

Grazing land condition



What is grazing land condition?

Grazing land condition is the capacity of the land to efficiently capture energy, cycle nutrients, and respond to rainfall to produce useful forage. It is a measure of how well the grazing ecosystem is functioning and directly influences the productivity of your land.

Land condition underpins the beef industry's productivity and profitability. Understanding land condition and how land is influenced by your grazing management including; stocking rates, spelling regimes, weed control and fire management, forms the basis of good business management for any grazing enterprise.

Maintaining your land in 'good' condition is important to:

- Maximise productivity and profitability in your grazing business
- Maintain stability and resilience to recover from disturbances (e.g. drought, fire, pests, and overgrazing)
- Maximise biodiversity and ecosystem function

Grazing land condition has **three key components**:



PASTURE CONDITION

The capacity of pasture to: capture solar energy and convert it into palatable green leaf; use rainfall efficiently; conserve soil condition; and cycle nutrients.



SOIL CONDITION

The capacity of soil to: absorb and store rainfall; store and cycle nutrients; provide habitat for soil biota (all organisms living within the soil), seed germination and plant growth; and resist erosion and degradation.



WOODLAND CONDITION

The effect that woodland condition has on the capacity of the land to: grow pasture; cycle nutrients; regulate ground water; resist erosion; provide shelter for stock, microclimates and habitat for native species; and maintain biodiversity.

The ABCD Land Condition Framework

The ABCD framework was developed by the Queensland Government to classify land condition and describe progressive degradation of grazing land.

The framework provides a standard means of assessing grazing land condition by monitoring its key components, particularly pasture condition and soil condition.



"Healthy country means healthy cattle and a healthy sustainable business."

Routine pasture assessments allow you to take stock of your pasture condition and manage grazing pressure appropriately.

The Rolling Ball model of land condition

The Rolling Ball model is useful for understanding the ABCD Land Condition framework. Not all changes in land conditions occur at the same rate, and some are not easily reversible.

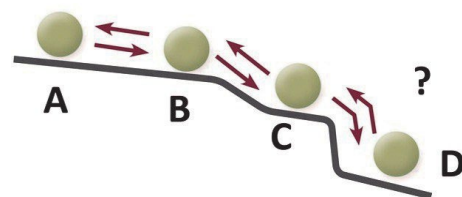
Land in A condition is very stable. Land that is trending towards B condition can be fairly quickly reverted to A condition by a change in management.

However, land in B condition is susceptible to a relatively quick decline to C condition. Reversing this change may require a major change in management and will take some time to occur.

Land in C condition is very susceptible to falling rapidly to D condition. To improve condition it may mean spelling, stocking at a lower rate and implementing weed control over a long period. Land in D condition will not revert to C condition by simply changing management, at least not in any time frame of practical value.

Reverting land from D condition to C condition requires a large input of time and money (e.g. treating woody weeds, ploughing and re-sowing with pasture seed), and even this may be insufficient if soil condition has been severely degraded.

Land Condition is affected by long-term paddock management and unlike forage quantity is slow to change. The trick is to keep monitoring pastures and take steps to maintain paddocks in good condition before it is too late.



The Rolling Ball model of land condition (Quirk and McIvor 2003)



Which side of the fence do you live on? Poor land condition costs you profits.



Managing for climate variability, wherever possible, plays a significant role in your grazing land management strategies.

Key indicators for each land condition category

A CONDITION (GOOD)

- Healthy diverse pastures dominated (>80%) by 3 P grasses (perennial, palatable, productive) for that land type
- High levels of groundcover (>90%) all year round
- Stable soil surface and no signs of erosion
- Few weeds and no significant weed infestations
- Woodland/forest in good condition with no evidence of over-thickening for that land type
- 100% of original carrying capacity for the land type



B CONDITION (FAIR)

- Diverse pastures with some decline of 3 P grasses (60 - 80% of dry matter yield) and increase in less desirable species
- High levels of groundcover all year round
- Soil surface condition slightly disturbed - some signs of previous and/or current susceptibility to erosion
- Some minor weeds present - no significant infestations
- Some thickening in density of woody plants for the particular land type
- 75% - 80 % of original carrying capacity for the land type



C CONDITION (POOR)

- General decline of coverage and diversity of 3 P grasses - typically only 10-60% of dry matter yield
- Increased percentage of less desirable species and annuals
- Obvious signs of past erosion or current susceptibility to erosion - increase in areas of bare ground
- Increase of weeds
- General over-thickening in density of woody plants and/or woodland/forest in poor health
- Can be only 50% of original carrying capacity for land type



D CONDITION (VERY POOR)

- General lack of any perennial grasses and forbs
- Severe erosion or scalding, resulting in a hostile environment for plant establishment or growth
- Groundcover levels <50%
- Unnatural thickets of woody plants may cover most of area
- May contain dense infestations of priority weeds such as Lantana, Giant Rats Tail grass and African lovegrass
- 20% or less of original carrying capacity for the land type





Key points: Improving grazing land condition

- **Plan and manage your property according to the capability and limitations of the land**, based on an understanding of land types / land resource areas and ecological processes across the whole of property and the wider catchment.
- **Adopt grazing management practices which maintain healthy, diverse pastures** which are **dominated by 3 P** (Perennial, Productive, Palatable) **grasses** with a high frequency of desirable forbs including legumes, and few annuals or weeds.



Knowing the proportion of desirable 3 P indicator species like Kangaroo grass (left) and Forest bluegrass (right) in your paddocks is critical for helping you assessing your land condition.

- **Maintain high levels of groundcover (> 90 %) at all times of the year** and manage soils to prevent erosion and to maintain productive capacity and water quality.
- **Ensure sustainable utilisation rates** - normally varies between 20% - 35 % depending on your land types.
- **Regularly monitor your pastures and match stocking rates to seasonal pasture availability.**
- **Ensure your grazing management system incorporates regular spelling or rest at appropriate times to enable pastures to recover and set seed.**

Sources:

Stocktake - Balancing Supply and Demand Manual (2004) DPI&F

Grazing Land Management - Technical Manual and workshop notes (2003) Meat and Livestock Australia Limited

Land Condition Photo Standards for the Burdekin Dry Tropics Rangelands (2009) CSIRO, MLA, DPI&F



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