

GLM+ delivers improved natural resource management and production outcomes to extensive grazing properties in the savannas of semi-arid north Queensland, Australia

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Introduction Native pastures are the main feed resource on extensive cattle grazing properties (each usually >25,000 ha) in the savannas of semi-arid north Australia and it is widely accepted that condition of many important land types is declining. A wealth of resource information is publicly available but it is usually complex in nature, diffuse and not presented in terms readily understood by land managers. Extension agencies have also moved towards information delivery using group processes that are not readily accepted by remote land managers. The GLM+ program uses concepts and tools from the Grazing Land Management (GLM) workshop (Chilcott *et al.*, 2003) and also incorporates and builds on producer experience. It is delivered on-property to individual management teams who identify their own resources, the condition of those resources, and opportunities to manage for improved land condition. Its use is described in this paper.

Methods A 3-stage programme (GLM+) is delivered over 12 months (preferably mid- to late-pasture growing season, at the end of growing season and at the end of the dry season). At stage 1, delivered over 1.5 days, the management team identifies, describes and maps natural resources and infrastructure available to the business in local terms. Reasonable estimates for the extent of land type areas within paddocks rather than complex measurements are used although some accuracy is sought on paddock areas. Basic pasture ecology and an introduction to the ABCD land condition framework is then given. This respectively describes the amalgam of current soil surface condition, pasture composition, exotic weed invasion and extent of woodland thickening to assess whether current sustainable carrying capacity is at 100%, 75%, 45% or 20% of original carrying capacity. Land condition assessments are practised in the field and the condition of land types in at least one paddock is completed and the implications of this considered in economic and environmental contexts. In stage 2 (1 day), after managers have completed a condition assessment for all land types in all paddocks, the implications of current land condition on the overall management plan for the business are considered. Grazing management options are assessed by the management team in terms of feasibility, affordability and profitability. Stage 3 (1 day) examines whether changed management decisions achieved the identified goals or whether further modification is needed.

Essential materials include a satellite image at an appropriate scale (c. 1:50,000), mapping kit, paddock sheets and a toolkit containing regionally sourced land type photo-standards for land condition and pasture yield. Valuable back-up resources are local climate information and relevant land resource information.

Results and Conclusions Grazing businesses completing the GLM+ program have a full and contemporary understanding of type, extent and condition of available resources under their care. The ABCD land condition framework is easily understood and used by land managers to objectively describe and document land condition at a paddock level where any management modifications need to be made. Locally derived photo-standards of pasture yields for major land types allows an accurate assessment of available feed which, when linked with climate information, easily translates into a stocking rate. Because assessments are recorded, it is a simple procedure to verify success or otherwise of changed management decisions before the beginning of the next wet season.

Alone, or when added to an overall property plan, GLM+ achieves multiple objectives. It can be used to address land condition issues, identify and build a case for targeted property development to increase carrying capacity and to provide an objective argument for support from financial institutions. As well, it can be used to demonstrate duty of care to support applications for lease renewal and answer other environmental queries. It is also useful to support a market price if the property is being sold.

Reference

Chilcott, C.R., B.S. McCallum, M.F Quirk and C.J Paton (2003). Grazing Land Management Education Package Workshop Notes – Burdekin, Meat and Livestock Australia Limited, Sydney, Australia.