



The Australian Rangeland Society

RANGE MANAGEMENT NEWSLETTER

An official publication of The Australian Rangeland Society

ISSN 0812-4930

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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).

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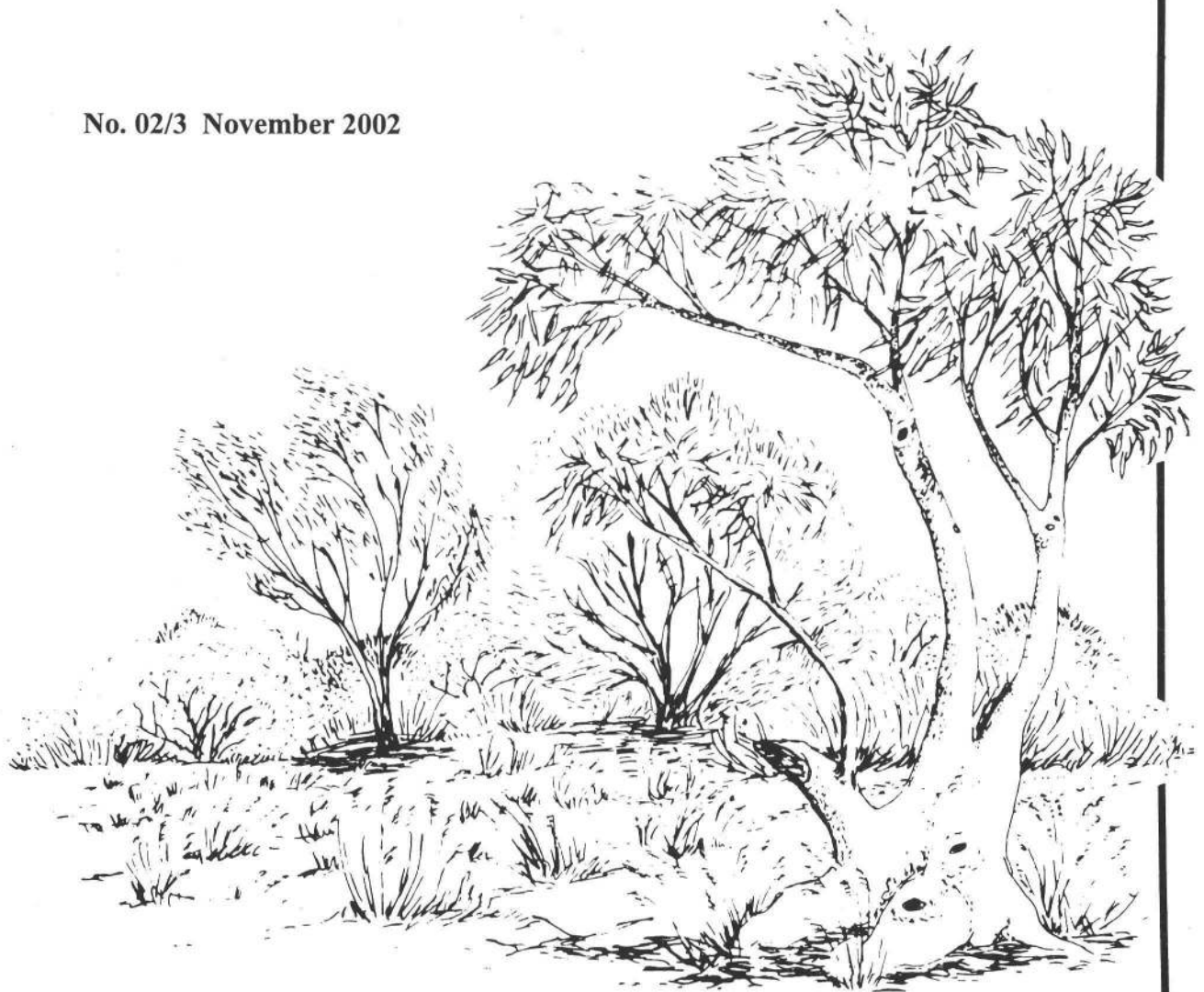


ISSN 0812-4930

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Range management Newsletter

No. 02/3 November 2002



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

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FROM THE EDITOR

Noelene Duckett, 7 Belcarra Place, The Woodlands, Texas, USA, 77382. Email: nduckett@ozemail.com.au

Welcome to another *Range Management Newsletter*.

This issue begins with a series of three short articles contributed by Australian rangeland specialists currently working overseas. Alec Holm describes his agricultural and humanitarian work in northern Iraq which he is undertaking through a United Nations program. Following this, Lachlan Ingram tells us about his studies in northern Wyoming. Lachlan has spent the last two years in Cheyenne working on a number of projects related to the reclamation of coal mined soils. Lastly, Peter Johnston describes his work and the general agricultural industries of the Falkland Islands. Peter has been in the Falkland Islands for the last two years and was appointed as Director of Agriculture earlier this year – slight change in climate from Queensland!

The newsletter also contains a number of articles of importance to ARS members. In response to the declining membership of the Society, Wal Whalley has written an article pointing out some clear benefits in being a member. He also highlights two decisions the Publications Committee have recently made in an attempt to increase membership. The first decision was to publish a list of members (see page 17 of this issue) – please encourage your friends with rangeland interests to join the Society if their name is not on the list. Also, note that next year the Society will begin levying page charges to non-members who publish in *The Rangeland Journal*. Hopefully both of these decisions will reverse the declining trend in ARS membership. Additional member information is also provided by Lachlan Pegler in his regular communication from Council.

By all reports, the recent Biennial Conference in Kalgoorlie was a great success with over 200 participants (including over 100 non-members). This issue includes an excellent conference summary article from David Wilcox, on behalf of the Organising Committee, and also feedback from two participants, Roger Landsberg and Helen Murphy.

Finally, the newsletter includes some short articles which I hope will be of interest to readers. There is information about the 75th anniversary of Koonamore Reserve in South Australia, a thesis abstract and our usual Information Snippets section.

Please keep sending in your contributions to the newsletter. While longer articles are always gratefully received, I am also interested in hearing about websites, reports or other information which may be of interest to newsletter readers. As the next issue is due out in March 2003, I would appreciate receiving any articles by late January.

In the meantime, I wish you all a happy and safe festive season. See you all in 2003.

AGRICULTURAL DEVELOPMENT AND HUMANITARIAN RELIEF IN NORTHERN IRAQ

Alec Holm, Rangeland Consultant, FAO, Erbil Iraq.
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Uncertain times

We live in uncertain times up here, from one week to the next and in the expectation of a forced evacuation at any time. On the other hand, the work is rewarding to any who take a 'can do' approach to the hugely challenging administrative, political, institutional constraints. I came initially with much apprehension and few expectations of what might be achieved on a six-month contract with the Food and Agriculture Organisation. I am now on my third contract and find great satisfaction in seeing the beginnings of direct results of our work – especially support to severely oppressed rural communities.

Oil for food

My project is part of the United Nations program to provide humanitarian relief and improve agricultural systems for the Kurdish people in the mountainous area bordering Iran/Turkey. This region has a long history of unrest – from the Islamic purges of the then mostly Assyrian people in the mid 1850's, to the most recent total destruction of over 2,500 villages by the Iraqi army less than 15 years ago. The three northern provinces of Iraq, locally referred to as Kurdistan, encompass about 40 000 km². Here the annual winter rainfall varies from about 300 mm in the south to over 1000 mm (including plenty of snow) in the higher mountains. The lower rainfall zone is the lowland with monocultures of wheat/barley with livestock grazing stubbles and some natural pastures – very similar to Western Australian wheatbelt. The mountainous region support deciduous oak forest, which have been cut down for fuel-wood over the past 30 years and is now low coppice regrowth over perennial grasses and annual legumes.

Our funding (i.e. for UN activities) depends on the Iraqi government complying with the 'oil for food' resolution UN SCR986 - whereby the UN agrees to Iraq exporting oil and in exchange it allows the import of food and other essential items for the local population. Part of the deal is that 13% of the total income must be spent in the Kurdistan region. This money (in contrast to almost every other program on which I have worked – availability of funds is definitely not a constraint) is administered directly by UN – which is different from the remainder of Iraq, which is administered by the GOI (Government of Iraq) with UN simply monitoring to make sure its used on approved projects. This 'oil for food' program began in 1996 and is rolled over every 6 months, subject to agreement by the GOI and UN – makes for tense times around renewal dates of November and May each year.



Photo 1: Alec (centre) with the project team in the mountains of Kurdistan, Iraq.

The local authorities are now doing it tough. Before the gulf war, an Iraqi Dinar was worth \$US 3.3 and public servants were very well paid. After the war and subsequent embargo the Dinar slipped to 90 to the \$US. The resumption of oil exports through UN resolution 986 in 1996 has seen the Dinar recover to about 14 to the \$US but public servants are still paid the same as in 1988 – so their ID400/month (which was a small fortune then) is now only worth about \$US25/month! The local authority buildings both here in the north and in the south are very dismal indeed. The UN 986 program is breathing life into the system and the lucky ones get the relatively well-paid UN jobs. Consequently, we get doctors, school teachers, headmasters, engineers all applying for any job going – e.g. drivers – because the salary, while not great, is still many times what they earn ‘outside’.

Cradle of civilization

Our location here, near the cities of Erbil (also spelt Arbil or Irbil) and Mosul, is adjacent to the foothills and valleys of the Zagros mountains, where caves served in ancient time as dwelling sites for prehistoric man. There is much archaeological evidence that the Kurdish mountains are the site of the invention of agriculture some 12 000 years ago where man moved from being a food-gatherer to a food producer thus enabling man to settle in urban ‘cities’. Many of the grasses and herbs I am collecting are the precursors of our modern wheat, barley, rye, oats, lentils and alfalfa. Fruit, nut and vines originated in this northern perimeter of the so-called ‘fertile crescent’. Sheep, goat, dog and pig appear to have been first domesticated here.

Erbil has not a lot going for it except for a man-made hill (‘tell’ – built up from countless cycles of mud-brick buildings) in the centre on which are the remains of an ancient ‘castle’ of many millennia ago where ancient pre-Christian religions (Cult of Angels) were practiced (and to some extent still are – people here still speak the original Chaldean and Assyrian languages). I am told Erbil gets a mention in the Old Testament, but I can’t find it, on the other hand nearby Mosul or Nineveh is mentioned many times – not very complementarily:

“Arise, go to **Nineveh**, that great city, and cry against it; for their wickedness is come up before me.

So Jonah arose, and went unto **Nineveh**, according to the word of the LORD. Now **Nineveh** was an exceeding great city of three days’ journey.

And Jonah began to enter into the city a day's journey, and he cried, and said, Yet forty days, and **Nineveh** shall be overthrown.

So the people of **Nineveh** believed God, and proclaimed a fast, and put on sackcloth, from the greatest of them even to the least of them.” (Jonah 1.2 – 3.5)

This act of repention didn’t save the city and it was completely raised shortly after, much as has continued to happen to many of the towns and villages around here ever since. We were talking to a village community recently who were rebuilding their homes for the third time in thirty years – typical story for most villages in this region.

We live in a little village, 5 km from Erbil, called Ainkawa, of perhaps 2000 people – most of whom are Christian. The Christians of Ainkawa are also the source of many of Australia’s ‘boat people’. Many simply walk out across the border into Turkey or Syria and beyond. Everyone here has a relation living in Melbourne or Sydney.

Community support, land use policy and even wildlife

I was recruited to develop a program for the rangeland, which covers about 22% of the area, but I am working increasingly on providing cross-sectoral support to disadvantaged rural communities. The work includes lots of *Rangeways* type activities – getting out and about to identify opportunities to improve the lives of rural communities while at the same time addressing the pressing environmental concerns.

During my first year here I concentrated on preparing a strategy for the FAO rangeland program in the north. The key components are:

1. Defining and implementing activities for rehabilitation and improved management of range/forest lands at village-scale and under village control that will provide employment for people in the short-term while providing long-term benefits to local and wider communities.
2. Improving management and rehabilitation of degraded ecosystems through an Integrated Catchment Management (ICM) approach to natural resource management.
3. Improving the knowledge base on natural resources of northern Iraq, their utilization, management and rehabilitation.
4. Assisting regional authorities develop a coordinated approach to sustainable use of the forest/rangeland.

I am now well into the implementation phase of this strategy. As mentioned above, I am putting a lot of energy into a pet project of mine that seeks to involve local

communities in planning and managing the implementation works to meet immediate needs. We can allocate up to \$US20,000 per village on these works which can be implemented directly without 'outside' approvals. I have three teams out and about surveying needs and preparing project proposals which now total over \$US500,000. These village communities survive on small sales of yoghurt, honey, fruit and vegetables and some of the most urgent requests are to do with upgrading orchards of pistachio, almond and grape vines – bit peripheral to rangeland, but we can usually include and pay for some rangeland or forest rehabilitation works and thus provide a direct cash injection into the community.

One part of my work is to assist local authorities define their objectives and clarify policy for management and use of the rangeland and forest of the north. There is concern about the ongoing degradation, but a pervasive attitude of helplessness in reversing this trend. While rehabilitation of degraded forest and rangeland is readily achieved, there is little point to this activity if there is no change in the underlying circumstances and attitudes that caused the degradation in the first place. There is a policy vacuum with regard to land use and its management. Consequently there are no clear objectives for use and management of the forest and rangeland. While the underlying legal framework for ensuring responsible management of the rangeland and forest is well drafted and adequate to meet all requirements, application of these laws is non-existent and traditional systems of grazing control have broken down through years of strife and conflict.

The local authorities are all keen to restore wildlife of which there used to be plenty – tiger, bear, wolf, deer, wild sheep etc. Our program has a humanitarian focus, so any work proposed for wildlife in earlier project submissions has simply been cut. Recently I was asked to for a proposal to use up \$US 2 million in unspent funds from an earlier aborted project. So I looked up all this interesting stuff on the Internet about community participation in wildlife/biodiversity management projects in Nepal, India and China and prepared a similar project for here. I called it "Community participation in rehabilitation of threatened high-country ecosystems". The project is now ready to roll and national consultants have completed an analysis of possible sites. This has given me the opportunity to get out to some fantastic places recommended by them as potential sites – I still haven't seen any wildlife except for two small tortoises and some fox and bear spoor, but the scenery and plant communities were just wonderful. It will be fantastic if we can get some of these areas under conservation management through local communities.

What now?

The UN 'oil for food' program has had a dramatic impact on life in six years. When the program started people were selling all their possessions just to survive and the immediate task was to avert starvation. Now the situation in the north (not the south) has vastly improved. This is reflected in the frenetic building boom across much of the north – houses (mansions in many cases – beautifully dressed in thin sheets of polished marble) going up everywhere and cost of land skyrocketing to 1000

Dinars/square meter (\$A100) for preferred areas. For the first time since 1991 electricity has been restored to all the main cities through the grid and, although only a few amperes, it is mostly on 24 hours a day. This partly due to the three dams on the tributaries of the Tigris River now overflowing and providing hydro-power following three drought years, but also to major works on power lines, transformers and whatever else. The economy up here is buoyant.

Nevertheless, there is a feeling that this is temporary and could at any time be lost as has been the case so many times before. I have attached a shot of a family of village children from up in the mountains – I look at each face and read all sorts of things into their likely futures. They face many challenges, but this country, rich in natural resources and once the centre of civilization, could once again be a 'garden of Eden'.



Photo 2: Village children from the mountains of Iraq.

RESEARCH IN MID-WESTERN USA

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Having completed my Ph.D. thesis (see abstract in this newsletter) at the University of Western Australia, I have been employed as a Post-Doctoral Research Associate in the Department of Renewable Resources at the University of Wyoming (UW) since November 2000. Although employed by UW, I currently reside, and work, at the USDA-Agricultural Research Service (ARS) High Plains Grasslands Research Station (HPGRS, or 'Happy Grass' as the station is affectionately known) in Cheyenne, Wyoming. Cheyenne, the capital of Wyoming, is about an hours drive east of Laramie, where UW is based.

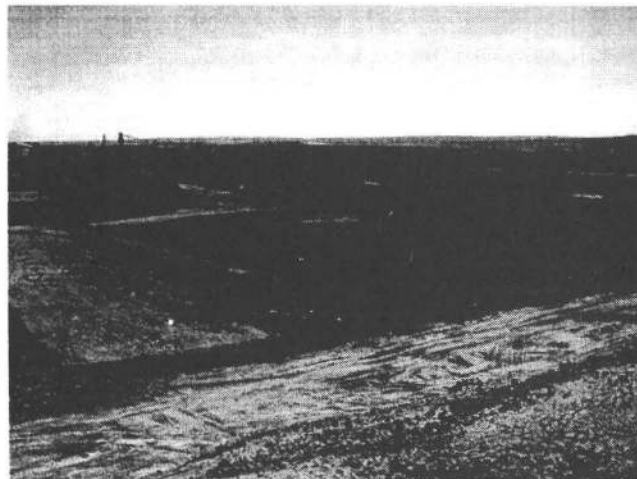
Wyoming (positioned between Colorado to the south, Montana to the North, Utah and Idaho to the west and Nebraska and Southern Dakota to the east) is the ninth largest State in the US, but in terms of population is the smallest of all 50 states with a population of just a tad under 500,00 people. The nickname of Wyoming is the 'Equality State' (although it is more generally referred to as the 'Cowboy' State) as it was the first state in the US (1869) to allow women to vote, hold public office and serve on juries. Cheyenne, the capital, which is located in the SE corner, has a population of around 70,000 people (including the Warren Air Force Base - however the base itself does not have an airport on it, as it exists purely as a command and control centre for the nuclear missile fleet located in Wyoming and a number of other surrounding states).

The climate takes a while to get used to (particularly in winter for an Aussie lad). The average maximum temperature in summer is about 28°C, with overnight lows of 13°C, while in the coldest month of January is max. 3°C, and the min. is -9°C. However what this does not indicate is the power of the wind, particularly in winter, to drop that temperature well and truly into the bitterly cold range (Cheyenne last year had the distinction of claiming the third windiest city in the US with an average wind speed of 22.5 km/hour), and has taken me a while to get used to (or as used to it as I'll ever get).

This set-up of being employed by the University but working on a ARS research station gives me a number of advantages. The predominant one is that it allows me to not only become involved with research undertaken by the UW but also become involved with research within the Rangeland Resources Research Unit (RRRU) group of which the HPGRS is one of three research locations (another lab and offices are based in Fort Collins, Colorado, and the Central Plains Experimental Range - a field research station located in Nunn, Colorado) which make up RRRU. As an aside, ARS is the federally funded (to the tune of just under US\$1 billion; and 8,000 employees) research arm of the USDA, and is charged with conducting agricultural research. Moreover much of the work undertaken by ARS is research which is unable (or unlikely) to be undertaken by universities, may be higher risk, or of a long-term nature (*i.e.* we have several ongoing grazing studies, of which one has been underway for approximately 65 years).

Almost all of the research that I am currently involved in at UW is based around coal mine reclamation. This springs from the fact that the Powder River Basin of northeast Wyoming is home to massive coal reserves (it is currently estimated that there is enough coal present in the Powder River to last the USA, at the present rates of consumption, about 260 years; see Photos 1 and 2). As much of this coal is stripped mined, reclamation of these areas is an important process, as a bond is required for each hectare of land disturbed (the amount of bond varies between mines, but one mine I work on puts up ~US\$90 m every year in bonds). Moreover for complete bond return (the bond is returned in stages *i.e.* after returning the disturbed land back to its original topography, planting, etc, and mines can apply for complete bond return ten years

after the land was first reclaimed), a sustainable ecosystem must be established that is compatible with its previous land use. In most cases this simply means that re-established ecosystem must be able to be grazed either by cattle or by wildlife. Wildlife habitat is a very important issue in much of mid-west USA, due to the great importance that hunting (sage grouse, prong-horn antelope, white tail and Mule deer, and to a lesser extent elk) has in many peoples lives here.



Photos 1 and 2: Field sites in the Powder River Basin of northeast Wyoming. The top photo shows a coal pit while the bottom photo is an example of reclaimed coal mine land.

The initial project that I was brought across to work on involves us examining, in reclaimed coal mine soils, the relationship between soil organic carbon and the ability of that soil to potentially provide enough nutrients (predominantly nitrogen) to sustain a reclaimed ecosystem. While this is a somewhat simplistic model, we feel that it will give us at least a ball park figure of the minimum amount of organic C required to maintain nutrient cycling in these reclaimed ecosystem. We are also examining the relationship between soil organic carbon and various other indicators of a healthy soil. These indicators include microbial respiration, microbial biomass and nitrogen mineralization (the conversion of organic nitrogen to

inorganic nitrogen, which is the form that plants require for uptake).

Additionally, two professors from UW and I recently received a grant from ACMLRP (Abandoned Coal Mine Land Reclamation Program) to investigate how various reclamation management techniques (*i.e.* mulching, grazing, shrubs and topsoil treatment) may influence carbon sequestration in reclaimed coal mine lands.

Finally I am supervising a Texan (so no one else can understand either of us, but we understand each other just fine) who is undertaking his Masters at UW. He has gone back to examine an old study that was set up 25 years ago (to examine the affect of varying the depth of topsoil has had on plant production, diversity, and infiltration) to see how plant community development over that time period has influenced both vegetation production and diversity, as well as influencing soil factors.

As noted above, I have also become involved with a number of projects that are being conducted by the RRRU. The group itself is quite diverse and contains two soil scientists (including my boss Gerald Schuman), a plant physiologist (the research leader of RRRU, Jack Morgan), a couple of rangeland ecologists and a weed ecologist, plus numerous support scientists and technical staff. Much of the research undertaken by the various members of the group investigates the influence of grazing strategies on carbon and nitrogen dynamics, as well as changes in plant communities. Recently, a long term (five years) CO₂ enrichment experiment (consisting of a series of open top chambers into which CO₂ that was twice ambient concentrations was pumped in continuously for five years) was finished up. Other work being undertaken at RRRU includes measuring carbon exchange or fluxes (using Bowen Ratio apparatus) on both grazed and ungrazed native prairies, rangeland monitoring (including the use of very-large scale aerial photography), and various aspects of coal mine reclamation.

Of the various studies undertaken by the RRRU, I've become involved in two. The first involves examining the affect of a number of long term (22 years) cattle grazing strategies (*i.e.* continuous heavy, continuous light and exclosures) on plant and litter production, photosynthesis, soil carbon and nitrogen, soil nitrogen mineralization, and aspects of the microbial communities present in these soils. This study includes researchers from the research station, UW, and Colorado State University. My part in this project involves mostly research into soil N, and microbial dynamics. A second study that I'm involved in is a study undertaken by one of the staff here for his Masters, in which he is looking at the effect of inter-seeding yellow flowered alfalfa into some native rangelands in South Dakota on forage production and quality, as well as changes to pools of soil organic carbon and nitrogen. My role in this study is concerned with examining various aspects of soil carbon and nitrogen, as well as microbial respiration and biomass.

Funding for science in the US is available from multiple sources. Most of the funding that I have received for my various projects at UW has come from ACMLRP. This

money essentially comes from levy applied by the US Federal government on each ton of coal mined, and then provided certain conditions are met, a proportion is returned back to each state. In Wyoming, a proportion of this money is then put up to undertake mine reclamation research. Most of the money that support the projects undertaken by the RRRU come from one or more of the 22 National Programs that ARS support. In the case of RRRU, the two projects from which we receive most of our funding from are (1) Rangeland Responses to Management and Global Change, and (2) Plant and Animal Responses to Environment and Management. However we also receive some funding for projects from the National Research Initiative Competitive Grants Program (NRI), which is funded by USDA and is open to scientists at all academic institutions, Federal research agencies, private and industrial organizations. Finally funding is also available through the National Science Foundation (the US equivalent of Australian Research Council).

While at the present time I am employed at the UW until sometime in 2005, I'm looking forward to eventually returning to the much warmer winters and beaches of Australia. However I would highly recommend to any has recently completed, or nearing completion their Ph.D. (or in fact anyone who has the opportunity) to work in another country, as the opportunities and experiences make it well and truly a worthwhile experience. The scenery is often not bad either (see Photo 3).



Photo 3: View of a glacial mine site from the shoulder of Medicine Bow Peak (ht 3660 m), located in the Snowy Ranges (~ 2 hrs drive west of Cheyenne). The valley is the result of glacial activity from the last ice-age.

FROM THE SUB-TROPICS OF QUEENSLAND TO THE TEMPERATE RANGELANDS OF THE FALKLAND ISLANDS

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A little over two years ago my family and I moved to the Falkland Islands to take up a contract post as a pasture agronomist with the Department of Agriculture. The purpose of the position was to continue an applied pasture improvement program focussed on legume establishment. It was an opportunity to live and work somewhere different for a while. We are enjoying the relaxed lifestyle and challenging work environment and in January this year I took on the position of Director of Agriculture for a two-year contract.

The Falkland Islands are a Dependent Territory of the United Kingdom located on the south-east coast of South America (Figure 1). There are two main islands with another 700 smaller islands making a total land area of about 12,200 km² (a little larger than the Tambo shire in Queensland). Mean temperatures are about 5°C in winter and 10°C in summer. Rainfall is evenly distributed throughout the year with around 315 mm per annum in the south west of the islands to 625 mm per annum in the northwest. Wind is predominantly from the SSW with a mean annual wind speed of 32 km/hr (17 knots), though gale force winds (> 34 knots) can occur 1 day in 10. The vegetation consists predominantly of natural grasses and dwarf shrubs (Photo 1) in a flat to gently undulating landscape. There are no natural stands of trees and the highest peak in the Falklands is 2,300 feet.

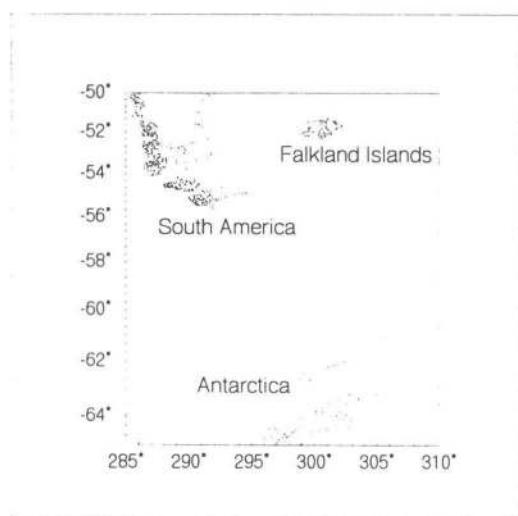


Figure 1. Location of the Falkland Islands in the South Atlantic.



Photo 1. Natural grassland of Whitegrass (*Cortaderia pilosa*) with the dwarf shrub, Diddle-Dee (*Empetrum rubrum*) scattered in front of the Land Rover.

The population of 2400 is predominantly of British descent, with the bulk of the people (1900) living in Stanley, the only town in the Islands. The remainder live in small settlements or individual farms. In addition there is a British military garrison of about 1800 military and support personnel located at Mt Pleasant, 35 miles WSW of Stanley.

Sheep farming and the export of wool have provided the main base of the Falkland Islands economy for the last 160 years (Photo 2). With the introduction of the fishery conservation zone in 1987 the sale of fishing licences (squid and finfish) has become the major income source for the islands. However, sheep farming remains the major form of land use. The acid and infertile peat soils coupled with the cool oceanic climate, and the distances from major markets, has ensured that wool is the main land based agricultural export.



Photo 2. "Gathering" sheep in the Falkland Islands.

Falkland Islands farmland extends to approximately 1,140,500 hectares and carries approximately 700,000 sheep and 4,600 cattle. Pre 1979 there were 36 farms in the Islands, but with sub-division of some of the larger properties, there are now 88 farms. Most of these are run as family units with an average size of 10,000 hectares

running 6,400 sheep. The Islands average annual wool clip for the past decade is approximately 2,500 tonnes (greasy) with an average fibre diameter of 27 μm . Sheep breeds are predominantly Polwarth and Corriedale. While global wool prices have been low for the last 10 years, farm incomes have suffered and farmers have been assisted with short-term subsidy payments and other assistance measures. In early 2002, global prices for wool increased and farmers have received greater returns from wool and assistance measures have been substantially reduced. Current assistance measures will cease at the end of 2003/04.

During the downturn in wool prices, farmers were encouraged to diversify into enterprises that complemented sheep and wool production. These included meat production, tourism, vegetable production, coastal fishing and aquaculture. The aim was to reduce the level of reliance on food importation and provide unique 'added value' products for export. An abattoir has been constructed and is awaiting accreditation to enable meat exports to the European Union. A scheme has also been introduced to certify farms wishing to market organic products such as sheep meat, wool and beef. Production systems within the Falkland Islands are extensively managed and lend themselves to organic production as sheep and cattle are grazed almost exclusively on natural pastures with very little use of chemicals or treatments (external sheep parasites were eliminated in the late 1970's).

The current Department of Agriculture was established in August 1989 and conducts research, development and extension programmes in whole farm management, financial management, wool production, beef improvement, livestock nutrition, pasture improvement and shelter development. The Department also provides veterinary and agricultural laboratory services to the Islands. It does this with an enthusiastic team of 25 staff. A number of staff are on contracts and there has been and still is a healthy contingent from Australia.

I have found the work and people interesting, as there are a lot of similarities to rangeland Australia. Yet when visiting a farm or working in the field you are never far from the ocean with its abundance of wildlife (seals, sea lions, penguins, whales, dolphins and gulls) and spectacular coastline that varies from white sandy beaches to rough, boulder strewn cliffs.

The work is very much hands-on, working with farmers on the establishment and management of improved pastures at the applied level. This is achieved through demonstration trials and applied research conducted at the commercial scale on individual farms (Photo 3). One of the major challenges in the pasture establishment area is overcoming the problem of too much organic matter in the peat soils. Fire is used in some instances to reduce the level of "trash" to provide a suitable seedbed for sown pasture. However, fire is used with caution as the peaty ground can burn for several years resulting in bare eroded patches. A grader or bulldozer pushing a firebreak does not work very well when the ground a metre below you is smouldering away!!



Photo 3. Sowing improved pasture on recently burnt Diddle-Dee country at 'Elephant Beach' farm in the Falkland Islands.

Summer is the busiest season with most livestock and pasture work happening from October through to March. Winter is much quieter, with time spent ordering equipment and materials for the next summer (virtually all materials come by sea and can take 4-6 months to arrive after ordering). As the Department is small, the skill base for a particular discipline usually resides in just one person. As a result you need to be "a jack of all trades" and there is a lot of "thinking on your feet" applying the basic principles of pasture and grazing management. The environment, the people, the challenges and the independence makes the Falkland Islands an interesting and enjoyable place to live and work.

For more information it is worth visiting the Falkland Islands website at www.falklandislands.com.

ARE YOUR RANGELAND MATES FREELoadERS?

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The declining membership and financial position of the Australian Rangeland Society continue to be of concern and it is up to all of us to do something about it if we want the Society to survive. One thing we can do is encourage all people who benefit from ARS services (which are expensive to provide) to be paid-up members. It is only by having a healthy and active membership body that quality services can continue to be provided. In promoting membership to our colleagues we can highlight the many benefits of being a member of the Society.

As a foundation member, I have benefited immeasurably from membership over the years, particularly with respect to the friends I have made, and the ideas to which I have been exposed. Grassland Societies have usually been focussed on management of landscapes for short-term economic gain, but the vision of the Rangeland Society has traditionally been wider and more flexible and encompasses landscape management in the rangelands in the broadest sense. The recent emphasis on how to manage rangelands for maximum ecosystem services in both the high and low rainfall parts of Australia is an example of the sorts of changes that are happily encompassed by the members of the Rangeland Society.

Three specific examples of services provided to members of the ARS that are also available to non-members, follow:

1. The opportunity to attend the biennial Conference to network with people with similar interests. The exchange of ideas and the opportunity to put faces to voices at the other ends of telephone lines and to email signatures is vital for good communications and good rangeland management in the broad sense. How many of our mates that we regularly meet at ARS Conferences are members? Perhaps we need to know because if they are not, they are freeloaders on the Society.
2. Receipt of two issues of *The Rangeland Journal* and three issues of the *Range Management Newsletter* each year. Our mates may well say that copies are easily accessible in a library and that who wants to store the whole thing when one can more easily photocopy the articles of interest from the library copy? If that is their attitude, they are freeloaders.
3. The opportunity to publish opinions and experiences in the RMN and research papers in TRJ. For many working in research establishments, the publication of research papers in refereed journals earns brownie points essential for promotion and career enhancement. *The Rangeland Journal* is very appropriate for this purpose. If our mates use these two outlets for

these purposes and are not members, they are freeloaders.

Value for Money

The Society's services are real value for money. Just consider how much conferences and publications cost the ARS to produce. Admittedly, if the Conference is run properly, then it should make a modest profit, and this has been the case in recent years. Naturally, this benefits members. But you might be surprised to learn how much the publications cost to produce - costs that need to be covered by your subscription fees. I have just been looking at these costs for the last three and a half years, and *The Rangeland Journal* all up costs about \$19,000 per year and the *Range Management Newsletter* about \$6,000 per year, making a total of about \$25,000. At an annual subscription of \$73 pa, we need about 350 members to support the production of these two publications alone, without any of the other costs of running the Society. Recent membership numbers stood at 290.

Two Initiatives

The Publications Committee has decided on two courses of action to help identify the freeloaders on the Society, so that we all can try to persuade them to join and reverse our decline in membership:

1. Publish a list of members in RMN so that we can identify those of our mates who are not members and get on to them. See page 17 of this issue for the list.
2. Levy page charges to non-members who seek to publish papers in TRJ. When I receive manuscripts submitted for publication after the 1st of January, 2003, I will check if the senior author is or is not a member of ARS. If they are not, then I will include a membership pamphlet with my letter acknowledging receipt of the manuscript. This letter will also say that the page charges for non-members are \$100 for short papers and an extra \$8.00 per printed page over and above 12 pages. If we receive their application for membership before the paper is printed, then the page charges will not apply. This procedure may lead to some papers being withdrawn, but I think not.

It is up to all members to shout from the rooftops the advantages of membership of ARS and so reverse the present trend in membership. Please do your bit to help your Society.

REPORT FROM COUNCIL

Lachlan Pegler, Communications Officer ARS, PO Box 224, Charleville QLD 4470

There have been a number of meetings of Council since the last newsletter. The most recent meeting of the Council was held at the Biennial Conference in Kalgoorlie. This was an open conference style meeting where a number of issues were discussed. Some of the issues raised at this meeting and preceding meetings were:

- Rob Richards was thanked for his dedicated service as Subscriptions Secretary over the past 8 years. Council presented Rob with a gift at the Conference Dinner.
- The new Subscriptions Secretary is now Ian Watson, 08 96902128, Fax 08 96221902, Mobile 0427 477734, Email iwatson@agric.wa.gov.au.
- The appointment of an executive officer (paid) was vigorously discussed. Given the extent of the task, coupled with the voluntary nature of the Council, further investigation of this will be undertaken.
- The continued financial pressure on the society, although there has been a minor increase in membership in the past 12 months.
- There were some concerns regarding financial and administrative procedures of Council, although the Council believes that the Business Plan outlines processes that are now in place to address these concerns.
- Council congratulated Sarah Nicolson and the Kalgoorlie Conference Committee for an extremely well organised conference.
- The most recent issue of the Journal was discussed, with congratulations given to the Publications Committee on a successful recent Special Issue.
- The Council will be developing a 'media and information flow protocol', as part of the ongoing communication plan. In response to concerns from a society member, protocols will also be included which outline response procedures to enquiries.
- Paper and crayons were supplied to each of the tables at the Conference Dinner to develop a new logo and slogan. Some very creative suggestions were received, with the winners receiving bottles of wine for their efforts. The winning logo was a bit of a bummer, creatively incorporated the ARS concept into a map of Australia, while the slogan was "Girt by Dirt".... perhaps you had to be there!
- One tender was received for the advertised consultancy to analyse in detail the current status and situation of ARS and then develop an action plan, and associated range of options for future operations. The Council accepted a proposal from a consultant who was not able to complete the consultancy in view of the information available and the short time frames allowed.
- The International Rangelands Congress was contacted and a mutual web-link established for the web sites for their - and our - conferences. Prof. Kevin Kirkman from

the University of Natal, who is part of the organising committee, attended the Kalgoorlie conference and spoke about next year's International Conference to be held in Durban.

<http://www.ru.ac.za/rgi/irc2003/IRC2003.htm>.

- There was some general disgruntlement with the timing and content of the Desert Knowledge Symposium in relation to the ARS Conference, although it was felt that there was an opportunity for linkages.
- A proposal has arisen from the Publications Committee regarding charging non-ARS member authors for the presentation of papers in the journal. The Publications Committee has discussed this and an article describing the implementation is included in this issue (see previous article).
- Greater efforts were needed to integrate the society with other groups, such as the *Friends of Grasslands* or *The Stipa Group*. Agro-political groups may also be targeted for membership, as the value of the society for information of future rangeland trends was emphasised. Specialist groups may be the mechanism for contact and servicing these groups.
- There will be more detailed reporting of the financial position of the society in future Newsletters.
- There will be a number of positions vacant on the Council from May 2003. Please start thinking of suitable members for nomination – or contact a Council member a hint if you are keen to have a go.

The Council received some feedback from the members at the conference, regarding the changing focus of the society from production type issues to a greater emphasis on biodiversity, social, economic and indigenous issues. This may well reflect the makeup of the dominant programs now operating across the rangelands, but may be disenfranchising the pastoralist members. An article in this issue from Roger Landsberg provides a view on this that may emphasise the importance of the society in bridging the gap between the social/biodiversity (touchy feely scientists) and the pastoralist.

REPORT FROM THE 12th BIENNIAL CONFERENCE - KALGOORIE WA

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The 12th Biennial conference of the Society was held in Kalgoorlie in the week of September 2 – 5, 2002. The theme decided upon the organisers was "Shifting Camp" as we were keen to have an open discussion on the validity of our current paradigm which more or less assumes, and has done so since 1842, that the rangelands are suitable only for pastoralism. Things have changed a lot in Australia since 1842 there being now many recognisable

claimants for a right to use this land either alone or in association with other users. As this Society can claim to be a body in which the rangeland expertise in Australia is concentrated we felt that we should open the dialogue on this important subject. We even hoped that we might be able to take some steps in the development of a new paradigm for rangeland use.

This was to be rather heady stuff and we recognised that it could not hold our interest for more than a day. After all, delegates coming to conferences want to talk to their colleagues and be able to present their work to their peers. We also had the feeling rightly or wrongly, that this opportunity had not been adequately provided in recent conferences. So we broke some new ground and held two streams of concurrent sessions some dealing with extensions of the first day talks and others with the arts and sciences of using rangelands.

There were 201 delegates to the meeting and just 70 of these were members of the Society. Twenty-five were students or land managers and over 100 were non-members. I think that the organisers met their target of getting some non-production orientated people to Kalgoorlie.

We fortunate in that we had two generous sponsors, LWA and KCGM (Kalgoorlie) who supported young researcher and speakers awards. The entrants who had to be 35 years or younger were divided into those who gave papers and those who presented a poster. Each of the major divisions was further divided into biological sciences and social sciences. Prizes in each category and there were four were presented to first, second and third at the Conference Dinner. John Read and Dionne Walsh won the best paper awards while Robyn Cowley and Alex Holmes won the poster prizes

From its beginning on the first evening the conference ran exceptionally well. The Mayor of the City of Kalgoorlie-Boulder held a Civic Reception for delegates at the conference venue and it was a splendid affair allowing members to meet in relaxed conditions for a decent interval of time. More power to the City of Kalgoorlie-Boulder!

Some washed out delegates arrived very late that night, but still in time for the reception having been routed and rerouted all over WA because of severe storms in Kalgoorlie.

Our first day was a great success. His Excellency, the Governor of WA, Lieut. General John Sanderson AC gave a magnificent and outstanding address ranging over the issues that we were later to discuss that day and giving us some pointers to problem resolutions.

The Governor was followed by John Childs, who questioned if we could find a camp where all the players would be comfortable. Then came the talks from the drivers of change who would push to the new camp. John Woinarski from the Northern Territory spoke with such conviction about the need to value and to conserve the biodiversity of the rangelands. Andrew Ash talked about

precision pastoralism and how it was possible to graze the rangelands conservatively and with attention to the needs of functional groups of plants. Stuart Gunning spoke brilliantly about the needs of the Indigenous peoples along with John Read who advocated a wider role for miners in regional land care. Don Burnside speaking on behalf of John Fargher cast some gloom on the assembly by pointing out that funding organisations should reconsider their priorities by examining closely the significantly reduced role that pastoral production now plays in the national accounts. Graeme Robertson told us that we needed to be aware of the impending global impact on food and fibre production by importers who will insist upon an adherence to strict environmental protocols in the production chain.

John Childs summing up at the end of the day spoke of the need to learn and to adapt continually and for all rangeland interests to decide to hold regular camps where they can meet for important discussions. He mirrored the Governor's advice to us that we should be developing alliances between the interested parties so that we might discover where our relationships in shared use of land could be fostered together in some harmony.

On the second day John Holmes spoke of the need to develop a system of property rights in our concepts of land use. Should we consider a change to the tenure system in order to accommodate the emergent demand for equity in land use? Phil Hughes echoed the need for change in tenure by pointing out the increasing importance of non-pastoral land use in the rangelands.

Each of these papers is well worth reading. We have not had, I think, an opportunity to have speakers from all the parties concerned at a conference of the society or, indeed, elsewhere in Australia. The meeting, in this sense, opened up the discussion of the need for change. You can get copies of the conference proceedings from Ian Watson whose email address is iwatson@agric.wa.gov.au. The cost is \$28 plus postage and packing. Ian will let you know what the latter is when you contact him.

The concurrent sessions and the posters session identified a new current of thought in the rangelands and indeed elsewhere. We had called for abstracts on any subject of relevance to the theme and to the concurrent sessions. We discovered that Community Processes, meaning the involvement of the community in the development of policy, in the allocation of funds and in the identification of systems of management and land use, was now wholeheartedly accepted as the favoured process in local and regional decision making. We had to arrange an additional section to accommodate this change from decisions being handed down. This we did in both papers and poster presentations.

There were about 55 papers presented in the 10 concurrent sessions. They are also printed in the Proceedings and are an excellent source of material on the state of the art and science of rangeland practice in Australia.

There were 53 posters presented over four sessions. They were of a very high standard and the viewing was

organised efficiently by John Morrissey. Short papers for each poster are also contained in the proceedings.

The next conference of the Society will be held in Alice Springs in the spring of 2004.

Be there!

PERCEPTIONS OF THE BIENNIAL CONFERENCE

(Ed - A number of conference attendees were asked at the conclusion of the conference to write a short article for the newsletter on their perceptions of the conference. I received two reports by the publication cutoff date).

SINK OR SWIM?

Roger Landsberg, Trafalgar Station, PO Box 41, Charters Towers QLD 4820. Email: trafalgar02@bigpond.com

Driving out to Kalgoorlie from Perth and listening to Don Burnside's almost encyclopaedic historical knowledge of the area, I was struck by the tenacity, resilience and sheer toughness of the early settlers. Water was scarce or undrinkable, the landscape was harsh and featureless and the shrubs and small trees would have been tailor made for staking horses, the primary means of transport. The gold fever that opened up the frontiers in many parts of Australia and other parts of the world provided the incentive to prospectors and miners to brave these hardships in search of their fortune. Hard on their heels were the pastoralists who with their herds, spread around the new settlements like ants to the honey pot, supporting the towns with food and slowly building up to become the basis of the country's economy. State governments, possessed by the same "can do" attitude, quickly provided support mechanisms like rail, pipelines and port facilities to capitalise on and reward the efforts of their people. These were the values that became the national psyche. Australians; tough, resilient, independent, resourceful, innovative. Refusing to lie down in the face of adversity. Willing to risk all, including their lives, in search of their fortune and way of life. Ever hopeful.

The 12th Rangeland conference had a few messages for me. Speakers informed us that mining is still king. That pastoralism is basically worthless to the Australian economy. According to the National Land and Water Resources Audit, it costs the taxpayer more to support the pastoral industries than what those industries contribute. That pastoralists, miners and other white inhabitants of the rangelands are still independent enough to be insensitive to the needs, wants and aspirations of the indigenous peoples. That others, including those from other countries, want a say in how we manage our lands. Indeed, they want to have access to our land so they can experience the beauty, the lifestyle and the pleasures that rural life can bring. -

providing they don't have to be too uncomfortable while undertaking that advice or experience. That governments, who not all that long ago provided incentives for the pastoralists to take up land, are now looking at changing tenure arrangements that will require management regimes that are quite foreign to some.

And what of the science? It's going all touchy, feely, too. We're talking about biodiversity, flora and fauna monitoring, landscape function analysis, participative and co-operative research. They're even monitoring to determine how long it takes a dead tree to fall over! There are some that say we have reached an end to research required in the "engine room" of pastoralism, grazing management. There are some that are a little worried, even confused, about the new directions in rangeland science. There are many who are worried, even confused about the lack of investment in rangeland science, particularly from the pastoral sector. Old values are no longer the values that matter any more. Social values and the things that make people tick are outside the comfort zone of traditional science.

The conference was particularly interesting to me because of the values aspect. Rangeland values are changing. We are changing from the "tame the wilderness" mentality possessed by the early settlers, to one that is more accommodating of the social and ecological needs of our fellow inhabitants and our landscape. It was mentioned we need time to allow these changes to take place. We have to remember we are changing some pretty powerful values here. We are changing a national psyche. The early settlers established the national psyche because the cities were small and depended on the inland for their wealth creation and therefore the inland people were revered for the hardships they endured for the betterment of the nation as a whole. In fact, people flocked to the inland in search of work and ultimately their fortune. Today the city people provide the wealth; they want to experience the image and romance of the inland, but also want to see the image as is preserved in their perception of it. They certainly are not interested in living there. They want the good things that the city life offers and to see the ocean every day. They want to feel good about their heritage, without guilt for wrongs past, either socially or ecologically.

Society is very good at finding someone to blame. The lawyers have managed to change that national psyche pretty well. Where is the Anzac spirit now? Support your mates in spite of all. Now it is sue them for what they are worth. Someone has to pay. The world owes me a living. It is not my responsibility. Is this the end of the Australian spirit as we once knew?

Watching, hearing and observing the speakers and participants in the conference, I couldn't help but feel the importance that the individual plays in our national future. The opening morning set the scene. The five speakers outlined our changing status and our future direction with regard to social, environmental, economic and scientific needs. But it was Helen Murphy who so passionately and succinctly put the notion of the importance of you and me, black and white, city and country, educated or not who

have to meet in the middle of the river. We then have to tread water while dialogue takes place. The river will take us where it wants and those who can't swim will drown unless a helping hand is offered. Whose is that helping hand? Is it a boat brought over from the bank by the emergency services, taking you back to your side and therefore breaking the dialogue? Or is it you and me helping our weaker brother or sister to either bank? It is then, sitting around the fire to warm up when the real dialogue takes place.

Summer is nearly here, where are your swimming togs?

WHAT'S IN A WORD?

*Helen Murphy, Idracowra Station, Alice Springs NT
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After the first day of presentations I wondered what the hell I was doing there. The doom and gloom economic rationalists were out in force; perhaps I was on the wrong set and was actually in a Monty Python skit. How could I stand up on the following day and speak from my heart? I wandered back to my quarters and thrashed the laptop into submission, thinking perhaps I should change what I wanted to say into something more in tune with what had gone throughout the day. Was I too out of touch with bush sentiment and thinking? Was I wrong in believing so passionately that people mattered, that people were valuable, that people's culture was also valuable?

I could have changed my presentation, but I thought no, I will go with it. It maybe the only opportunity I get in my lifetime to say these things and I would do myself, my family and my culture an injustice by not doing so.

Some presentations were threatening to me. Not because the science was wonky, who am I to judge that? But because the words used in the pictures painted told a different story. So I would ask you scientists, when you are writing up a paper, please think about the words you choose to use. Who is your target audience? What change do you hope to effect with the publication of this paper? Give credit where credit is due and celebrate the successes. Allow us pastoralists to be proud of many of the things we do rather than drive us to the trenches.

I would venture to say that for any one out there really wanting to foster change in the rangelands, that the biggest and most powerful potential resource to do so are in fact the people who live there. It would seem to me strategically sound to be able to use this resource....but then again, what's in a word?

Key Highlights

Steve Morton's talk touched me. The "Father of Biodiversity" is a man of passion, so it was not only the words he used, but also the way in which he said them and I could sense his feeling for his subject as well as his pragmatism. Roger Landsberg's talk was also very good "I'm here for the lifestyle, but it also has to be a business" and went on to demonstrate how very good that business is, in each of the triple bottom line areas. I would have

like to have heard Dana Kelly's talk on "Where does the Power Lie?" and I would have dearly loved to hear the speakers in the Indigenous Issues stream. For all these I will have to read the papers, knowing full well that it is only a portion of the stories told.

The dinner was in a spectacular place. Lance from the Pilbara was entertaining with his red wine from the boot drinking accomplishments as well as his enthusiastic dancing lessons. Thanks, Lance, I had fun.

The tour was excellent (I chose the Bordello tour) wherein I gleaned an encompassing history of the region, from pastoralism to mining, Afghans to Japanese, albeit from the perspective of ladies for hire, as well as gaining an understanding of an aspect of our culture that few of us really like to acknowledge, let alone support. As a public relations exercise, it is brilliantly done, and I would recommend it to anyone with an hour to spare in Kalgoorlie.

But the single most important highlight for me was the friendships, renewed and also made. It is these friendships that give me hope. It is these friendships at the grass root level that will effect real change, and we'll have a damned good time in doing it. I'll see you in Alice.

THESIS ABSTRACT

Growth, nutrient cycling and grazing of three perennial tussock grasses of the Pilbara region of NW Australia

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The following is an abstract from recently passed Ph.D. thesis. My research was undertaken at the Botany Department, University of Western Australia, and was supported by scholarship from Hamersley Iron, and the research was undertaken on two of their properties, Hamersley Station and Karratha Station. The ARS provided a travel fellowship which allowed me to travel to the 1999 IRC, Townsville, and discuss my work with numerous scientists.

Despite the importance of arid and semi-arid native grasslands for cattle and sheep production, there is a paucity of data on many important aspects of growth, nutrient cycling and affects of grazing thereof, in native Australian grasslands. In response to this, a long-term (~2.5 years) study was undertaken which investigated growth, nutrient uptake, nutrient cycling and soil nutrient availability in grazed and ungrazed plots of three grasslands of the semi-arid Pilbara region of north-western Australia. The three species studied, *Astrebla pectinata*,

Themeda triandra and *Eragrostis xerophila* are all C₄, perennial, tussock grass species native to the Pilbara.

Using standard monitoring methods (i.e. plant density, foliage and basal cover) it was established that these grasslands were in average to good condition and that, with the exception of *T. triandra* grasslands where plant density declined under grazing, grazing has had a minimal impact on these grasslands.

Grass growth was heavily reliant on summer rainfall, as rainfall and/or air temperatures during winter were generally too low to result in growth, particularly for inland grasslands i.e. *A. pectinata* and *T. triandra*. Despite the short duration of the growing season (due to high evaporative conditions) and the low fertility of Pilbara soils, the rate, as well as the total mass of grass production was comparable to other similar grasslands. Litter accumulation was generally low in all grasslands suggesting that, despite high C:N litter values, turnover was high, particularly after summer rains. Under normal or above-average rainfall, grazing had little impact whereas during periods of low rainfall grazing had the potential to reduce both current and future aboveground production. The negative impact of grazing on net primary production was, however, nullified to some extent by compensatory regrowth of grazed biomass.

Nitrogen (N) and phosphorus (P) uptake by perennial grasses was less reliant on summer rainfall although still strongly influenced by it, and nutrient uptake was apparent even under conditions when aboveground growth did not occur. Increased nutrient uptake resulted from an increase in root biomass as well as a possible grass-mycorrhizal association. The nutrient-use efficiency of Pilbara grasses was generally high relative to other Australian arid and semi-arid grasslands. Despite this, ratios of N:P in green foliage (after good rainfall) suggest that production in *A. pectinata* and *T. triandra* grasslands was limited by the availability of soil N.

In situ studies of soil N over 18 months revealed patterns of inorganic N production to be temporally variable, with increased rates of nitrification during the hotter and wetter summer months and ammonification more prevalent during cooler and drier periods. The same *in situ* studies of soil N, as well as long-term laboratory incubations, indicated that the heterogeneous location of tussocks in these perennial grasslands was responsible for the highly spatial patterns of N mineralization observed in these soils. Increased N mineralization in the immediate vicinity of tussocks was strongly correlated with total N and organic carbon, reflecting the increased concentration, and subsequent decomposition, of both above- and below-ground litter. The increased availability of soil nutrients around tussocks is critical in maintaining a supply of nutrients during growth in these highly infertile soils.

Nutrient cycling is very 'tight' in these semi-arid grasslands as N inputs e.g. wet/dry deposition, anthropogenic sources or N fixed by microbiotic crusts/native legumes, at best, provides only a small amount of N into Pilbara grasslands. Therefore, nutrient availability during growth in Pilbara grasslands is heavily

dependent on the decomposition and mineralization of above- and below-ground litter. However to a limited extent, these grasses are able to compensate, via the retranslocation and mobilization of stored nutrients, for discrepancies between the nutrients supplied by soil and the nutrient requirements for growth. For each of the grasslands, a simple nutrient cycling budget (incorporating the effect of grazing on N and P flows) for an 'average' year (wet summer, dry winter) was constructed.

75TH ANNIVERSARY FOR KOONAMORE RESERVE

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2001 marked the 75th Anniversary of the beginning of scientific work on the TGB Osborn Vegetation Reserve at Koonamore (KVR for short). This Reserve, found in the north-east of South Australia, is one of the longest-running vegetation monitoring projects of its kind in the world.

The 390 ha reserve was established by TGB Osborn in 1926, and has been operated by the Botany Department (now of the Department of Environmental Biology) at The University of Adelaide ever since. The area was originally part of the Koonamore pastoral station lease. Koonamore Station still operates as a sheep station and surrounds the University's reserve, which was initially set up to investigate vegetation recovery following a 50 year period of heavy grazing by sheep. The reserve was fenced against sheep and rabbits, and permanent quadrats and photopoints were established. These have been followed at semi-regular intervals ever since.

Many well-known researchers have used the Koonamore Reserve and its facilities over the years including the likes of TGB Osborn, JG Wood, Constance Eardley, EAA Hall, Ray Specht, Ian Noble, Mike Crisp, Rod Rogers and Des Coleman. Significant work has also been done there by international scientists. Additionally many undergraduate and postgraduate students of the Department have spent time at the Reserve taking part in the student field camps, the December work camp reading quadrats or mending the fence, or carrying out their own research.

I have been in charge of KVR for the last 27 years. During this time research has focussed on reinstating regular quadrat reading after a period of neglect, and in a vigorous programme of rabbit control. The records now show the results of 50 years without sheep, plus 25 years without either sheep or significant rabbit grazing. The differences between the two eras are becoming very striking, with dramatic regeneration of several tree and shrub species in the last 25 years after almost no establishment in the previous 50 years.



Photo 1. Bindy-I homestead – one of the facilities available to researchers at KVR.

The Future of KVR

One reason for celebrating the past is to focus on the future, and the future of KVR depends on continuing support: from the University, from the Dept. of Environmental Biology, and from a steady stream of volunteers to continue the work there. It also needs money, for the cost of field trips, for curating and maintaining the records, and for routine maintenance of the facilities. Long-term monitoring projects such as KVR are very rare, and increasingly difficult to maintain in the climate of short-term grants and rapid turnover of personnel.

I'm calling for help from the wide circle of people who have enjoyed Koonamore or know about it and want its work to continue. Currently we are raising money through the Koonamore 75th Anniversary Dunny Fund to install a beautiful, functional and environmentally sound toilet that is very much needed. Any money raised beyond the cost of the toilet (approx \$6000) will go to continuing maintenance of Bindy-I and the costs of field work on KVR. We are gathering funds through direct donations and through the production of *The Botanic Verses*, an 84 page collection of songs and verses perpetrated by me over the last 20+ years at camps, dinners, Departmental parties etc.

If you are interested in contributing to the KVR 75th Anniversary Fund or the long term funding of the Reserve (donations of \$2 or more are tax-deductible), or purchasing a copy of *The Botanic Verses* please contact me via email at russell.sinclair@adelaide.edu.au. Also, if you'd like to revisit KVR, you are more than welcome to join the December Work Camp - it is usually held in the second week of December. Contact me for details.

INFORMATION SNIPPETS

VIIth International Rangelands Congress

The IRC website (www.ru.ac.za/rgi/irc2003/IRC2003.htm) now contains a wealth of information about the next Congress to be held in Durban, South Africa from 28 July – 1 August 2003.

Details about the scientific program, registration, accommodation and field trips are accessible through the website. All submitted abstracts are also available for viewing online in the relevant program session.

The second Announcement Brochure (available online) lists the following important dates:

- Deadline for final papers - 30 November 2002
- Deadline for early-bird registration (save US\$70) – 31 January 2003
- Deadline for financial assistance – 28 February 2003.

Further information is available from:

Sue Bumpsteed Conferences
Private Bag X37, Greyville
4023 Durban South Africa
Tel: +27 31 303 2480
Fax: +27 31 312 9441
Email: delegates@sbconferences.co.za

Federal Government Launches Environmental Management Systems Incentives Program

The Federal Government recently launched a \$25 million program designed to encourage Australian primary producers to implement environmental management systems (EMS). The EMS Incentives Program is delivered by Centrelink on behalf of the Department of Agriculture, Fisheries and Forestry – Australia. The program provides primary producers with a cash reimbursement of up to 50% of the costs associated with developing and implementing an EMS for the primary production enterprise. The maximum amount payable per enterprise is \$3,000, that is, \$6,000 must have been spent in order to reimburse the maximum \$3,000. More information is available at the Centrelink website (www.centrelink.gov.au) where you will need to use the search tool (keywords - Environmental Management Systems) to find further details and fact sheets. Alternatively you can call 1800 050 585 (toll free).

Meat and Livestock Australia Boosts NRM Research in North

Meat and Livestock Australia have allocated \$3 million over the next four years to natural resource management projects in northern Australia. MLA Northern Production Research manager Wayne Hall has said the investment

reflects the increasing focus on sustainability issues by both producers and the wider community. "While most MLA research projects in northern Australia have a natural resource management element, this R&D is focused specifically on major natural resource management issues. Economic and environmental sustainability go hand in hand. The challenge in the long term is to balance both and that is what this research is about."

The MLA website (www.mla.com.au) states that "the \$3 million funding – producer levies and matching Federal Government dollars – will be invested in six projects:

- Sustainable grazing for a healthy Burdekin catchment. To investigate issues relating to runoff, erosion and water quality, including the effect of grazing management and the importance of grazing distribution. In collaboration with CSIRO.
- Developing, implementing and evaluating fire management of woody vegetation in the Gulf region. To develop and test recommendations for the use of fire for management of woody vegetation in the Gulf savannas through a collaborative effort between landholders and woodland ecologists. In collaboration with CSIRO and QDPI through the CRC for Tropical Savannas Management.
- Assessing the value of trees in sustainable grazing systems. To evaluate the effects of trees on neighbouring production systems, looking at the impact on microclimate, nutrient cycling, pasture quality and landscape water processes. In collaboration with the Queensland Department of Natural Resources and Mines.
- Wambiana grazing trial: developing principles and testing options. Extension of a grazing trial begun in 1997. To develop principles and guidelines to assist producers to more effectively manage pasture utilisation in terms of animal production and resource condition. Will evaluate five different stocking strategies, including one in which animal numbers are adjusted annually using the Southern Oscillation Index. In collaboration with QDPI.
- Sustainable development of northern grazing lands. Will undertake fundamental research that will help identify sustainable rates of annual pasture utilisation and an enhanced understanding of grazing distribution at paddock scales for improved fencing, paddock design and water placement options. In collaboration with CSIRO and the Northern Territory Department of Business, Industry and Resource Development.
- Vegmachine – extending the integrated rangeland monitoring information to industry. To develop practical web-based software that enables producers to use satellite data to assess the condition of natural resources at both property

and regional levels. In collaboration with the NT Department of Infrastructure, Planning and Environment and CSIRO."

CALM Research Online

Western Australia's Department of Conservation and Land Management's entire Science Library Collection is now available online. This collection includes a comprehensive bibliography of all research conducted on WA's flora, fauna and forest since the 1890s. The collection can be found at www.naturebase.net/science/science.html.

Tropical Savannas CRC Upgrades Website

The Tropical Savannas CRC has recently upgraded its website. While organised with the same structure as the old site, it has some significantly improved features. It is now faster and easier to use for users with slow connections and is also maintained and updated more easily. The website also includes some new content including a full list of current TS-CRC projects, a FAQ page with frequently-asked questions about the tropical savannas as well as additional material, maps and images in the Savanna Explorer section. To access the Tropical Savannas website go to savanna.ntu.edu.au.

CSIRO Web Tool

Information from over 2.5 million web pages of over 200 different Australian research organisations is now searchable using CSIRO's Research Finder. The Research Finder website uses a specialised Internet search tool that allows users to access information specific to Australia's research activities - whether it be climate change, new drug approvals, whale migration patterns or the effects of GST on tourism. The website can be found at <http://rf.panopticsearch.com>.

Ecology 2000 Conference

Ecology 2002 will be held from 2-6th December 2002, at the Cairns Convention Centre. It is the second-only joint meeting of the Ecological Society of Australia and the New Zealand Ecological Society. The conference includes a mix of open sessions and special symposia.

Full details are available on the conference website at: <http://www.tesag.jcu.edu.au/ecology2002/>. Information is also available from Jill Landsberg Ph: (07) 4042 1443, Fax: (07) 4042 1284, Email: Jill.Landsberg@jcu.edu.au.

2003 National Landcare Conference

This conference will be held at the Carlton Hotel, Darwin, Northern Territory from 28 April - 1 May. The Conference has the theme of 'Respecting Values - Working and Learning Together'. The conference will

provide an opportunity to showcase the successes of the Landcare movement around Australia. It will highlight the diverse land management cultures from indigenous communities to pastoralists to the tourist industry. The conference will emphasise the need to respect the different values involved in this diversity and the need for different groups to work and learn together.

For further details about the conference is available at www.landcareconference.nt.gov.au. For inquiries about the conference program contact Peter Jacklyn at peter.jacklyn@ntu.edu.au. For all other inquiries contact the conference organizers, Desliens Conference and Event Management, Ph: (08) 8941 0388, Fax: (08) 8981 8382, Email: dcem@desliens.com.au.

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LIST OF AUSTRALIAN RANGELAND SOCIETY MEMBERS

AS AT 15 OCTOBER 2002

Note that the list is arranged alphabetically by surname within each state. Individual and company members are listed before libraries. Institutional affiliation is given for those who have their ARS correspondence sent to a work address

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Postcode..... Email address

Phone Fax

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

Enclosed is a cheque for \$AU..... for full/part* membership for an individual/student/institution* for the calendar year 2002

Charge my Mastercard VISA Bankcard AU\$.....for full/part* membership for an individual/student/institution* for the calendar year 2002

Card No.: _____ Expiry Date:

Signature:..... Date: Cardholders Name:.....

*delete as appropriate

If you were introduced to the Society by an existing member please include their name here

Please list details of your institution & student number if you are applying for student rates

Membership Rates:

Australia

Overseas Airmail

Individual or Family -

Full (Journal + Newsletter)/Student
Part (Newsletter only)/Student

\$73.00/\$56.00
\$40.00/\$30.00

\$96.00/\$73.00
\$51.00/\$39.00

Institution or Company -

Full (Journal + Newsletter)
Part (Newsletter only)

\$107.00
\$56.00

\$130.00
\$68.00

- Membership is for the calendar year 1 January to 31 December. All rates are quoted in AUSTRALIAN currency and must be paid in AUSTRALIAN currency.
- Year 2002 membership rates include Airmail for all overseas subscribers.

For Office Use Only:

Membership Number Date Entered in Member Register

Date Ratified by Council