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# The grazing of cattle in the northern pastoral areas of Western Australia : best management practice guidelines

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Department of **Agriculture and Food**



# THE GRAZING OF CATTLE IN THE NORTHERN PASTORAL AREAS OF WESTERN AUSTRALIA

## BEST MANAGEMENT PRACTICE GUIDELINES



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## 1. INTRODUCTION

The *Land Administration Act 1997* requires a pastoralist to manage and work the land within a pastoral lease to its best advantage and use methods of best pastoral and environmental management practices to achieve sustainable land use.

The Pastoral Lands Board will use these best management practices as a guideline.

## 2. ENTERPRISE SPECIFICATIONS

### 2.1 Fencing Considerations

#### 2.1.1 Boundary

Boundary fencing should be undertaken in such a manner as to satisfy the *Dividing Fences Act* and should be sufficient to contain cattle. In the event of a dispute involving the fencing of a boundary, the *Dividing Fences Act* should be consulted.

#### 2.1.2 Internal

Paddocks, where possible, should be fenced to include similar land systems. The distribution of vegetation types needs to be factored into paddock design to avoid damage to preferred areas. Paddocks should not contain strongly contrasting and preferential vegetation types that will result in highly concentrated grazing.

Paddock design (size and/or configuration) will need to take into account:

- the grazing range of cattle;
- smaller and patchier vegetation types will require smaller paddocks to achieve uniform grazing distribution. Smaller paddocks are easier to manage for spelling and rotation programs;
- extensive and uniform vegetation types may allow larger paddock sizes in which grazing distribution can be managed through periodic closure of waters; and
- sensitive and fragile land systems, river frontage, coastal dune country, unmanageable areas of permanent natural water (e.g. ranges) or stony upland country of very low productivity require specific land management considerations, including the option of not being grazed at all.

Vegetation clearance associated with the maintenance of existing, and construction of new, fence lines should be regarded as normal station management. In shrubland or grassland landscapes, five (5) metres of clearing either side of the fence is recommended. In timbered landscapes the height of prevailing timber should be the determining factor to avoid fence damage in the event of falling trees.

### 2.2 Artificial Water Improvements

The strategic location of water points will spread grazing more evenly across paddocks and reduce selective grazing. Inadequate distribution of watering points can cause localised land degradation close to waters while valuable pastures at greater distances from watering points remain unused.

Water points should be located in the centre of grazing paddocks for optimum grazing distribution and should not be located in fragile areas or in preferred country types.

Water point placement decisions should take into account the influence of water quality and degree of preference for particular vegetation types.

The grazing range from a water point for cattle rarely exceeds 5 km, which provides a grazing radius in the order of 75 km<sup>2</sup>. Consequently, water points should be distributed no more than 10 to 13 km apart and located more towards the centre of a paddock away from corners and avoiding sensitive soil types. Pasture type and range condition determines the stocking rate of a water point.

The following table shows the water-point stocking rate for pasture type in **good** range condition:

Pasture type	Number of stock
Black soil	560 cows plus calves or 780 steers (10cu/sqkm)
Soft spinifex	135 cows with calves or 190 steers (2.4cu/sqkm)
Ribbon grass	360 cows plus calves or 510 steers (6.5cu/sqkm)
Short grass	220 cows plus calves or 310 steers (4.0cu/sqkm)

Water points should also be managed with natural water points to manage cattle distribution and pasture condition. Water quality is also an important factor to consider for cattle productivity.

Vegetation clearance associated with the provision of new or alternative water points and associated access should be regarded as normal station management.

## 2.3 Cattle Management

The stocking rate is the number of cattle units per square kilometre. Each class of stock is given a unit dependent on its feed requirements.

Cattle should be introduced to an enterprise at a stocking rate that does not exceed the recommended carrying capacity for the land system as outlined in the regional rangeland survey publications.

The following table shows the cattle unit (cu) for each class of stock:

Class of stock	Cattle unit (cu)
1 bull	1.5 cu
1 cow	1.4 cu (cows in a herd producing 50% of calves)
1 dry cow or steer	1.0 cu
1 one year old steer or heifer	0.8 cu
1 weaner	0.6 cu

The potential stocking rate of an area should be based on the carrying capacity of the particular pasture type. Actual stocking rate should be determined by monitoring systems that enable an assessment of the grazing pressure on the feed available, determined by levels of utilisation of key species and soil condition.

If key species begin to disappear, the country should be spelled over the wet season, or a number of wet seasons, to allow species to improve, establish new seedlings and set seed. A measure of response to rainfall after the wet will assist in stocking rate decisions before grazing pressure is applied to an area.

Vegetation clearance associated with the construction of new yards and holding facilities, and the provision of access to these facilities, should be regarded as normal station management. Similar provisions should apply to the construction of station airstrips.

### **3. RANGELAND MONITORING**

Photographic monitoring offers pastoralists an inexpensive management tool that can help to better understand how varying practices affect the rangelands. Using a monitoring system also helps take the guesswork out of knowing what changes to vegetation and soils have occurred over time.

Monitoring of paddocks is considered to be industry best practice and sites should be reviewed on a seasonal or at least an annual basis. Visual comparison with photographs from previous recordings is adequate between assessments.

Monitoring sites should be installed in the major vegetation types in each paddock to take into account any preferences cattle may develop for a particular vegetation type. Monitoring sites should contain perennial plant species that are known to be preferentially grazed by cattle. Department of Agriculture Western Australia can provide advice on establishment of monitoring sites.

On a regular basis pastoralists should assess the general condition of the entire paddock. This will include off track or across paddock traverses, noting the level of preferential grazing and in particular at the regular campsites.

The aim of photographic monitoring is to record the effects of management on the range resource. As a result, a station network should aim to have at least one monitoring site associated with each management unit (paddock or water point) on the station.

### **4. RANGELAND MANAGEMENT**

Matching grazing pressure to available biomass production is a key principle of rangeland management. A conservative stocking policy aims to effectively understock the rangelands. Biomass removal should be kept at levels that ensure perennial species survival and provide adequate soil surface protection.

Conservative stocking will reduce grazing impact on the rangeland resource, however a benefit may be the reduced impact of poor seasons on herd productivity and reduced variable costs.

Spelling enables the regeneration of heavily utilised and poor condition vegetation. The frequency of spelling should be determined by density and health of the vegetation with the most effective times being for:

- 3 to 6 months when the seed is germinating, new plants establishing and older plants are actively growing and renewing their reserves and increasing their vigour; and
- 4 to 6 weeks when desirables plants are flowering and setting seed.

### **5. GRAZING SYSTEMS**

Kimberley managers use continuous stocking as a general rule, but rotational and deferred grazing systems are also used.

Rotational grazing involves consistent rest periods and can be used for permitting pasture maintenance or regeneration.

Deferred grazing is less systematic than rotational grazing and involves longer but less frequent spells. It is likely to be most effective at the time it is most easily used –

after or during a good wet season. This type of deferred grazing permits uninterrupted setting and maturation of seed. It can also be used to provide drought reserves of standing paddock feed.

Full wet season spelling of paddocks or areas is a technique well suited to the Kimberley and is of considerable benefit to the rangeland.

## 6. PASTURE SPELLING

Pasture spelling is possible without removing all the animals from a paddock. Flexible stocking rates around core areas offers a means of increasing or decreasing pressure on the pasture within a continuously grazed system.

Stocking can be lightened off when a spell is needed for pasture seed set or seedling establishment. Similarly the reverse of deferred stocking involves very heavy stocking of particular paddocks at strategic times to encourage grazing of the less palatable species as well. This is carried out when favoured plants are dominant and least harm will be done to them, however management needs to be far more intensive for this practice and considerable control would have to be exercised.

Because of the extensive nature of the industry, the difficulties associated with wet season handling of cattle, and the very seasonal nature of the growing season, these types of more intensive management are only applicable to very specific and limited situations.

A key to successful range improvement is to take advantage of favourable climatic conditions to reduce the impacts of drought and dry seasons in a way that will improve range condition.

## 7. FIRE MANAGEMENT

Fire management regimes should aim to:

- control the spread of wild fire;
- manage the risks associated with wildfires by strategic fuel reduction over the property early in the dry season, while maintaining adequate reserves of feed for at least the remainder of the dry season;
- improve cattle distribution;
- consider small patch burns where it is possible to entice cattle to areas not normally utilised. A mosaic pattern of controlled burns will increase cattle distribution over an area;
- improve pasture quality;
- consider pasture that has reached rank status is of little productive value, because managed fires rid pastures of their rank growth. Grasses generally tend to be more desirable to stock at early establishment. Careful management is required to control the potential of pasture decline;
- control woody weeds; and
- increase the productivity of the country, because fires with the right intensity and at the right time can control woody weed infestations such as *Acacia farnesiana*.

Department Of Agriculture Western Australia's  
Model Code of Practice  
for the Welfare of Cattle in the Rangelands of Western Australia

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## **1. INTRODUCTION**

The aims of this Code are to:

- promote humane and considerate treatment of cattle, and the use of good husbandry practices to improve the welfare of cattle in rangeland enterprises;
- inform all people responsible for the care and management of cattle about their responsibilities; and
- set an industry standard by defining acceptable cattle management practices.

"Cattle" includes all domestic bovines eg, cows, bulls, steers, heifers, and calves;

"Calves" are under 6 months of age.

This Code should be read in conjunction with other codes of Practice endorsed by the Australian Agricultural Council (AAC), and with State/Territory animal welfare legislation.

Assistance with specific management or disease control problems is available from the Department of Agriculture, veterinarians in private practice, and consultants.

## **2. BASIC WELFARE NEEDS**

The basic needs for the welfare of cattle are:

- adequate quantity of water, feed and air to maintain good health;
- social contact with other cattle. Cattle adapt to the familiar surroundings in which they live, including other cattle. Separation from familiar cattle may cause stress, which may be worsened by mixing or crowding with unfamiliar stock;
- sufficient space to stand, lie down, stretch and groom, and to perform normal patterns of behaviour;
- protection from predation;
- protection from disease or injury, and appropriate treatment if they occur;
- protection from adverse extremes of climate or unseasonal changes in weather conditions, where possible;
- precautions against the effects of natural disasters (eg, storage of feed to protect against droughts, provision of firebreaks); and
- protection from unnecessary, unreasonable or unjustifiable pain, suffering or injury.

## **3. WATER**

Cattle must have access to an adequate supply of cool clean drinking water.

Cattle should not be deprived of access to water for periods longer than 24 hours unless in transit, in which case the codes of practice for transport of livestock apply.

Water requirements depend on age, bodyweight, production level, air temperature, humidity, dry matter intake, and dry matter content of the feed eaten.

Cattle used to drinking salty water may need special consideration. If they refuse fresh water, they may need a gradual change from salty to fresh water.

Where water medications (eg vitamin/mineral supplements and/or urea) are to be used they should be introduced gradually.

Cattle should be observed to ensure they do not refuse to drink the medicated water.

#### **4. FEED**

Cattle should have access to or be provided with feed that will maintain their well-being. They should not be deprived of access to feed for periods longer than 48 hours. Animals in poor condition, in late pregnancy or early lactation should not be deprived of access to feed for periods longer than 24 hours.

Feed available should meet the requirements of maintenance, growth, pregnancy and lactation, and provide for any extra demands, such as exercise or cold stress. When droughts or seasonal feed shortages occur, arrangements should be made to ensure a continued supply of feed adequate for maintenance of cattle.

If the pasture is poor, in quality and/or quantity of feed, and no supplements are being fed; the stocking rate should be reduced accordingly. Appropriate management practices such as early weaning of calves should be instigated.

In many parts of Australia cattle should receive mineral supplementation. State agricultural departments can advise.

#### **5. PRECAUTIONS AGAINST DROUGHT**

Drought may be defined as a severe shortage of feed and/or water, usually the result of prolonged periods of low rainfall. It is not a normal seasonal decline in the quantity and quality of feed available.

Where minimal water and feed requirements cannot be met (whether or not drought conditions prevail), cattle should be moved or agisted to a place where feed and water is adequate, sold or humanely slaughtered, as soon as possible.

Cattle being fed for survival should be attended to at least twice a week. Where possible they should be grouped appropriately, by sex, age & size, to reduce competition. Shy feeders require special attention and treatment, depending upon type of feed, method of feeding and strength of competing cattle.

Weak cattle, or cattle in poor condition, which go down after limited exercise are not fit to travel, and should not be permitted to do so. They should be fed and watered until they are fit to travel or promptly and humanely destroyed.

Weakened cattle, which are strong enough to travel, should be transported to their destination by the shortest possible route. Weakened cattle should not be mixed with strong animals or subjected to the stress of sale through saleyards.

As far as possible, weakened cattle should be given special protection against exposure to extremes of weather, especially when in transit.

## **6. PROTECTION FROM CLIMATIC EXTREMES AND PREDATION**

All reasonable steps should be taken to minimize the effects of weather that produces either heat or cold stress in cattle.

Plans should be made and reasonable steps should be taken to ensure protection from the effects of natural disasters. In areas subject to flooding, care is necessary in paddock and facility design to allow access to some safe high ground, or to plan for stock evacuation to high ground.

Cattle must be attended to after a natural disaster such as bushfire or flood. Animals should be assessed by a competent person. Immediate treatment or humane destruction may be required depending on the animal's condition.

All reasonable steps should be taken to protect stock from predators.

## **7. CATTLE HANDLING FACILITIES, MUSTERING AND YARDING**

Sheds, pens, yards, lanes, ramps and other areas where cattle come together should be constructed and maintained so as to minimize stress, injury and disease. The design and construction of such areas should enable dust and noise to be minimised.

Holding yards should be designed to minimize stress or injury and to allow all animals held to lie down and to exercise.

Cattle must not be driven to the point of collapse.

The use of shotgun pellets on cattle, as an aid to mustering (or for any other purpose), is not acceptable.

Specific guidelines for the transportation of cattle and other animals are in the SCA Codes for the Welfare of Animals - Road, Rail, Sea and Air Transport of Livestock, in the Codes of Practice for the Welfare of Animals at Saleyards and at Abattoirs, and in the Code of Practice for the Destruction or Capture, Handling and Marketing of Feral Livestock Animals.

## **8. CASTRATION**

Castration by knife or burdizzo without local or general analgesics/anaesthetics should be confined to calves at their first muster and preferably under the age of six months. Only under exceptional circumstances (eg range management of older, previously unmustered bulls) should castration of old bulls be performed, and then preferably by a veterinarian.

Castration with rubber rings is only recommended for calves up to 2 months of age. Calicrate bands may be used on animals up to 12 months of age.

## **9. SPAYING**

Surgical spaying (preferably using the "Willis Dropped Ovary technique") should be conducted as quickly as possible by a skilled operator, preferably a veterinarian, using hygienic materials and techniques. Adequate restraint, such as a suitable squeeze crush, is essential. Spayed females should be rapidly returned to familiar and clean surroundings following the operation. Post-operative inspection (with or without mustering) is desirable.

In some States or areas, spaying may be legally performed only by registered veterinarians. There are varying restrictions on use of analgesics or anaesthetics.

## **10. IDENTIFICATION**

Ear-tagging, ear-marking, ear-notching, ear-tattooing, freeze-branding, and electronic characterization are the preferred methods of identifying cattle, from a welfare viewpoint. In rangeland situations however, earmarking and/or fire branding remains the only practical method of permanently identifying cattle. The States/Territories have differing legal requirements regarding identification.

Branding with corrosive chemicals is unacceptable.

## **11. DEHORNING**

To minimise injury, all horned cattle should be dehorned as young as possible and prior to weaning and at a suitable time to reduce fly worry. After dehorning, cattle should be inspected regularly for the first 10 days, and any infected wounds treated.

## **12. HEALTH**

Appropriate preventative measures should be used for diseases that are common in a district or are likely to occur in the herd.

Medications such as vaccines, drenches, and external medications, such as dips and pour-on formulations, should be stored and given in strict accordance with the manufacturer's instructions and recommended methods of administration. Overdosing may harm cattle and underdosing may result in failure to reach the required effect. Expiry dates should be strictly observed.

Sick, injured or diseased cattle should be treated promptly and appropriately, or humanely slaughtered.

## **13. FERAL CATTLE**

Feral cattle control poses special welfare problems and while these are addressed in other welfare codes, there are aspects of feral stock control that affect welfare of domestic cattle.

Where physical, economic or welfare constraints prevent adequate control of feral stock and the health and welfare of controllable stock is threatened, removal or humane destruction of feral stock is necessary.

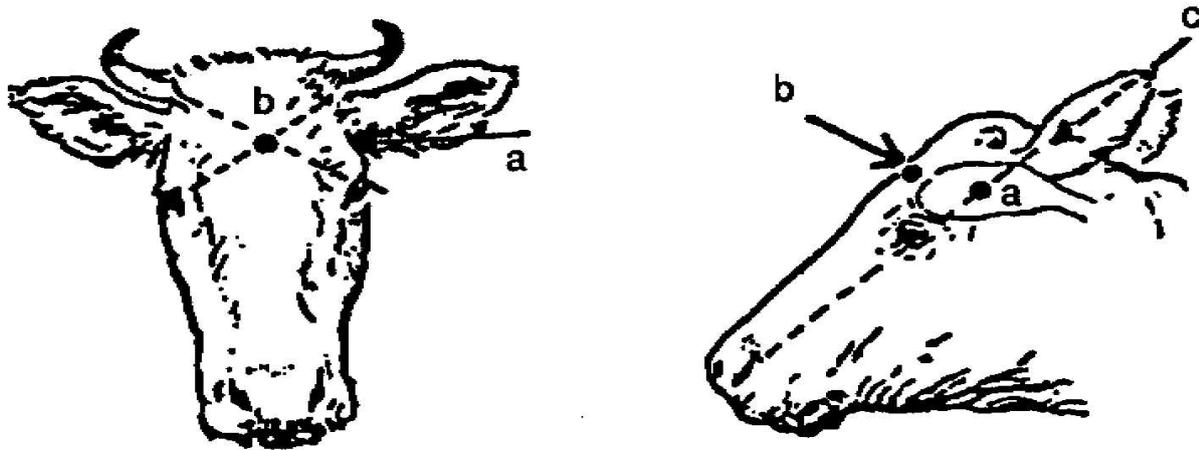
## **14. HUMANE DESTRUCTION OF CATTLE**

The preferred methods of euthanasia are:

- overdose of anaesthetic under veterinary supervision; and
- euthanasia using gunshot or captive-bolt pistol by the frontal method. The captive-bolt pistol or firearm should be directed at the point of intersection of lines taken from the base of each ear to the opposite eye. (See figure 1)

The use of shotguns is not recommended for destruction of cattle.

**Figure 1: Humane destruction of cattle**



"a" Position for temporal method (suitable for firearms only)

"b" Position for frontal method (firearm or captive-bolt pistol)

"c" Position for poll method (firearms only)

An animal stunned with a captive-bolt pistol must be bled out by severing the major vessels of the neck as soon as it collapses to the ground. To avoid injury due to the animal's involuntary leg movements, the operator should stand behind the neck.

Killing may also be by gunshot using the temporal or poll methods. All other methods of killing are unacceptable.

Exceptions to the recommended practice may occur under extreme conditions. In these circumstances common sense and genuine concern for animal and human welfare should prevail.