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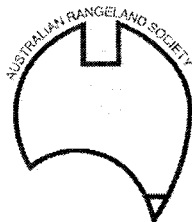
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MONITORING THE RANGELANDS FOR WHO AND WHAT PURPOSE - THE ALICE SPRINGS REGIONS

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Historically rangeland monitoring in the Alice Springs region has been based upon a person's perception of the condition of the land using either point source data and/or traversing the area. Most of the ensuing reports were unable to offer results and information to all possible clients in a manner that they could understand and/or make use of. The former Range Condition Assessment (RCA) and Department of Infrastructure, Planning & Environments (DIPE) Tier 1 monitoring programs are based on photopoints, with an overall paddock and property assessment. These programs have encouraged land managers to look more closely at their land, but how does this information transfer to the remainder of the surrounding landscape? Based on technically and scientifically sound principles what informative products can be developed for all interested parties to use?

Satellite imagery covers a broad area, and can be processed and analysed in a way that greatly reduces human interpretation. The methods applied in Central Australia are Grazing Gradient (Pickup and Chewings, 1994) using the WPAC (Bastin et al 1996) software, and site data collection based the DIPE Tier 2 methods (Lynch and Karfs 2001). Specific products produced by WPAC are presented in Table 1.

Table 1: Specific products produced by WPAC software.

| Product | Purpose |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Grazing Gradient Graph - Regional | The graph indicates cover levels out from watering points averaged across the region. |
| Grazing Gradient Graph - Paddock | Details how the cover levels vary from all water points within the one paddock for the chosen land type |
| Grazing Gradient Graph - Water Point | Specifically details cover levels from a single watering point in a paddock - watering point management level. |
| <i>Resilience Image</i> | Comparing wet and dry period images analysis indicates resilience of a land type to the grazing pressure applied. |
| Cover Production Loss | Illustrates cover production loss as a result of past grazing practices for each particular land type and area analysed. |

Interpretation of the products (Tables 1 and 2) identifies general trends in the landscape. Verification of these products can be assisted by ground data from sites, visual interpretation and land managers input. The products yield results at varying scales dependant on the clients needs (Table 3) and can be used to assist in developing short and long term strategies for improved land management. Property management decisions would be greatly aided using the example set of products in Figure 1.

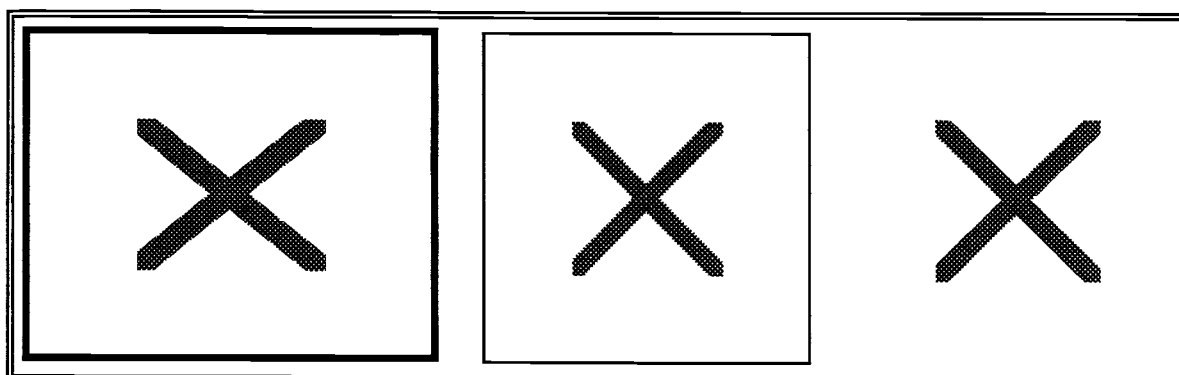


Figure 1. Grazing gradient graph, resilience image using '96 - '00 data, and land resource map.

Table 2: By-products produced for use as inputs for analysis and results from ground data.

| By-Product | Purpose |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrastructure Mapping | Map of fencing, tracks, bores and watering points Always handy information for every property. |
| Land Resource Map | Identifies the distribution of key land types for management purposes. |
| Satellite Image | Property overview especially with infrastructure overlaid. |
| Cover Image (PD54) | Image indicating vegetation cover levels for the area. |
| Site Photographs | Photos of sites through time giving a visual indication of the site. |
| Vegetation Analysis | Summary of species cover and frequency levels, species composition. |
| Land Function Analysis (LFA) | Analysis provides a comparative value of how functional the site is, plus other measurements such as patch (veg. obstructions) size and density, fetch (distance between obstructions) types and characteristics. |

Table 3: Client list and relevant products of beneficial use.

| Client | Product List |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Land Manager - Pastoralist | All products are of significant importance to the manager for various uses at different scales, assisting in land management decisions. |
| State Govt. Groups | Depending on the required use all products would be useful. |
| Pastoral Land Board | Depending on the required use all products would be useful. |
| Research Colleagues | All specific products and most by-products would be if interest. |
| Federal Govt. Groups | Regional scale products. |
| Non-Govt. Orgs (CLMA, Cattlecare) | Products at a property and paddock scale, such that appropriate management assistance can be provided. |
| Others (Marketing agents) | Products at a property and paddock scale to formulate a market price, and supply information to possible buyers. |

Monitoring of the regions' rangelands can be accomplished using the aforementioned methods. With good coordination between land managers, extension officers and scientists, more accurate and informative products can be produced. If there is better communication between land managers and scientists both will understand more about the products and the land respectively. Hence with greater understanding, interpretation of the results and what they mean is increased, benefiting both. The benefits of this improved interpretive ability and accuracy will be passed through to the remainder of the clients via the products.

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