in the future.

I propose that the Australian Rangeland Society considers providing a scholarship or prize for this course - e.g. a scholarship for an applicant from a pastoral property who perhaps does not qualify for Austudy, and/or a prize for the best student in Rangeland Management and associated areas over the two years of the course.

I believe that such a scholarship or prize would assist in promoting the goals of the Rangeland Society while improving its public profile, and perhaps help the Rural College in attracting more students from pastoral properties into the Associate Diploma.

The value of the scholarship or prize could be discussed with us if there is agreement in principle with the proposal.

(Ed. Geoff supplied details of the Associate Diploma course to Council in support of the College's application. These have not been reproduced here but can be obtained from Geoff at the above address.)



# APPLICATION ABSTRACTS THE RANGELAND JOURNAL

Vol 14 No 1 1992

## An Electrified Watering Trough that Selectively Excludes Kangaroos

G.L. Norbury

Agricultural Protection Board of Western Australia, PO  
Box 522, Carnarvon WA 6701

There is general agreement that populations of large kangaroos in the arid and semi-arid rangelands have increased because of the expansion of usable habitat that has resulted from the provision of permanent water supplies. A more effective control technique than commercial harvesting may be one that addresses the supply of managed water. This study examines the effectiveness of a selective watering device, known as a 'Finlayson Trough', that was designed by Mr. Allan Finlayson to exclude kangaroos but allow sheep to drink. The device is a low-lying electric wire that surrounds a trough and is overstepped by sheep but contacted by a kangaroo's feet or tail.

Of the 292 observed attempts at drinking by red kangaroos (*Macropus rufus*), 99% were unsuccessful. Most shocks were received through the feet. Initially, there was a build-up of kangaroo numbers around the troughs followed by a rapid decline several days later. Of the 309 observed attempts at drinking by sheep, minor shocks to the legs were received in 17% of cases. These resulted in only short-term disruptions to drinking.

Finlayson troughs could be used humanely to facilitate commercial kangaroo harvesting by exploiting local concentrations of kangaroos around watering points; to control the distribution of kangaroos in sensitive regenerating areas; or, by gradual implementation, to allow kangaroos to adjust their behaviour to accommodate fewer artificial watering points.

## Property Size and Rangeland Degradation in the Queensland Mulga Rangelands

J.G.I. Passmore and C.G. Brown

Queensland Department of Primary Industries, GPO Box 46,  
Brisbane QLD 4001

Small property size is often cited as one of the major causes of rangeland degradation in Australia. However, there is some conjecture as to the importance of this effect and the process by which small property sizes lead to rangeland degradation. Relatively little empirical analysis of these issues has been undertaken, especially in a dynamic context which is all important in the case of rangeland degradation.

Regression and dynamic programming techniques are employed in this study to investigate and measure the impact of property sizes on the use and state of one of Australia's most important rangelands, the Queensland mulga rangeland. Regression analysis of cross-sectional data reveals significant correlations between property size, stocking rate and degradation. These correlations are confirmed using statistical models which demonstrate that it is economically optimal for graziers managing smaller properties to adopt higher stocking rates. For these graziers, the long-term costs of land degradation are exceeded by short-term financial benefits of heavier stocking. Thus, government policy aimed at arresting the serious degradation occurring in the mulga rangelands should focus on measures to facilitate property build-up.

## Runoff and Sediment Yield from a Semi-arid Woodland in Eastern Australia. 1. The Effect of Pasture Type

D.J. Eldridge<sup>1</sup> and J. Rother<sup>2</sup>

<sup>1</sup> Graduate School of the Environment, Macquarie  
University NSW 2109

<sup>2</sup> Department of Planning, 175 Liverpool St, Sydney NSW  
2000

Some hydrological characteristics of a red earth soil were examined under two pasture types at Yathong in central-western New South Wales using simulated rainfall. Runoff and rate of sediment loss from plots dominated by perennial grasses were lower than for plots dominated by ephemerals. Time-to-ponding was less on the plots dominated by ephemerals but time-to-runoff was similar for both pasture types. On both grass and ephemeral-dominant soils, measured soil and vegetation attributes explained very little of the variation in runoff and sediment yield. The results do not support the existence of a threshold level of vegetation cover below which runoff increases markedly.

## Vegetation Cover Classes and Soil Nutrient Status of the Mulga Lands of South West Queensland

D.E. Baker<sup>1</sup>, R.L. Miles<sup>2</sup> and V.J. Eldershaw<sup>1</sup>

<sup>1</sup> Agricultural Chemistry Branch, Department of Primary  
Industries, Meiers Road, Indooroopilly QLD 4068

<sup>2</sup> Land Resources Branch, Department of Primary Industries,  
Bundaberg QLD 4670

About 30% of the semi-arid mulga lands of south west Queensland are subject to degradation from both erosion and woody weeds. In a limited study of the nutrient status of the acid red earths, it was found that the phosphorus levels of the topsoil reflect the type of vegetative cover (or degree of degradation). The results indicate that the soils are acid (pH < 6.5) and low in available phosphorus (7 to 12 ppm). Phosphorus is seen as critical to the long-term viability of the mulga lands.

The study highlights the need for management practices which maintain the phosphorus levels. Eroded areas will prove difficult to rehabilitate without techniques which increase the phosphorus status. However, the results of this study show that there is no soil nutrient deficiency which would prevent the rehabilitation of land covered by turkey bush.

Management should avoid practices, such as very hot fires, which lower the P level or increase the acidity of these lateritic red earths.

## **Germination of *Piptochaetium napostaense* (Speg.) Hackel and *Stipa tenuis* Phil. and Seedling Survival under Field Conditions**

*R.A Distel, D.V. Pelae and O.A Fernandez*

Universidad Nacional del Sur, 8000 Bahia Blanca, Argentina

*Piptochaetium napostaense* (Speg.) Hackel and *Stipa tenuis* Phil. are the most prominent perennial grasses of the Calden District of Argentina, accounting for more than 75% of the total herbaceous plant cover and an average of 95% of the total perennial herbaceous biomass. The objectives of the present work were to investigate germination in *P. napostaense* and *S. tenuis* under laboratory conditions and to evaluate the effects of plant canopy cover on seedling emergence and survival in the field.

The germination percentage of *P. napostaense* and *S. tenuis* increased significantly when the lemma and palea were removed from freshly harvested seeds, when seeds were stored under dry conditions at a daily alternating regime of 9 hours at 20° C and 15 hours at 40° C for 49 days, and when seeds were stored under natural conditions at sites with low plant canopy cover for 50-70 days. Germination also increased when the dry storage period under laboratory conditions was extended. Seventy percent of seedlings of both species emerged in autumn and the rest emerged late in the winter. Soil temperatures recorded at 2 PM in the grazed, low-plant canopy site were higher than those recorded in the ungrazed, high-plant canopy cover site. Seedling mortality in *P. napostaense* and *S. tenuis* occurred mainly during the first 8-10 months of life, and was greater under ungrazed conditions. These results are important in the proper management of the rangelands where these species are major components.

## **PASTORALIST WINS IBIS AWARD**

*Gary Bastin, CSIRO, PO Box 2111, Alice Springs NT 0871*

(This short note has been written using information extracted from the August 1992 edition of "Outback", a Newsletter published by the SA Department of Environment and Planning.)

RMN 91/2 featured two pastoralists who had shown great commitment in their determination to eradicate rabbits on their respective pastoral leases. One of those pastoralists, Mr Dean Rasheed of Arkaba Station in the Flinders Ranges, has won the 1992 Commonwealth Development Bank's Ibis Award for South Australia. This award recognises successful commercial primary production combined with nature conservation.

Judges for the award, who came from the Commonwealth Development Bank, SA Department of Environment and Planning, Department of Agriculture and the United Farmers and Stockowners, commended the organised way in which rabbit eradication had taken place on Arkaba, and also noted the efforts made to reduce feral goat numbers. Over the past seven years, the Rasheeds have increased stock numbers from 4,000 to 8,000 sheep through successful rabbit control. This has been achieved through the ripping of thousands of warrens on the 25,000 hectare station. Much fencing has been realigned and there has been a significant water conservation program implemented. Goat control is proceeding through a cooperative program with 13 other landholders in the region.

As the 1992 State winner, the Rasheeds receive an overseas study tour to the value of \$4,000. In progressing to the State award, they also receive \$1,000 in prize money as one of the six SA regional winners.

I am sure that I speak for all members of the Rangeland Society in congratulating the Rasheeds on their win. Their commitment to improving the rangelands is to be applauded.

## FROM THE PRESIDENT

*Bill Low, PO Box 596, Alice Springs NT 0871*

The Rangelands Conference in Cobar has come and gone. I thought it was a very successful meeting which particularly allowed members with a diversity of interests to come together and effectively communicate. Participants included pastoralists, researchers, economists, conservationists and miners and each section helped to focus on the diversity of problems the rangelands face. There was lack of agreement on some issues, but through communication, delegates did have the opportunity to learn about the complexity of problems facing different sections of the rangeland community. The main problems appear to be uncertainty of the future, declining productivity and profitability, and an increasing need for alternative/multiple use of the semi-arid lands. Greg Campbell has reported in more detail elsewhere in this Newsletter on many of the issues covered at the conference. The Organising Committee deserve a strong vote of thanks for a well run conference. The spouses of the organizers should also be thanked for their patience and sacrifice.

Conference delegates agreed that Katherine was the preferred choice for the 1994 Biennial ARS Conference. Secretary, Greg Campbell, has received formal indications of support from heads of NT Government agencies for this Conference. At the recent North West Pastoral Conference in Katherine, I received enthusiastic support from the locals and moves are underway to form an Organizing Committee. Size of venue will probably restrict the numbers accommodated so participants will need to register early.

Council will be considering applications for the Society awards at its December meeting. These awards are designed to assist members in attending useful conferences or to undertake studies related to rangeland science. They are worth up to \$2000 depending on merit, need and available funds. Dennis Barber spelled out details of the awards in RMN 91/2 (July 1991). For those considering applying in 1993, written applications should include details on the proposed conference or area of study, and provide a breakdown of the anticipated costs. You should also indicate the benefits that might accrue to you or the Society. If you have difficulty in putting words on paper, contact a member in the research or administration area and get his or her help in writing out the 500 (preferably less!) word application. Further details are available from the Secretary whose address is inside the front cover.

The AGM will be held in Alice Springs towards the end of May, 1993 and will include a motion to change the constitution to allow for Fellows. If you weren't at the Cobar conference and have comments you want to pass on, please do it quickly so that they can be considered during the drafting of amendments to the constitution. Also, if you will be in Alice Springs at that time, we would welcome you at the AGM and a following seminar. West Australia will host the Federal Council from 1993 to 1995 with Alec Holm presently the Vice President for the incoming State.

## MANAGING NATIVE PASTURES

### A New Booklet For All Graziers

*Piet Filet, Department of Primary Industry, Locked Mailbag 6, Emerald, QLD 4720*

All graziers in Queensland have recently received this free booklet in the post. With generous financial support from the National Soil Conservation Program, Ian Partridge (Pasture Agronomist, QDPI, Toowoomba) together with colleagues from throughout the State have put together the important principles for managing Queensland's native pasture grazing lands.

Native pastures cover more than 90% of the grazing land in Queensland and are the basis of efficient and low-cost pastoral industries. "*Managing Native Pastures*" is a guide to maintaining or improving the condition and productivity of native pastures.

Written in a readable question and answer style, and illustrated with colour photographs or line drawings, the book describes:

- the effects of grazing on plants;
- the effects of stocking on animals and pastures;
- the signs and causes of poor pasture condition;
- the principles of good grazing management;
- integrating other feed supplies;
- drought management to protect pastures and stock;
- property planning for fencing, water and access;
- the costs of lowering stocking rates;
- decision help from computer programs;
- monitoring the condition of native pastures.

Copies of the booklet are available for \$14 (including postage and handling) from:

Publishing Services  
QDPI  
GPO Box 46  
Brisbane QLD 4001

## NEW MEMBERS

---

Carolyn Ireland  
13 Woodland Close  
Aldgate, SA 5154

Sharon Weir  
NSW Agriculture  
PO Box 865  
Dubbo, NSW 2830

John E Brommell  
11 Radbone Rd  
Bridgewater, SA 5155

David G Phelps  
Arid Zone Institute  
PO Box 519  
Longreach, QLD 4730

Sean Miller  
QLD Dept Primary Industry  
PO Box 282  
Charleville, QLD 4470

Dr Mohammad Arshad  
5 Poole St  
Kellyville, NSW 2153

Roger L O'Dwyer  
214 Kent St  
Rockingham Beach, WA 6168

Kathryn Ford  
Dept Wool & Animal Science  
University Of NSW  
PO Box 1  
Kensington, NSW 2033

Abdulaziz M Assaeed  
King Saud University,  
Agricultural College  
PO Box 2460  
Riyadh 11451 Saudi Arabia

Bruce A Wilson  
QLD Dept Environment & Heritage  
PO Box 42  
Kenmore, QLD 4069

Hassall & Associates  
GPO Box 4625  
Sydney, NSW 2001

Andrew J Ash  
CSIRO Tropical Crops & Pastures  
PMB Aitkenvale, QLD 4814

Kieran G Rodgers  
PO Box R750  
Royal Exchange  
Sydney, NSW 2000

David Robson  
Dept Conservation & Land Management  
PO Box 393  
Bourke, NSW 2840

Clive McAlpine  
60 Queensborough Pde  
Karalee, QLD 4306

Raymond L Ison  
School Of Crop Sciences  
University of Sydney, NSW 2006

Andrew L Sippel  
129 Moss Street  
Narromine, NSW 2821

Geoff Harris  
PO Box 2796  
Alice Springs, NT 0871

Christine J Edgoose  
11 Gardenia Court  
Alice Springs, NT 0870

Environmental Protection Agency  
Locked Bag 1502  
Bankstown, NSW 2200

Martin Born  
27 Bilga Crescent  
Malabar Heights, NSW 2036

Pete W Jacoby, Jr  
Texas Agricultural Research Stn  
PO Box 1658  
Vernon, TX 76384 USA

Wendy Sysouphat  
Whyalla Campus  
University of SA  
Nicolson Avenue  
Whyalla Norrie, SA 5608

John Bushell  
Arid Zone Institute, QDPI  
PO Box 519  
Longreach, QLD 4730

Dr Michael Flynn  
"Valera Vale"  
Charleville, QLD 4470

The Pastoral Officer  
Dept Lands & Housing  
PO Box 1596  
Alice Springs, NT 0871

Julian Reid  
CSIRO Wildlife & Ecology  
PO Box 2111  
Alice Springs, NT 0871

Sarah A Strutt  
PO Box 924  
Kununurra, NT 6743

Sylvia E Warren  
"Talbalba"  
Bourke, NSW 2840

Michael J Clarke  
Greening Australia  
PO Box 1604  
Darwin, NT 0801

Malcolm D Kirk  
Currawinya National Park  
Hungerford  
Via Cunnamulla, QLD 4490

F.T. Humphery  
PO Box 471  
Longreach, QLD 4730

Margaret Welsh  
C/- Arkaroola Pty Ltd  
50 Pirie St  
Adelaide, SA 5000

Tony MacDonald  
"Kaleno"  
Cobar, NSW 2835

Nicholas P Ryan  
7 Ridge Crt  
Mildura, VIC 3500

Robert R Rouda  
PO Box 226  
East Brunswick, VIC 3057

