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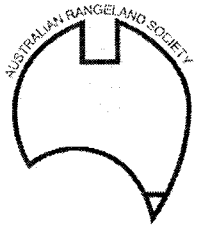

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A ROAD WELL TRAVELLED: HAS GRAZING BEST PRACTICE MOVED ON?

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INTRODUCTION

Historically, the Fitzroy Basin has been subjected to extensive clearing to make way for cropping and grazing. A number of land degradation problems have been identified in the Fitzroy Basin including soil erosion, soil compaction, salinity, water quality, fertility decline and weed invasion. Elevated loads of sediments, nutrients and pesticides are delivered to the Fitzroy estuary and Keppel Bay and also to the Great Barrier Reef Lagoon during large floods (Trewin, 2006; Commonwealth of Australia and Queensland Government, 2003). It is now recognised that sustainable agriculture is a major goal to ensure the longevity of agriculture, including grazing in the region (Christensen, 2006).

Extension is a critical element used by government agencies and regional NRM bodies to assist landholders in achieving more sustainable and profitable practices. Extension approaches need to be continually adapted for the evolving needs of the audience. This paper will explore how the audience changed in the last 14 years, and assess whether extension practices have likewise evolved. We will review the 1992-1993 Local Consensus Data (LCD) surveys of producers, and present the results of a recent review of those same people and locations. In the original survey, landholders expressed a desire to improve the sustainability and profitability of their enterprise, with many highlighting on-going continuous improvement as a key goal. By reviewing the 1992-1993 LCD surveys and comparing it with a recent, duplicated survey, current extension tools can be evaluated to determine its effectiveness and also ensure future extension can be better targeted to meet the sustainable grazing goals in the Fitzroy Basin.

The objective of the survey is multi purpose. It will gauge the success of extension programs for grazing; document change in the industry since the surveys were last conducted; provide a framework for continuous improvement in extension; and identify areas that producers would like more research undertaken at a property level – potentially through producer demonstration sites.

A ROAD RE-VISITED

The previous local consensus data (LCD) survey was undertaken to provide management guidelines for a beef property in a number of areas across the region (Lawrence, 1994). Each LCD report contained a description of land types, their vegetation, topography, soils, pastures, production capacity and condition. Also there was a description of suitable enterprises, cattle management and grazing land management. Stocking rates and property sizes were also suggested as guidelines for sustainable beef production.

LCD reports offered a pool of practical ideas for sustainable beef production. The reports also identified industry constraints within and across pasture communities together with problems and gaps in information for further research. As described by Clarke *et. al* (1992) the initial objectives of using the LCD technique were:

1. To establish a clear understanding of what is meant by sustainable grazing land management.
2. To develop producer guidelines for sustainable grazing land management.

WHY RE-VISIT

In the past, extension services focused on production outcomes. For example the introduction of buffel pastures on newly pulled Brigalow to increase carrying capacity (Shepherd *et al.*, in prep). However the link between land condition and production is more pronounced (Chilcott *et al*, 2005). This has lead to a greater awareness and a change to improving and maintaining good land condition whist achieving production outcomes (Chilcott *et al*, 2005). By revisiting the original LCD areas, a change in attitude and management practices can be better documented.

The LCD surveys were undertaken 12-14 years ago. Since then considerable extension effort and resources have been invested into improving the sustainability of land management practices in the region. For example, Federal Government initiatives such as the Natural Heritage Trust (1 and 2) and the National Action Plan for Water Quality and Salinity have devolved the responsibility for management of natural resources through community based regional Natural Resource Management bodies. It is timely to reflect on whether these initiatives and associated investments have resulted in changed management attitudes, as opposed to assessing whether resources have been used and monies spent.

Assessing attitudinal change is important as it is considered the precursor to sustained changes in behaviour. A systematic collection of information will assist in decision making (Patton, 1997). Bennett's Hierarchy was used as the basis for this review as it provides a logical progression of stages/ levels (Coutts, 2005). This review will decide if extension efforts have been effective and determine a pathway to improve extension in the grazing industry. It will also document change in the industry over the last ten years. There is some perception that the industry is standing still, yet by revisiting the LCD process it can demonstrate that the industry is indeed dynamic. It is also a benefit for producers in that areas can be identified where there is an opportunity to undertake further property research or even explore the option of producer demonstration sites.

METHODOLOGY

Description of the Study region

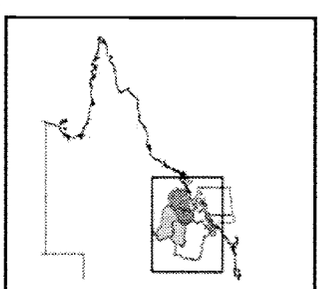

Figure 4: Fitzroy Basin

The Fitzroy region covers ten percent of Queensland's land area along the Tropic of Capricorn and encompasses the major systems of the Fitzroy, Boyne, and Calliope rivers as well as the catchments of the smaller coastal streams. Beef production is the largest land use in the region, covering 86 percent of the region's land. Annual median rainfall throughout the region is highly variable, ranging from about 600mm annual at Emerald to more than 800mm along the coast. Most rain falls in the summer, with many winters experiencing no rain at all (Christensen, 2006).

In this study a review of three of the original thirty–three LCD areas will be undertaken. This area includes Mt Pasha, Mistake Creek and Middlemount. The study area in the northern part of the Fitzroy region will include Clermont and Middlemount areas. This also ties in with a project titled "Ground Cover Monitoring in the Fitzroy Basin" of which the objective is to monitor of grazing lands as well as assisting producers towards sustainable land management.

Process
A duplication of the original survey will be conducted with a mix of the original participants in the surveys and new comers to the region. The survey is designed to determine attitudinal change and what approaches were most effective in facilitating improved practice. We are also interested in determining whether the research, development and extension efforts in the regions since 1992-1993 have influenced participant's current grazing land management practices.

A focus group will be invited from these regions with approximately 6-12 properties participating in each focus group. A range of questions based on a number of different issues will be asked. The main areas include:

- Enterprise
- Infrastructure
- Animal Husbandry
- Grazing Land Management
- Land types

The aim is to reach a consensus with each question asked, however minority opinions are also recorded. A facilitator coaxes a response from the participants whilst two scribes record all the information. Once all the information has been collated and typed a draft report is sent back to the group for further input or clarification.

RESULTS

A review of the last LCD survey revealed that all areas reported some drought management, determined stocking rate to land types, had some experience with fire; have planted introduced pastures; and were aware of weed management. Producers were also aware of the symptoms of degradation. In the Central Queensland black spear grass pasture zone some of these symptoms include weed encroachment, gully erosion, salinity, changes in pasture composition and production, reduction in timber, shade and shelter resources. Participants were aware that soil and pasture degradation is related to high stocking rates. However, participants seemed to be less aware of some of the specific causes of degradation of natural resources. Landholders were often frustrated because they cannot immediately obtain relevant information on stocking rates, sustainable living areas and whole farm management. (Clark *et al*, 1992).

Initial results of the comparison and current opinions will be presented in the poster.

CONCLUSION

By undertaking this review graziers in the Fitzroy region can now be better serviced. An analysis of what graziers management practices are can determine a road map that will lead the way extension is undertaken in the future.

REFERENCES

Chilcott, C.R., Sandral, C.J., Aisthorpe, J.L., Paton, C.J. and McCallum, B.S. (2005) Grazing Land Management Education Package Workshop Notes – Fitzroy Basin Version, Meat and Livestock Australia Limited, Sydney.

Chilcott, C, Quirk, M. Paton, C., Nelson, B. and Oxley T. (2005) Development of a grazing land management education program for northern Australia's grasslands and grassy woodlands, *In*: XX International Grasslands Congress: Offered papers, (Eds. O'Mara, F.P.,

Wlikins, R.J., 't Mannetje L., Lovett, D.K., Rogers, P.A.M. and Boland, T.M.,) Academic Publishers, The Netherlands, pp. 793.

Christensen, S., Rodgers, C. (2006).The Central Queensland Strategy for Sustainability – 2004 and Beyond. Fitzroy Basin Association, Rockhampton.

Clarke R.A., Bourne A.W.D., Cheffins R.C., Gillespie R.L., Lawrence D.N., Murphy K.J. and Esdale C.R. (1992). Using Local Consensus Data technique to develop, improve and enhance the adoption of sustainable grazing land management systems. *In:* Proceedings of the 7th International Soil Conservation Conference. Sydney, Australia: 591-602.

Commonwealth of Australia and Queensland Government (2003). A report on the study of land sourced pollutants and their impacts on water quality in and adjacent to the great barrier reef. Department of Environment and Heritage, Canberra, http://www.deh.gov.au/coasts/pollution/reef/science/index.html.

Coutts, J. (2005). Evaluating Success in Achieving Adoption of New Technologies, in the Proceedings, NSW DPI and Beef CRC Conference "Moving from Research to Adoption" Quality Nautilus Resort, Coffs Harbour, NSW 3-5th May 2005.

Lawrence, D.N., Graham, T.W.G. and Clark, R.A. (1994). Sustainable grazing management: graziers' perspectives and implications for pasture management in the Maranoa region, South Queensland. In Tropical Grasslands, Vol.28, No.1, pp. 24-31, 24 ref.

Patton, M. (1997). Utilisation-focused evaluation, 3rd4 edition, Sage Publications, London.

Shepherd, R.N., Chilcott, C.R. (in prep). Rangelands of the Burdekin Catchment – a History of Engagement in Grazing Land Management.

Trewin, D. (2006). Land Management – Fitzroy and Livingstone Shires Queensland, 2004-2005. Australian Bureau of Statistics, Canberra.