

# GRASS

Grazing Resilience and Sustainable Solutions



Action Plan for Land Management

<M230008>

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Prepared by: Office of the Great Barrier Reef, Department of Environment and Science

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### **Acknowledgements**

This publication has been jointly developed by the Department of Agriculture and Fisheries, NQ Dry Tropics, Fitzroy Basin Association and Burnett Mary Regional Group.

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## Document Purpose Part 1 (Extension officer use only)

This **Action Plan for Land Management** (Part 1) will support extension staff and landholders to manage ground-cover, sediment run-off and land condition from grazing properties, particularly in areas that have poor and/or degraded groundcover. By participating in this project, landholders will be provided with paddock map/s identifying land types, existing infrastructure such as watering points, fences etc. This also includes FORAGE reports and how landholders can access these in the future, land condition assessment (cover imagery and ground truthing) as well as proposed improvements in areas identified as being in **poor or degraded condition**. One-on-one support will focus on identifying measures that will improve land condition, resulting in sufficient residual pasture by the end of the dry season as well as preventing areas of degraded land from further degradation or expansion. Examples of actions that may be used, include:

- Adjusting grazing pressure – adjust stocking rate to match land condition:
  - Stocking to long-term carrying capacity
  - Determining short term carrying capacity using forage budgets.
- A planned program of wet season spelling of land to improve land condition.
- Managing preferential grazing, through actions such as:
  - Additional fencing
  - Establishing additional/relocating watering points
  - Strategic placement of licks.
- Managing land around gullies and early signs of gullying:
  - Managing linear infrastructure to minimise erosion
  - Establishing diversion banks
  - Sowing pastures
  - Controlling weeds
  - Managing grazing pressure in the gully catchment area and within the gully area
  - And other measures that improve land condition or prevent areas of degraded land condition from further degrading or expanding.

Extension officers will discuss with landholders options that are most cost effective and will provide the best outcomes for their grazing enterprise.

# Action Plan for Land Management (Part 1)

## Property Details

| Property location and ownership details |  |
|---|--|
| Owners                                  |  |
| Property name                           |  |
| Business name                           |  |
| ABN                                     |  |
| Residential address                     |  |
| Phone (Mobile)                          |  |
| Email                                   |  |

| Business Description                      |                    |
|---|--------------------|
| Core farm business and related activities | Cattle             |
| Grazing management practices              | Rotational Grazing |

| Property details      |          |                      |                              |
|-----------------------|----------|----------------------|------------------------------|
| Local Government area |          | North Burnett Region |                              |
| Basin/catchment       |          | Burnett River        |                              |
| Lot on Plans          | Tenure   | Area                 | Time of ownership/management |
|                       | Freehold | 1313ha approx.       |                              |
|                       | Freehold | 705ha approx.        |                              |

| Land Use            |        |
|---------------------|--------|
| Area Assessed       | 2018ha |
| Total Property area | 2400ha |

**Attached to this Land Management Plan:**

Property maps:

- Infrastructure map
- Ground cover

Property reports

- Forage Reports:
  - Ground cover report
  - Regional groundcover comparison
  - Indicative land type report
  - Rainfall & pasture by land type report
  - Fire scar report
  - Erosive soils report

Land Type Information Sheets:

- Goldfields – red soils
- Narrow-leaved ironbark on deeper soils
- Ranges
- Loamy alluvials

## Self-Assessment of Grazing Land in Poor or Degraded Condition

### Paddock Scale

| SURVEY and SITE DETAILS |               | LCAT Results               |                  |
|-------------------------|---------------|----------------------------|------------------|
| Assessed By             | Ben Hoekstra  | Indicative Biomass         | 2000 – 3500kg/ha |
| Date                    | 28/09/2022    | Grazing Alert              | Lower risk       |
| Paddock                 | House Paddock | Erosion Hazard             | High risk        |
| Area                    | 1.58ha        | Water Quality Hazard       | Lower risk       |
| Site name               | Site 1        | Water Contamination Hazard | Lower risk       |
| Lat                     |               | Invasive Pest Plant Hazard | Moderate risk    |
| Long                    |               | Impact on Natural State    | Greatest impact  |
| Grazing ABCD            | SCORE         | Estimated Ground Cover     | More than 70%    |
| C condition             | 45            |                            |                  |

#### Note of assessment (e.g. justification and observations)

- Land type IB09 Gum-topped box country, with isolated canopy trees across the paddock with a very gentle incline.
- Ground cover of more than 70%, with the dominant pasture species being Creeping Blue Grass.
- The House paddock has a large grassed up gully with multiple active heads feeding the gully.
- Moderate soil erosion with exposed subsoil. Little to no visible cattle impact on gully or surrounds.

**Photos of area**



| Measures to improve land condition   | Date measure/s implemented |
|--|----------------------------|
| <p>(Include what management strategies you plan or are currently taking. Include reports, photos, records or documents where required)</p>   | <p><b>28/09/2022</b></p>   |
| <ul style="list-style-type: none"> <li>• Continue to maintain minimal grazing pressure and good ground cover in and around the erosion area.</li> <li>• Encourage any trees to emerge surrounding the gully area.</li> <li>• Contour/ pondage banks may be required to hold water above the gully, alleviating pressure, and encourage the dispersal of water over a larger surface area.</li> <li>• In areas of low or no ground cover, nutrients such as hay or mulch may be required to promote growth.</li> <li>• Woody debris might be needed to help accumulate soil.</li> </ul> |                            |

**Annual monitoring and review of land condition**

(include photos/s or appropriate evidence where required)

**Person conducting assessment:**

**Date of assessment:**

**Land condition assessment:**     A     B     C     D

**Estimated ground cover:**     0-30%     31-50%     51-70%     71-100%

**Notes of assessment** (include improvements to area, progress on management strategies)

*Photos of area*

## Self-Assessment of Grazing Land in Poor or Degraded Condition

### Paddock Scale

| SURVEY and SITE DETAILS |              | LCAT Results               |                  |
|-------------------------|--------------|----------------------------|------------------|
| Assessed By             | Ben Hoekstra | Indicative Biomass         | 2500 – 5000kg/ha |
| Date                    | 28/09/2022   | Grazing Alert              | Lower risk       |
| Paddock                 | Bore Paddock | Erosion Hazard             | Lower risk       |
| Area                    |              | Water Quality Hazard       | Very high risk   |
| Site name               | Site 2       | Water Contamination Hazard | Lower risk       |
| Lat                     |              | Invasive Pest Plant Hazard | Lower risk       |
| Long                    |              | Impact on Natural State    | Greatest impact  |
| Grazing ABCD            | SCORE        | Estimated Ground Cover     | More than 70%    |
| A condition             | 89           |                            |                  |

#### Note of assessment (e.g. justification and observations)

- Land type IB09 Gum-topped box country, with isolated canopy trees across the paddock with a very gentle incline.
- Ground cover of more than 70%, with the dominant pasture species being Creeping Blue Grass.
- Well vegetated riparian buffer zone along the creek. Mid-dense understory and canopy species present.
- Low to no erosion and cattle impacts visible in assessment area.

**Photos of area**



|   |  |
|---|--|
| <p><b>Measures to improve land condition</b></p> <p>(Include what management strategies you plan or are currently taking. Include reports, photos, records or documents where required)</p> | <p><b>Date measure/s implemented</b></p> |
|   | <p><b>28/09/2022</b></p>                 |
| <ul style="list-style-type: none"> <li>• Continue effective rotational management of the Bore paddock.</li> <li>• Monitor early signs of cattle impact on riparian area.</li> </ul>         |  |

**Annual monitoring and review of land condition**

(include photos/s or appropriate evidence where required)

**Person conducting assessment:**

**Date of assessment:**

**Land condition assessment:**     A     B     C     D

**Estimated ground cover:**     0-30%     31-50%     51-70%     71-100%

**Notes of assessment** (include improvements to area, progress on management strategies)

*Photos of area*

## Self-Assessment of Grazing Land in Poor or Degraded Condition

### Paddock Scale

| SURVEY and SITE DETAILS |              | LCAT Results               |                 |
|-------------------------|--------------|----------------------------|-----------------|
| Assessed By             | Ben Hoekstra | Indicative Biomass         | 800 – 2000kg/ha |
| Date                    | 28/09/2022   | Grazing Alert              | Lower risk      |
| Paddock                 | Bull Paddock | Erosion Hazard             | Very high risk  |
| Area                    |              | Water Quality Hazard       | Lower risk      |
| Site name               | Site 3       | Water Contamination Hazard | Lower risk      |
| Lat                     |              | Invasive Pest Plant Hazard | Lower risk      |
| Long                    |              | Impact on Natural State    | Greatest impact |
| Grazing ABCD            | SCORE        | Estimated Ground Cover     | 50 – 70%        |
| B condition             | 60           |                            |                 |

#### Note of assessment (e.g. justification and observations)

- Identified area of 50 – 70% groundcover. Remediation work have been undertaken by landholder to slow the flow of water & encourage ground cover by spreading nutrients across the site in the form of bales of hay. This has been successful in introducing vegetation back into the landscape & helping retain soil.
- A large dam has been constructed to catch and hold water as it travels down the slope. Some minor erosion has occurred above dam from rain event occurring just after construction.
- Land type IB09 Gum topped box, isolated canopy trees across paddock.

**Photos of area**



|  |  |
|--|--|
| <p><b>Measures to improve land condition</b></p> <p>(Include what management strategies you plan or are currently taking. Include reports, photos, records or documents where required)</p>  | <p><b>Date measure/s implemented</b></p> |
|  | <p><b>28/09/2022</b></p>                 |
| <ul style="list-style-type: none"> <li>• Continue efforts to return nutrients to the soil, promoting vegetation cover by means of hay bales. Especially around dam area. Contour bank horizontally across the slope will help slow and retain moisture in the landscape, preventing soil movement.</li> <li>• Strategically resting paddocks allows most desirable species time to regenerate. Aim to rest pastures in both the wet and the dry season</li> <li>• Pasture budget at the end of the wet season and match carrying capacity (feed available) to stocking rate</li> </ul> |  |

**Annual monitoring and review of land condition**

(include photos/s or appropriate evidence where required)

**Person conducting assessment:**

**Date of assessment:**

**Land condition assessment:**     A     B     C     D

**Estimated ground cover:**     0-30%     31-50%     51-70%     71-100%

**Notes of assessment** (include improvements to area, progress on management strategies)

*Photos of area*

## Self-Assessment of Grazing Land in Poor or Degraded Condition

### Paddock Scale

| SURVEY and SITE DETAILS |                       | LCAT Results               |                 |
|-------------------------|-----------------------|----------------------------|-----------------|
| Assessed By             | Ben Hoekstra          | Indicative Biomass         | 300 – 800kg/ha  |
| Date                    | 28/09/2022            | Grazing Alert              | Pasture deficit |
| Paddock                 | Bill Condel's paddock | Erosion Hazard             | Very high risk  |
| Area                    | 63.03ha               | Water Quality Hazard       | Lower risk      |
| Site name               | Site 4                | Water Contamination Hazard | Lower risk      |
| Lat                     |                       | Invasive Pest Plant Hazard | Moderate risk   |
| Long                    |                       | Impact on Natural State    | Greatest impact |
| Grazing ABCD            | SCORE                 | Estimated Ground Cover     | 50 -70%         |
| C condition             | 38                    |                            |                 |

#### Note of assessment (e.g. justification and observations)

- Land type IB19 Spotted gum ridges. Pasture deficit due to African Love grass being the dominant pasture species with reduced biomass.
- Ground cover across the paddock is 50-70%, with some areas really lacking cover in the drainage area.
- Canopy trees scatter the landscape, particularly *Corymbia citriodora* & *Eucalyptus crebra*

**Photos of area**



|  |  |
|--|--|
| <p><b>Measures to improve land condition</b></p> <p>(Include what management strategies you plan or are currently taking. Include reports, photos, records or documents where required)</p>  | <p><b>Date measure/s implemented</b></p> |
|  | <p><b>28/09/2022</b></p>                 |
| <ul style="list-style-type: none"> <li>• Graze heavily while young and succulent when African lovegrass is most palatable and nutritious to stock. Consider re-sowing desirable pasture species in small areas that are heavily infested with African love grass.</li> <li>• In areas of low or no ground cover, nutrients such as hay or mulch may be required to promote growth. Small contour banks or whoa-boys may be required to prevent further erosion on bare surfaces/ tracks.</li> <li>• Strategically resting paddocks allows most desirable species time to regenerate. Aim to rest pastures</li> </ul> |  |

in both the wet and the dry season. Pasture budget at the end of the wet season and match carrying capacity (feed available) to stocking rate

**Annual monitoring and review of land condition**

(include photos/s or appropriate evidence where required)

**Person conducting assessment:**

**Date of assessment:**

**Land condition assessment:**     A     B     C     D

**Estimated ground cover:**     0-30%     31-50%     51-70%     71-100%

**Notes of assessment** (include improvements to area, progress on management strategies)

*Photos of area*

## Self-Assessment of Grazing Land in Poor or Degraded Condition

### Paddock Scale

| SURVEY and SITE DETAILS |                   | LCAT Results               |                 |
|-------------------------|-------------------|----------------------------|-----------------|
| Assessed By             | Ben Hoekstra      | Indicative Biomass         | 800 – 2000kg/ha |
| Date                    | 28/09/2022        | Grazing Alert              | Lower risk      |
| Paddock                 | Sugar Gum Paddock | Erosion Hazard             | High risk       |
| Area                    |                   | Water Quality Hazard       | Lower risk      |
| Site name               | Site 5            | Water Contamination Hazard | Lower risk      |
| Lat                     |                   | Invasive Pest Plant Hazard | Lower risk      |
| Long                    |                   | Impact on Natural State    | Greatest impact |
| Grazing ABCD            | SCORE             | Estimated Ground Cover     | More than 70%   |
| B condition             | 63                |                            |                 |

#### Note of assessment (e.g. justification and observations)

- IB09 Gum topped box country, with one of the predominant pasture species being Buffel grass. Overall ground cover across the paddock exceeded 70%.
- The gully area showed signs of erosion and bare surfaces, with little to no canopy trees on the flats. Tree density increased with elevation.
- Moderate soil erosion with exposed subsoil. Little to no visible cattle impact on gully or surrounds.

**Photos of area**



|   |  |
|---|--|
| <p><b>Measures to improve land condition</b><br/>                 (Include what management strategies you plan or are currently taking. Include reports, photos, records or documents where required)</p>   | <p><b>Date measure/s implemented</b></p> |
|   | <p><b>28/09/2022</b></p>                 |
| <ul style="list-style-type: none"> <li>• Encourage any vegetation to grow in and around this gully area. Intervention may be needed to encourage vegetation growth and prevent soil loss.</li> <li>• In areas of low or no ground cover, nutrients such as hay or mulch may be required to promote growth. Small contour banks or whoa bouys may be required to prevent further erosion on bare surfaces.</li> <li>• Strategically resting paddocks allows most desirable species time to regenerate. Aim to rest pastures in both the wet and the dry season</li> <li>• Pasture budget at the end of the wet season and match carrying capacity (feed available) to stocking rate</li> </ul> |  |

**Annual monitoring and review of land condition**

(include photos/s or appropriate evidence where required)

**Person conducting assessment:**

**Date of assessment:**

**Land condition assessment:**     A     B     C     D

**Estimated ground cover:**     0-30%     31-50%     51-70%     71-100%

**Notes of assessment** (include improvements to area, progress on management strategies)

*Photos of area*

## Self-Assessment of Grazing Land in Poor or Degraded Condition

### Paddock Scale

| SURVEY and SITE DETAILS |               | LCAT Results               |                 |
|-------------------------|---------------|----------------------------|-----------------|
| Assessed By             | Ben Hoekstra  | Indicative Biomass         | 900 – 2200kg/ha |
| Date                    | 28/09/2022    | Grazing Alert              | Lower risk      |
| Paddock                 | Plain Paddock | Erosion Hazard             | Very high risk  |
| Area                    | 7.38ha        | Water Quality Hazard       | Lower risk      |
| Site name               | Site 6        | Water Contamination Hazard | Lower risk      |
| Lat                     |               | Invasive Pest Plant Hazard | Moderate risk   |
| Long                    |               | Impact on Natural State    | Greatest impact |
| Grazing ABCD            | SCORE         | Estimated Ground Cover     | More than 70%   |
| C condition             | 41            |                            |                 |

#### Note of assessment (e.g. justification and observations)

- Land type IB14 Narrow leaved ironbark on granite. Pasture deficit due to African Love grass being the dominant pasture species.
- Ground cover of more than 70%, with the dominant pasture species being Creeping Blue Grass.
- The Plaine paddock has a large grassed up gully with multiple active heads feeding the gully.
- Moderate soil erosion with exposed subsoil. Little to no visible cattle impact on gully or surrounds.

**Photos of area**



|   |  |
|---|--|
| <p><b>Measures to improve land condition</b></p> <p>(Include what management strategies you plan or are currently taking. Include reports, photos, records or documents where required)</p>   | <p><b>Date measure/s implemented</b></p> |
|   | <p><b>28/09/2022</b></p>                 |
| <ul style="list-style-type: none"> <li>• Continue to maintain minimal grazing pressure and good ground cover in and around the erosion area. Encourage any trees to emerge surrounding the gully area.</li> <li>• Contour/ pondage banks may be required to hold water above the gully, alleviating pressure, and encourage the dispersal of water over a larger surface area.</li> <li>• In areas of low or no ground cover, nutrients such as hay or mulch may be required to promote growth.</li> <li>• Graze heavily while young and succulent when African lovegrass is most palatable and nutritious to stock. Consider re-sowing desirable pasture species.</li> </ul> |  |

**Annual monitoring and review of land condition**

(include photos/s or appropriate evidence where required)

**Person conducting assessment:**

**Date of assessment:**

**Land condition assessment:**     A     B     C     D

**Estimated ground cover:**     0-30%     31-50%     51-70%     71-100%

**Notes of assessment** (include improvements to area, progress on management strategies)

*Photos of area*

## Pasture and Soil Land Condition Assessment of poor and/or degraded land condition

Target for engagement is based on the ground cover threshold only. Areas that have >50% groundcover will not require further land condition assessment. Only land identified as having <50% ground cover will require a full land condition assessment.

First, identify area of land on the property that falls below the 50% threshold

| Ground Cover % | Good | Fair   | Poor  | Degraded |
|----------------|------|--------|---|----------|
|                | >70% | 50-70% | <50% (minimum standard groundcover threshold) | <20%     |

Use table below to assess only the land in poor or degraded condition for improvement. For more help in assessing Land Condition, watch these brief videos on the FutureBeef website:

[https://www.youtube.com/watch?v=zI\\_MWox3Bc&list=PL8gD7XvaopAc2I89d8PyQuS33KYzM-Wz&index=1](https://www.youtube.com/watch?v=zI_MWox3Bc&list=PL8gD7XvaopAc2I89d8PyQuS33KYzM-Wz&index=1)

| Land condition  | A  | B  | C  | D  |
|-----------------|--|--|--|--|
| <b>Pasture</b>  | <b>Excellent</b> >80% of pasture yield is 3P species, Large Tussocks, close together, healthy plants                       | <b>Good</b> 60-80% of pasture yield is 3P species, large tussocks, some gaps between, healthy plants                   | <b>Poor</b> 10-60% of pasture is 3P species, small tussocks, more noticeable gaps, unhealthy looking plants            | <b>Very Poor</b> <10% of pasture yield is 3P species, very small tussocks, large gaps between, dead looking plants                     |
| <b>Soil</b>     | <b>Stable</b> - No visual evidence of soil movement  | <b>Slight Disturbance</b> - Soil surface compaction, crusting, cattle pads affecting water movement                    | <b>Moderate Disturbance</b> - Plant pedestalling, sheet or rill erosion, soil mounding on obstacles                    | <b>Severe Disturbance</b> - Runoff concentrated in channels, scalds, bedrock at surface, Sheet or rill erosion >15cm deep              |
| <b>Woodland</b> | Tree area %<br>Tree Basal Area M <sup>2</sup> /Ha<br>Sucker Count over 10mx1m Diameter cm (No sign of woodland thickening) | Tree area %<br>Tree Basal Area M <sup>2</sup> /Ha<br>Sucker Count over 10mx1m Diameter cm (Some thickening in density) | Tree area %<br>Tree Basal Area M <sup>2</sup> /Ha<br>Sucker Count over 10mx1m Diameter cm (General density thickening) | Tree area %<br>Tree Basal Area M <sup>2</sup> /Ha<br>Sucker Count over 10mx1m Diameter cm (Thickets of woody plants cover large areas) |