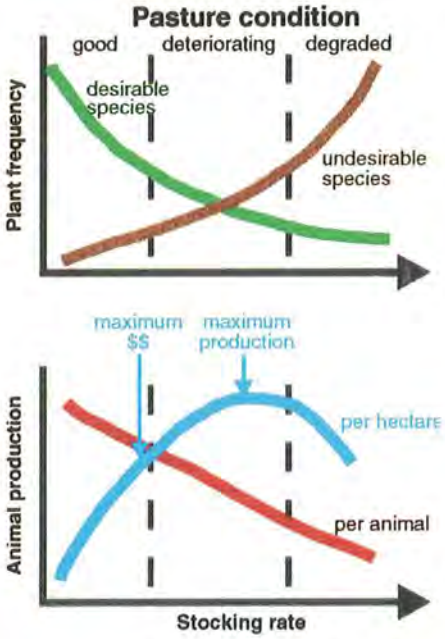
Management guidelines

Mitchell grass is productive and resilient. There are only a few options for managing the pasture, but these can have important consequences for its condition. Most property management has focused on physical development, fencing and water supplies.

The pasture management options are:

- setting stocking rates
- managing kangaroo grazing pressure
- moving stock and spelling
- burning
- controlling woody and other weeds
- improving the mitchell grass country.

Stocking rate has the over-riding effect on pasture stability and animal production



The best sustainable economic returns are developed at stocking rates below those giving the maximum animal production per hectare

Setting stocking rates

Stocking rate (the number of hectares for each sheep or cattle beast) is the most important factor in grazing management; it has an over-riding effect on pasture stability and animal production.

Light to moderate stocking is sustainable, keeping the land and pasture in good condition, and allowing each animal to reach its potential productivity.

Stocking too heavily weakens the valuable species, encourages annual grasses and broad-leaved weeds, exposes the soil surface to erosion, limits each animal's production and increases the need for drought or dry season supplements.

Most of the deterioration seen in pasture land in northern Australia can be attributed to overgrazing.

Stocking rates can be set at a safe long-term (strategic) level or adjusted each year (tactical).

What is the right long-term stocking rate?

Safe long-term stocking rates have been set from local experience. Groups of local graziers have estimated suitable sustainable stocking rates for each land type.

While most graziers agree on what would be desirable stocking rates, many actually graze at higher levels when under economic and social pressure.

Short-term profits are often higher with heavy stocking, but they cannot be maintained indefinitely without damaging the resource.

Is this general stocking rate right for me?

The producer-recommended long-term rates for different types of country are fairly broad. You can refine them with more local experience or by monitoring the pastures each year to see if they are improving or deteriorating.

Locally recommended stocking rates for sheep and cattle

District	sheep - ha/dse	cattle - ha/ae
northern		
Julia Creek	1.6	10
Longreach	1.4	8
central		
Blackall	1.2	6
southern		
Hodgson	1.0	10
Muckadilla	0.8	8
Surat	1.2	7.5

Why monitor pastures?

Monitoring is a fundamental part of managing native pastures for sustainable use. Persistent changes in pastures may take several years to show up, and it is difficult to remember exactly what each paddock was like five or ten years ago.

Memories are short and selective.

Variable rainfall will cause year-to-year fluctuations in species, but if the condition of your pasture is poor for three out of five years, you had better take notice when calculating stocking rates.

How can I calculate a stocking rate for the next year?

You can estimate how much feed is available at the end of summer to calculate a safe stocking rate for the next year, assuming that little rain may fall in the next summer. Thus the feed present at the end of this summer has to be enough to safely carry stock through this winter and the next summer.

Stock numbers should be adjusted to eat (utilise), over the next year, only 30% of the feed standing in March or April. Levels of utilisation of mitchell grass can be seen in the accompanying photographs—100% utilisation means removing all of the plant to ground level!

One dry sheep equivalent (dse) is estimated to eat 400 kg of dry matter a year. If there are1300 kg/ha of dry matter in the paddock in March and you plan to use only 30%, there will be 400 kg of feed available—enough for one sheep per hectare. One adult equivalent (AE) of cattle is usually reckoned to be equal to 7 (in the north) or 8 (in the south) dse.

The decision support program GRAZEON can help you refine this by also taking into account:

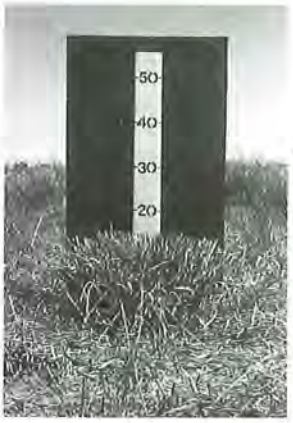
- pasture condition
- species present, their palatability and value
- types and classes of stock
- kangaroo grazing pressure
- climate and pasture growth forecasts.

GRAZEON can help reduce risk from future drought.

Sustainable pasture utilisation–how much of the standing feed can be eaten without damaging the pasture

0% eaten–never make any money that way!

10% eaten–wasteful but OK for spelling after a long drought



30% eaten–about right for the long term

50% eaten–getting too heavy for every year

Long bore drains allow good distribution of grazing, but waste water

Water points must be well distributed when bores are capped

While sheep and cattle are interchangeable, mixed grazing is complementary as they may eat different plants and different parts of the plant. Cattle will eat more fibrous material giving sheep access to better quality feed.

How important is distribution of water points?

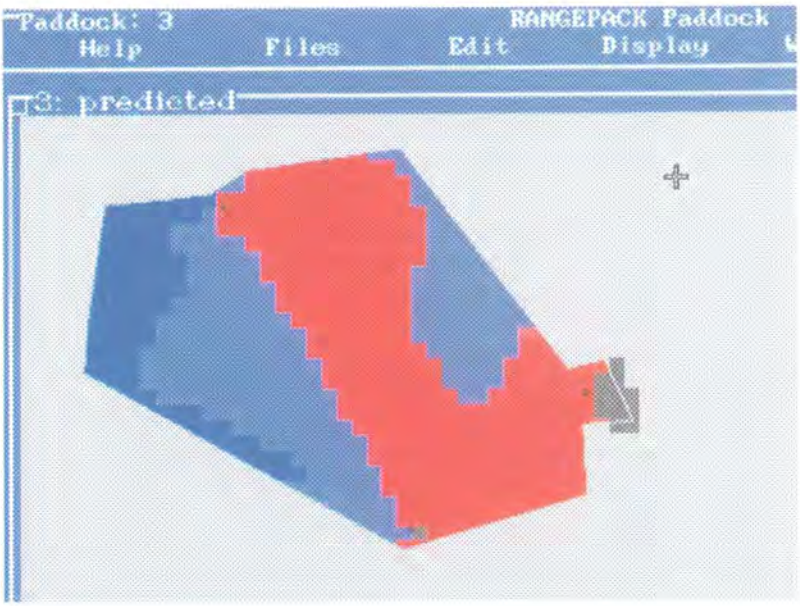
In semi-arid areas, water is critical for management of stock and pasture. In summer, sheep will range only about 3 km, cattle 5 km, and they may have to return twice a day. Over the artesian basin, long open bore drains have allowed stock to graze over large areas; now as bores are being capped to prevent waste of water, the distribution of water points will affect how far stock have to walk to drink and thus the overall utilisation of a paddock.

Where should my watering points be placed?

The distribution of the water points in a paddock in relation to fencing, prevailing wind direction and preferred pasture types will affect how the animals graze over the whole area.

The PADDOCK module of the decision support program HERDECON can allow you to enter these factors on a paddock plan, and to test re-arranging watering points to achieve more even grazing over the whole area.

Your effective stocking rate has to take into account the distribution of watering points in large paddocks and the number of kangaroos you are carrying.



Computer models can suggest the optimum location of water points, depending on pasture types, prevailing winds and paddock shape