



Southern Gulf  
NRM



Pasture Partners  
LAND CONDITION MONITORING



Anne Alison, Rangelands Officer, assisting Amy Bellingham with the names of pasture species as she enters them into the Stocktake Plus app on a smartphone.

## *Increasing beef production through* **IMPROVING LAND CONDITION**

### **CASE STUDY**

Maintaining a profitable beef enterprise and sustaining land condition and ground cover while dealing with drought and the impact of woody weeds is a challenge for large parts of the Southern Gulf region. John and Susi Bellingham from Clareborough have generously shared their experience with Southern Gulf NRM, as a case study for the **Pastures Partners program**.

### **Background**

Clareborough, 65 km south of Richmond, is a Mitchell Grass Downs property that is in good order following on from years of drought and dry seasons and then an excellent season in 2016. The property plus a section of stock route consists of approximately 8100 ha (20,000 acres).

John and Susi Bellingham bought the property in late 1997, while still concentrating on their fencing/yard building business and working throughout northwest Queensland and on the Barkly. This provided them with cashflow to eventually purchase cattle and develop Clareborough. They later purchased Salisbury Creek, a property 60 km west of Condamine to background cattle from Clareborough and provide a wider range of market options. It proved vital to their operation during the severe drought years.

Clareborough key herd management strategies :

- Breeder herd – Santa Gertrudis and Santa cross
- Four month control mating
- All PTEs (Pregnancy Tested Empty) are culled
- All PTICs (Pregnancy Tested In Calf) that do not raise a calf are culled

The enterprise over both properties aims to turn off:

- Steers as heavy feeders averaging 460-470kg
- Cull heifers as heavy feeders averaging 420kg
- Cull cows are segregated, fattened and sent direct to meatworks

## Grazing land management

John and Susi have always endeavoured to stock conservatively, preferring to go into summer with adequate groundcover to preserve land condition. John commented, “some years it is difficult to achieve good groundcover due to the tussock nature of Mitchell grass.”

A set-stocked grazing system is in place, however generally a couple of paddocks are spelled each wet season.

John and Susi are currently participating in the Pasture Partners program, monitoring the pastures to provide them with information to improve their grazing management. John recently attended two workshops - a Grazing BMP workshop which focused on Grazing Land Management as well as Bull Selection and Fertility; and a Multi Topic workshop which focused on Biosecurity and Sustainable Grazing.

Currently two thirds of the paddocks are evenly grazed. Cattle Paddock which was originally 1644 ha and contained several channels was fenced into two, parallel to the channels, to separate Bull Mitchell Grass from the better downs country. The Curly Mitchell Grass country, in John’s words, “was previously flogged” while the Bull Mitchell was ungrazed. Road Paddock, 2138 ha, was also split into two to achieve more even grazing pressure.

The other third of the property is patch-grazed due to the changing soils (ashy vs sweeter) and different Mitchell Grasses (Curly and Bull). Because of their patchy nature and the number of channels making up Alick Creek, some of these areas would be too difficult and costly to fence to achieve more even grazing pressure.

John says, “I am very conscious of the value of soil and the damage caused by soil erosion. We have been continually dealing with soil erosion and trying to get on top of it”. They have hosted two of Southern Gulf NRM’s Erosion Control workshops by Darryl Hill and have undertaken earthworks to minimise erosion.

An integrated approach is adopted for prickly acacia control which includes camels that prevent the spread of seeds; ground application of chemical; and foliar spraying of young plants, particularly along old bore drains where a seed bank still exists.

## Drought management

As the drought began to take a grip at Clareborough, John and Susi quickly implemented drought management strategies and allowed the property to survive the drought in reasonable condition. It was able to respond to the excellent season in 2016 which included winter rain and Clareborough has now returned to a much healthier state.

### Key drought management strategies implemented:

- Made decisions early
- Early-weaned down to 70 kg in 2013; and to 50 kg or lower in 2014
- Breeders were kept in a better Body Condition Score due to early weaning
- Fed weaners hay and calf pellets until a certain weight then turned out into paddock, before trucking to Salisbury Creek
- Sent cull cows to meatworks while still in reasonable condition
- By end of 2014 stocked to 38% of previous summer when fully stocked
- Sent breeders on agistment in 2014
- Retained low stock numbers on Clareborough until it could recover (down to only 150 weaner heifers in summer of 2014-2015 and a further 290 weaners in 2015-2016)
- Low stocking rate over 2015-2016 summer allowed two excellent Mitchell Grass germinations following late December rain and March rain, however there was very little Flinders Grass, annuals or other forb species
- Low stocking rates over winter when there was further rain allowed Mitchell Grass to continue to recover

### Despite their early weaning down to 50 kg or lower :

- All steers and cull heifers reached heavy feeder rates in the normal timeframe;
- The 150 heifers that remained in 2014 achieved 95% PTIC, had excellent rejoining results and are now on their second calf.
- Brought back breeders and their weaners from agistment in late September following excellent 2016 season.

Clareborough DAF trial site fence-line effect in November 2014 showing the pasture condition within 2m of the fence and outside it. The trial was sown in mid-December 2013.





In July 2017 the Mitchell Grass pasture within the trial Department of Agriculture and Fisheries site and in the grazed paddock adjacent to it, are both in Land Condition A

## Key messages on Drought Management

John sums up Clareborough's drought recovery with the following comment: "because we didn't have many cattle here at the end of the drought and the start of 2016, it meant that Mitchell Grass could germinate, endure and recover. Mitchell Grass needs to be managed well. It cannot be expected to recover from drought without appropriate management".

Susi said, "During the drought we made some critical decisions early on. We were fortunate having a second property in another geographic location and being able to find agistment at a time when it was in high demand. Because we had these options we could implement the management strategies that we did".

## Excellent recovery evident adjacent to DAF Trial Site

In 2013 the Queensland FutureBeef team established a fenced-off trial site at Clareborough. The site was in a very poor condition at the time. Although one section of the site is used to trial improved pasture species, a section of it is Mitchell Grass pasture which is now in A Land Condition. The paddock surrounding the trial site has been well managed because it is also in A Land Condition. It will be capable of excellent pasture production when a good wet season arrives. It's recovery is due to carefully managed grazing pressure over the four years. That management will now pay dividends in pasture yield and beef production in the future.



**John compares the run of seasons to the motion of a pendulum.**

“2013 was enough of a season to scrape through; 2014 was at the bottom while 2016 was close to the peak, especially with how the rain fell. This current 2017 season is around the middle of the pendulum swing.”

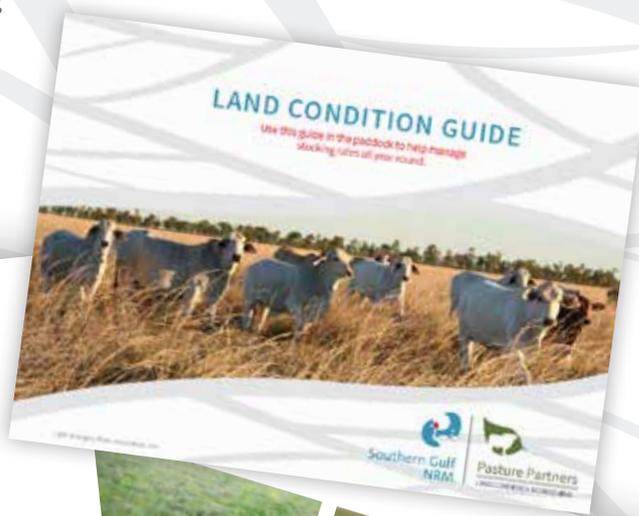


# LAND CONDITION *guide*

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.



## MITCHELL GRASS

### Landform

Flat to undulating plains. Often adjoins and sometimes mixed in with bluegrass browntop plains and/or flooded plains.

### Soil

Grey-brown heavy clays, ashy surfaces and areas of pebbly downs, moderate fertility.

### Woody vegetation

Predominantly treeless plains with whitewood, vine tree/supplejack and areas of gidgee, corkwood wattle, coolibah, and guttapercha on the edge of flooded areas.

### Preferred pasture species (3Ps)

Mitchell grasses, Gulf bluegrass, Queensland bluegrass, buffel grass, forest bluegrass, and desert bluegrass.

### Utilisation rate

22%

### Land management

#### Pasture recovery

##### B condition

Light grazing pressure in 1-2 average wet seasons.

##### C condition

Isolated plants or patches - protect to allow quick reseeding and recovery in bare areas for 2-3 average wet seasons. Very few 3P tussocks - careful grazing to allow seedling establishment for 3-5 average wet seasons.

#### Managing pastures

##### Fire

Concentrate burns during storms and post-wet season every 4-7 years. Burn up to 25% in any one year at a low-moderate intensity. Burning will promote regeneration of palatable, perennial pasture species and will scorch tops of unwanted woody plants.



### FURTHER INFORMATION:

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