Final report

Natural Resource Management

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Customising the grazing land management education workshop to the Fitzroy Basin, Northern Gulf and Queensland Murray-Darling Basin

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Abstract

This project supported the continued customisation of the Grazing Land Management Education Package. MLA supported the initial development of the GLM education package, in tandem with the grazing theme of Sustainable Agricultural State-level Investment Program (AGSIP), (funded via the National Action Plan for Water Quality and Salinity), has customised four new regional versions with local information and locally calibrated decision tools. We have accumulated the locally relevant information in all regions, and completed the case-study property and land type framework, and customised and published the PowerPoint and participant workbook for the four new regions.

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Project objectives

By completion of the project the research organisation will have:

- Customised the GLM education workshop packages to the following regions:
  - The Fitzroy Basin
  - The Northern Gulf
  - The Maranoa-Balonne
  - The Mulga lands of the western MDB

- Produced the revised workbook, PowerPoint slides and facilitation manual and delivered them to MLA as desk-top published documents ready for use in workshops.

2 Methodology and results

The customisation of the Grazing Land Management Education Workshop used existing regional versions as the basis for the new regions workshop materials, modifying them to meet local land types and production systems. The customisation of the GLM package involved the following steps:

1. The collation of locally relevant publications, information, photos and data sets, involving a technical meeting with local grazing experts and agency staff. In regions where new project staff were appointed they attended and presented at field days, landcare meeting and farm visits in order to increase their appreciation of local grazing management issues. For example, in the Maranoa-Balonne region the project officers attended seven field days on a variety of topics (Mt Abundance regrowth management; Injune and Taroom regrowth management field days; Mitchell sown pastures, Mitchell Parthenium control; Eumamurrin pasture renovation field day; Bymont Sub-catchment planning group), presented at six Landcare group meetings (Eumamurrin, two meetings with the Mitchell Landcare group, Jackson, Surat, Nindigully, Charleville, and Noorama), and visited eleven individual landholders.
2. Development of a landtype framework for the region. The land types were chosen based on vegetation and soil characteristics, and defined in terms that landholders use referring to their units of management (eg: poplar box country). The collation of the land types for the catchment was derived from producer surveys, reference material and discussions with agency staff. Given the variety of schemes used to describe land types for different purposes (eg: regional ecosystems, Australian soil classifications, land units), a major task is to combine those schemas, which have been added to the land type sheets. The land types formed the basis of the pasture growth simulation modelling, with a number of climate locations modelled. These pasture growth output tables are the basis of the long and short term carrying capacity, and forage budget calculations. The output of the pasture growth tables were calibrated against producer expectations of long term safe carrying capacity, with the utilisation rates derived from published research in combination with local observations.
3. Development of the case study properties, that are used to demonstrate the financial and natural resource management implications of changed grazing management practices on land condition. The case study properties are based on local land types, and include a range of topical management issues relevant to the regions, including overgrazing, fire management, sown pastures, and weeds. Each case study scenario was analysed using the

Breedcow, Dynama and Investan steady state herd modelling and financial analysis programs.

4. Review of the power point slides and participants workbook in each of the seven theory modules and including local material that enhances the relevance of the package to the region. The majority of the local material came from local research, for example in the Maranoa-Balonne and Fitzroy versions, the Glentulloch and Keilembete grazing trials (Silcock *et al*., 2005) were incorporated to demonstrate principles with local scientifically valid examples. In the Mulga customisation, local research was derived from the Arabella (Beale, 1985) and Toorak (Phelps and Orr, 1988) grazing trials, the safe carrying capacity project (Johnston *et al.*, 1996) and local pasture selection work (Day and Silcock, 1985). A challenge has been to acquire information and data that is in a useable format and that has clear and succinct messages. Some of the locally researched information could not be incorporated as it did not provide a succinct message (which is important given the time limitations associated with the delivery of the workshop) or it did not meet the relevant learning outcome required in the module.
5. All materials were tested in a technical review pilot within the region, with the outcomes used to adjust the materials prior to finalisation. The outcomes of the regional pilot workshops are given in the following section
6. All materials finalised, formatted by desktop publishers and edited for style and consistency to meet the publishing standards of MLA Edgenetwork.

2.1 Outcomes of the pilot workshops

As part of the customisation of the regional GLM educational materials a technical review and pilot workshop was undertaken in each region. The outcomes of each region are summarized below:

2.1.1 Maranoa-Balonne

The pilot workshops for the Maranoa-Balonne version presented to workshop to the Eumamurrin landcare group, In the Maranoa the workshop was held over the week-end of the 19th and 20th of March 2005 at the Eumamurrin Hall. Producers from a total of eight properties participated, with two producers from outside of the group (Mitchell and Bungunya) and representatives from the DPI&F and QMDC. The workshop was evaluated and the feedback is summarised below:

What they liked:

- workshop content was comprehensive and useful
- scientific backing of information presented
- financial analysis of options presented
- toolkit
- presenters

What could be improved?

- some areas could be explored more (eg: plant physiology)
- more opportunity for whole group to share experiences
- demonstration sites to visit during workshop
- discuss relevancy of non-local data presented and use as a motivation to get research done locally

The Maranoa/Balonne materials were printed and the first workshop was presented to seven producers from the Bymount sub-catchment group. The feedback from this workshop is summarised below:

What they liked:
- workshop was very informative and had a friendly atmosphere
- confident and informed presentations
- workshop was flexible in its format
- workshop promoted good discussions
- very practical workshop
- some pressure to put new learning into practice - good approach
- workshop stressed the importance of soil health - grass production/ kg of beef per ha/ $

What they didn't like:
- There was a little too much time spent on predicting rainfall when, in fact, we cannot predict it!

The workshop materials were also presented to the Southern Queensland Beef Research Committee, and both regional bodies have been given the opportunity to comment and provide additional materials for the workshop. Additional information on sown pastures, the role of fire, and the impact of *Pimeala* have been added to the materials following this meeting.

2.1.2 Mulga

In the Mulga the regional body project officers and other technical experts from DPI&F were used to pilot the workshop. While the emphasis of the pilot was to ensure the technical accuracy and consistency of the materials, it was also used to test the integration of the sub-catchment planning materials that will be delivered at workshops involving the South-West Natural Resource Management regional body.

The pilot workshop concluded that the materials were applicable to the region and technically correct. Some minor changes and additions were made following the pilot, specifically ensuring the language used through out the workshop is consistent with previous initiatives (especially South West Carrying Capacity projects and Pastoral EMS) in the region and SWNRM Planscapes approach. The outcome was the further integration of the Planscapes sub-catchment planning process into the GLM workshop, and testing of the approach with a 'live' group in Quilpie in October. The feedback from the pilot is given below:

What they liked:
- all the practical activities and demonstrations throughout each module, including the outside pasture assessment skills activity
- the practical relevance of materials
- how each module presented the "whole big picture"
- use of local data, from Charleville DPI&F research

What could have been improved?
- integration of information about managing the total grazing pressure

- information provided in toolkit on locally relevant vegetation management legislation.

Additional information on land condition and the use of mulga are being integrated into the workshop as it becomes available. Specifically, following the first delivery at Quilpie, the case study scenarios were re-run to include sheep rather than cattle, and the assessment of land condition during drought was also added. This information came from the results of an Australian Wool Innovation, Land Water and Wool project *"Delivering a land condition framework for grazing land management education".*

2.1.3 Fitzroy

The Fitzroy pilot workshop was presented to four technical experts from government departmental agencies, two local graziers, and two representatives from the Fitzroy Basin Association (FBA) in Emerald from 19 to 21 April. In general the feedback from the workshop was very positive, with the participants specifically concerned with adding technical information relevant to the region, as summarised below:

- Additional information on buffel grass should be included. We reviewed past Brigalow Research Annual Reports (Years 1970 - 2005) specifically to increase the buffel grass examples, but most work reported on supplementary feeding, new pasture species and beef genetics with little on pasture and grazing management, with no reference to the impacts of various stocking rates or utilisation on pasture growth or land condition.
- Where available local trial data should be included, and where possible replace the Ecograze and other 'northern' trial data. Accordingly we reviewed the available information from the Keilembete and Galloway research trials, and where the data supported the principles they were included. As these trials are published they will be added to the participants toolbox and added into the slides as examples where appropriate.
- Information on limebush thickening and control was also included into the workshop notes.

2.1.4 Northern Gulf

The Northern Gulf pilot was run in Georgetown in January 10-11 2006, with participants including the DPI&F Beef team, the Northern Gulf Resource Management Group (NGRMG), and local landholders. Some of the general comments from the participants on the workshop included:

- Very happy with the package – happy with slides and presentations
- Understand what is in the GLM workshop
- Reluctant to pay for the workshop, needs to link to GLM+ (a rapid appraisal method to describe current land condition that is undertaken on-property with landholders).
- Introduction to include the suite of products in the N Gulf ie what is on offer from the NGRMG ie devolved grants, mapping, GLM+ etc
- Follow up support is essential
- Material is great but presenters must be respected – they must know the region
- GLM and GLM+ has the opportunity to turn grazing land management on its ear.
- Producers could use carrying capacity calculations to quantify outcomes from devolved grant expenditure.

Some specific changes suggested included:

- Inclusion of local photos where possible
- More information on soils in Module 2, and make the climate, nutrient and water cycling more linked to paddock level.
- More information on stock nutrition
- Reduce the fire and tree/grass balance sections, and emphasis more the management of thickening rather than clearing
- Better integrate biodiversity throughout the whole package, specifically including reference to triple bottom line
- Make links between grazing management, biodiversity and ABCD land condition framework.
- Take out 'southern' references
- Include local weeds, as many of the Weeds of National Significance aren't found in the northen gulf.
- More emphasis on pest management plans.

3 Success in achieving objectives

We have accumulated the locally relevant information in all regions and completed the customisation of Fitzroy, Northern Gulf, Maranoa-Balonne and Mulga versions of the GLM workshop. These materials have been edited and style checking to ensure they met the publishing standards of MLA Edgenetwork workshops. Pilot workshops for all versions were held as part of the customisation of the workshops. The Fitzroy, Maranoa-Balonne and Mulga versions have been presented as completed commercial workshops. Materials for all four workshops have been published and are ready for use.

4 Recommendations

Through this project a number of refinements to the customisation of GLM workshops have occurred:

- A streamlined desktop publishing and editing processes that removed the possibility of printing errors due to a lack of version control.
- The development of a land type factorial approach in conjunction with the AGSIP Modelling Support Project (AG10) and the Improving grazing management using the GRASP model (NBP.338) that allowed the development of land type pasture growth estimates in the regions where limited data were available.

These refinements ensured the successful completion of the project.

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