



Southern Gulf
NRM



Pasture Partners
LAND CONDITION MONITORING

This photo demonstrates how management can impact on land condition.

LAND CONDITION MONITORING to Benchmark and Improve Pasture Condition

CASE STUDY

Following years of drought **Southern Gulf NRM's Sustainable Grazing Program** was developed to focus on how to improve groundcover and land condition through the adoption of best grazing management practices. The Pasture Partners project encourages graziers to establish monitoring sites to assess groundcover and land condition and implement management practices changes where appropriate. The success of the project is measured in the improvement in groundcover and land condition through the adoption of grazing land best management practices. This case study outlines how monitoring of land condition under the **Pasture Partners Project** has led to the implementation of grazing best management practices that will ultimately improve land condition and ground cover.

Overview

To better understand what is happening at a property scale graziers are best to systematically study what is occurring at the site scale. Graziers are then able to make the right decisions, informed by the monitoring information they collect. They then have the best basis for implementing any needed practice change to better manage their pastures and herds, resulting in more even grazing pressure and improved land condition in areas that were in a less than ideal state.

Background

Pasture Partners is funded by the Australian Government through the National Landcare Programme. It is aimed at benchmarking and improving pasture condition across

the Southern Gulf region through the utilisation of land condition monitoring and targeted training programs. The project also provides grant funds to graziers, known as Pasture Partners, who establish monitoring sites to assess land condition on a regular basis. These producers then provide reports to Southern Gulf NRM each quarter until June 2018 but it is intended that they continue with this practice themselves in the longer term.

Pasture Partners Project Implementation

Pasture Partners are provided one-on-one training in land condition monitoring by Southern Gulf NRM's Rangelands Officer. They are coached in how to establish monitoring sites on their properties using FutureBeef's Stocktake Plus app which has the ability to email the data and photos in reports.

Pasture Partners monitor their sites by scoring:

- pasture condition,
- soil condition,
- ground cover,
- tree basal area,

and writing notes about pasture species, grazing history, rainfall and other notes relevant to the site.

In the Southern Gulf region it is generally best to monitor twice a year:

- at the end of the wet season (usually mid-late April when there will be little further pasture growth)
- at the end of the dry season (end of October to mid-November before early storms commence)

At the end of the wet season graziers can see how their pastures have responded to the wet and determine how many livestock units the paddock can carry through the impending dry season. The most accurate method is to prepare a pasture budget – either using the Stocktake Plus app or using a spreadsheet.

At the end of the dry season graziers can assess how accurate their forage budgets or assessments were at the end of the wet and decide whether the land condition is improving, declining or being maintained as a result of their management decisions and what management strategies they can implement to address any issues.

The benefit to graziers is to identify how their land condition changes over time, taking into account their own management and what seasons are experienced during that time. Through this project Southern Gulf NRM has also been able to identify what is happening across the region. The information provides the organisation with the basis for how it might be able to deliver future projects to address issues and facilitate the adoption of best management practice.

203 monitoring sites have now been established across 24 properties across the region – from the region’s northeast corner; down to the southeast corner near Stamford; and all the way through to the Gregory and Burketown region.

The project has a particular focus on native Mitchell grass pastures following the extended drought years and its subsequent decline and its need to be nurtured to bring it back to its full potential as a pasture.

At some locations demonstration sites of A, B, C and D Land Condition and Fire Scar demonstration sites have been established to show graziers the differences that land condition has on pasture production and sustainability. The easy to use Land Condition Guide book is available from Southern Gulf NRM.

Participants are provided with a Pasture Partners Report which is compiled using their Stocktake Plus data; graphs of what changes have occurred over the time being monitored; and graphs comparing their data to other participating properties that have the same land type.

Reasons for Participation

There are a range of reasons that Pasture Partners have been keen to establish their monitoring sites.

1. Pasture budgeting – choosing sites that are representative of the average pasture quality and quantity within a paddock or portion of a paddock for the purpose of pasture budgeting to enable them to stock the paddock at a safe level. Bob Shepherd, Principal Extension Officer (Grazing Land Management), Queensland Department of Agriculture and Fisheries, conducted three Forage Budgeting field days across the region in May 2017.

2. Pasture species – some participants have established sites to monitor the actual pasture species and intend to focus their management on improving their pasture condition. They also want to monitor how the species mix changes (e.g. perennials vs annuals, 3P species vs less desirable species) over the year and due to various seasonal patterns.

Note - 3P species are pasture species that are Perennial, Palatable and Productive.

3. Weed management – many participants have established sites to keep a closer eye on weed invasion and want to understand how their management impacts on their weeds over various seasons. Weeds being monitored vary from feathertop grass to prickly acacia, as well as gidgee or boree thickening and encroachment.

4. Monitoring of degraded areas to assess whether the areas are improving, declining or being maintained and consider strategies to address the problems.

5. Monitoring prior to infrastructure development – several participants have established sites because they are planning to subdivide paddocks to even out grazing pressure and implement wet season spelling to restore overgrazed areas. They are keen to monitor overgrazed areas and how they recover from rest; and undergrazed areas and how they respond to heavier grazing.

Aysha McCoy, after establishing 26 monitoring sites commented “I’ve been able to learn in my own environment to broaden my knowledge. I now have a starting point to better judge stocking rates. I had no idea how to start monitoring before and was too daunted to start by myself.”

Because of her passion to learn, Aysha was awarded the Southern Gulf NRM bursary to attend the Australian Rangelands Society Conference.



Aysha McCoy, Rainscourt, Richmond, assessing land condition using the Stocktake Plus app.

Outcomes

Monitoring leads to adopting practices to improve land condition

Pasture Partners involved with the monitoring project have now considered a range of activities to improve their land condition, with many implementing or planning to implement on-ground activities that will lead to changes of practice most appropriate to their situation to achieve better groundcover and land condition.

Woodland encroachment by Gidgee, Whitewood, Boree and Gutta Percha is having an impact on land condition in many areas of Southern Gulf.





This photo demonstrates a good Landscape Photo on Frontage Land Type. The picket indicates the location of the monitoring site, with the photo taken facing to the south with a tree in the background to ensure future photos are of the same area. A Trayback Photo is taken at the site looking directly into the monitoring site to show the tussocks and pasture mix.

These range from:

1. Pasture budgeting and adjusting stocking numbers to align with the seasonal carrying capacity of a property or paddock.
2. Landtype fencing and splitting paddocks to better manage how stock graze particular paddocks. As pasture species vary according to landtype, stock tend to preferentially graze either the more palatable species or the sweeter country. Fences can force stock to graze non-preferred areas, evening out grazing pressure and ensuring more complete utilisation of pastures in each paddock and reducing the risk of pasture degradation from excess grazing pressure.
3. Water infrastructure – the provision of water reduces the distance stock must travel to water. Often they are reluctant to travel beyond 2.5 km grazing circles so extra water points result in more even grazing pressure.
4. Weed control – some participants are monitoring to determine how quickly weeds are invading and will be better informed to know what level of control or when treatment is required.
5. Thickening and encroachment by Gidgee, Boree, Whitewood and Gutta Percha – participants can monitor how quickly thickening and encroachment is taking place and will decide at what point intervention is required, assuming that legislation is complied with before undertaking activities. The sites will again be monitored following intervention to assess how quickly it reoccurs.
6. Claypan reclamation – one property has undertaken claypan reclamation earthworks in an attempt to improve

land condition in frontage country that has been preferentially grazed. Other properties are considering whether to do similar work.

7. Pasture improvement – five properties are considering undertaking a pasture improvement program to improve the quality of their pasture. A few are trialling Progardes, a relatively new Desmanthus variety, with the plan to establish larger areas if establishment is successful.
8. Herd efficiency – most Pasture Partner participants have attended the Herd Efficiency workshops convened as part of the project. As a result they have implemented or plan to implement strategies to improve herd efficiency which include:
 - a. Adjusting stocking rate to seasonal carrying capacity
 - b. Pregnancy testing
 - c. Segregating breeders based on calving period
 - d. Controlled mating programs
 - e. Early weaning calves in drier seasons
 - f. Early weaning out-of-season calves
 - g. Culling breeders that are not productive
 - h. Testing for disease and/or implementing a disease vaccination program
 - i. Selling stock earlier in drier seasons.

There are excellent benefits in monitoring land condition. By keeping a record of changes that are occurring on their properties graziers become more attuned to those changes and can implement strategies to improve the land condition.

Land condition monitoring is the first step in undertaking best grazing management practice.



Michael & Hannah Crisp are using an iPad to enter monitoring data into the Stocktake Plus app as they monitor a site on Lorraine Station, via Cloncurry.

Michael Crisp, when asked what value he saw by participating in the Pasture Partners land condition monitoring project said that it was “to keep a record of exactly what’s happening in terms of our environment and to see what impact grazing is having on it. Our brains tend to be selective when remembering what state the country has been in”.



LAND CONDITION *guide*

The Southern Gulf NRM Pasture Partners Land Condition Guide was designed to use in the paddock to assist with the management of stocking rates, and provides information on assessing and managing pastures on all 14 Land Types present in the Southern Gulf region.

Production of the Guide was supported by Southern Gulf NRM and the Queensland Department of Agriculture and Fisheries through funding by the Australian Government.

The Guide is available from Southern Gulf NRM.



Australian Government

National Landcare Programme



FURTHER INFORMATION:

Anne Alison Rangelands Officer

Phone: 4743 1888 | 0407 789 747 | Email: grazing@southerngulf.com.au

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