

final report

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Sustainable beef production in the Gogango area

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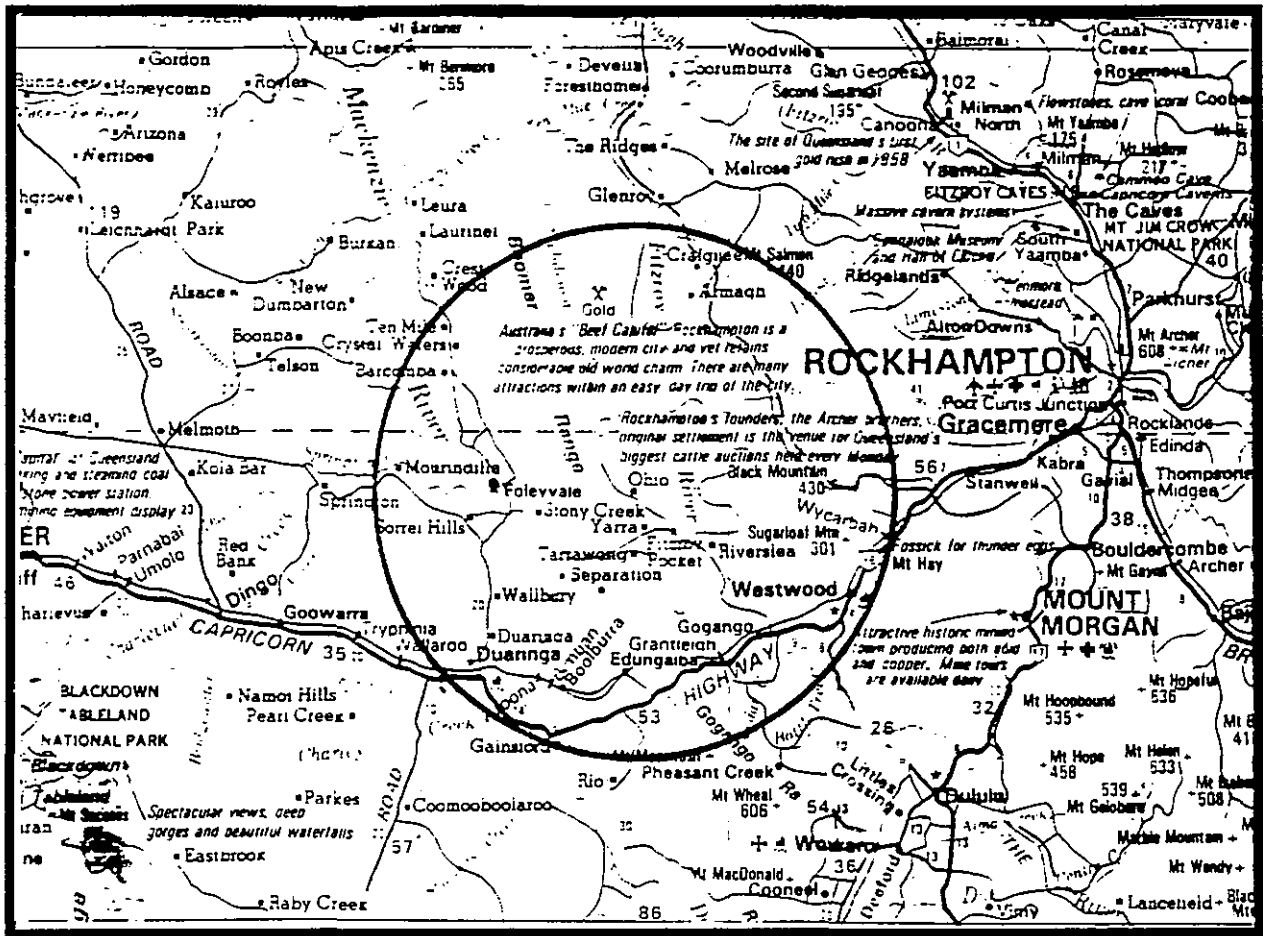
INTRODUCTION

This document is the data recorded when experienced producers were asked to describe the management of beef properties for sustainable production. Sustainability was understood to mean management which would optimise production with minimal degradation to the natural resources. Six producers met in 1992 to discuss sustainable beef production using a hypothetical property representative of the Gogango area. As conclusions were reached they were recorded. This process has been called the Local Consensus Data (LCD) technique. The word consensus does not mean that all producers agreed with all the statements in this document. Each of the producers involved had a minimum of 10 years of experience in managing natural resources in the Gogango area.

The aim of recording this experience is to provide practical, first hand information which will contribute to a process of improving land management. Similar reports are available for other areas in the black speargrass pasture community and other major pasture communities in Central Queensland. Together these reports will offer a pool of practical ideas for sustainable beef production systems. They identify industry constraints within and across land types, and they identify problems and gaps in information for research.

This document contains a description of land types in the Gogango area, their vegetation, topography, soils, pastures, legumes, cultivation, production capacity and condition. Suitable enterprises are discussed as is cattle management and grazing land management. Stocking rates and property sizes are suggested as guidelines for sustainable beef production.

A map showing the location of the Gogango area



LAND TYPES

Forest country

Forest country covers 60-70% of the area. Eucalypts such as silver-leaved ironbark, narrow-leaved ironbark and bloodwoods are the major tree species found in this area.

Silver-leaved ironbark together with bloodwoods are found on more fertile soils of volcanic origin. Silver-leaved ironbark trees are often associated with brigalow trees on slopes and with Moreton Bay ash on flat country.

Narrow-leaved ironbark, rosewood and gum topped box trees are found on less fertile soils that come from marine sediments. Rosewood and narrow-leaved ironbark trees occur on ridges.

About 75% of forest country has been developed by ringbarking, Tordoning®, clearing and/or stick-raking. Forest country is generally the last of the land types to be improved.

The pasture species composition varies depending on the lengths of dry or wet seasons. In a succession of wetter years, black speargrass tends to dominate, while in a succession of dry years the blue grasses return.

The legumes, seca stylo and verano stylo grow on both soil types. Leucaena may be established on the better soils.

The more fertile soils can be cultivated for forage crops, and wheat, sorghum and sunflowers if the seasons and markets are favourable.

There is a limited potential for this country to develop salinity problems after tree clearing.

Creek and river flats

Creek and river flats with brigalow and softwood scrub cover 30% of the area. The main trees found on this land type are blue gum, Moreton Bay ash, bauhinia, box, coolibah, bottle trees and brigalow. The major grasses are blue grasses, green panic, Katambora Rhodes grass, buffel grass and nut grass.

About 90% of creek and river flats on a property would have been cleared and stick-racked. On properties with irrigated or ponded pastures, pangola, aleman, para grass, hymenachne and natural couch grass will grow well. Stylos can be introduced into suitable areas.

Cultivation of this land type is possible for forage crops and grain crops if seasons and markets are favourable. This land type is usually fertile with good pastures; these attributes should be considered before cultivating the area. Soil erosion can be a problem on this land type.

Flooding can be a problem when long standing water causes large scale loss of pastures.

Brigalow

Brigalow country with softwood scrub, and creek and river flats covers 30% of the area. Brigalow country is flat or undulating with varying amounts of melon-holes.

Development by clearing, stick-raking, blade-ploughing has occurred. Improved pastures such as buffel, Katambora Rhodes, green panic, Bambatsi and purple pigeon grasses are planted. Buffel grass and seca stylo can be grown on duplex soils. Cultivation for forage and grain crops is possible.

Softwood scrub

Softwood scrub with brigalow, and creek and river flats covers 30% of the area.

Most of this land type has been cleared. Salinity problems occur randomly in some areas following clearing. It is important to look for signs of salinity and to monitor water for salt content. Trees should be replanted in affected areas.

Buffel grass, Katambora Rhodes grass, green panic, Bambatsi and purple pigeon grass have been established in this land type. Forage and grain crops will grow on flat areas of softwood scrub country.

Rosewood

Rosewood covers 5% of the area. It is generally found on low to high ridges and is not normally cleared.

This land type can be divided into good and poor rosewood country. Good rosewood country has better timber and grasses and is more open. It is warmer in winter and has sweeter feed, provided it is not overstocked. Good rosewood country should be burnt every 3 - 4 years to control rosewood regrowth and keep the area open and easier to muster through. Poor rosewood country has thicker stands of timber and less desirable grasses, particularly white speargrass. It should be left to allow the timber to mature for future use as fence posts (it should not be burnt).

Range country

Range country covers 5% of the area. It is not normally developed because it is often inaccessible. However it can be fenced out and used as a drought feed reserve (Silver-leaved myrtle can be used as a drought fodder). Stylos tend to do better on harder country (especially on the top of ridges) and can be grown here for use as a seed bank. Water is often deficient in this country and problems with fires can occur.

ENTERPRISES

Breeding enterprise

Breeding store cattle for local and southern markets is a suitable enterprise for properties with larger areas of forest country. Opportunity seasonal fattening and cultivation of forage crops are possible in some areas. Stock can fatten on forest country if the seasons are favourable, but the age of turnoff is older.

Fattening enterprise

A fattening enterprise is suitable for properties with larger areas of creek and river flats, brigalow and softwood scrub country. Forage crops can be grown and if the market is strong, grain cropping may be an option.

Breeding and fattening enterprise

Store buyers recommend buying strong, grown cattle at the best competitive price. These cattle are then fattened on forage or irrigated pastures. Irrigated pastures (with additional nitrogen fertiliser) are an advantage in maintaining cattle during dry periods and for reducing turnoff times.

Cows can be bought and fattened for the American market. Steers can be bought and fattened for the Japanese or Korean markets.

Cultivation

Cultivation helps to control regrowth. Grain crops are planted to take advantage of favourable markets and seasonal conditions. It is important to note that forage crops involve less risk than grain crops. Cropping areas are usually small, ranging from 300-400 acres. There is a risk in buying the plant and equipment required for cultivation; this needs to be investigated carefully.

CATTLE MANAGEMENT

Breeds and breeding

Cattle should have some degree of *Bos indicus* infusion to provide a higher degree of tick, drought and heat resistance.

Important breeding traits include fertility, growth, tick resistance, temperament, conformation, drought resistance and heat resistance. Fertility is the trait of major importance to breeding enterprises. Growth rate is important to producers who undertake fattening as a major part of their operation.

The use of crossbreeding systems is recommended. Crossbreeding should aim to produce a herd of mixed breed, brahman cross cows. The selection of breeds depends on personal preference. Some of the systems in use are:

- A three way cross mating system involving Brahman, Charbray and Droughtmaster sires.
- The use of Belmont Red, Brahman and Hereford sires on a cow herd arising out of the use of these sires. In this system Brahman sires are used to produce F1 progeny which are mated back to Hereford bulls. The progeny of this second cross are mated to Belmont Red bulls producing progeny which are returned to Brahman bulls.

It is important to note that the adoption of a sophisticated mating system can be difficult to manage efficiently.

Bulls

Bull percentages range between 2.5 - 4%, depending on the size of the paddock and the number of watering points. Bulls should be culled at 6 - 8 years.

Cows

The culling age for cows is 10 years. Replacement heifer percentages of 70 - 80% are recommended to maintain and increase genetic improvement in the herd. It is recommended that 10% of heifers be culled at weaning (8 - 10 months of age), with a second cull (20%) at joining (two years of age). An alternate view is that the top 30% of heifers be retained, with culling and sales occurring at weaning and before joining. Heifers that develop lesions due to buffalo fly infestation should be culled. Cull heifers can be spayed and fattened.

Most heifers (80 - 90%) should weigh around 320 - 330 kg when joined. The optimal weight for heifers at calving is about 400 kg. If these weights are achieved the majority of heifers will conceive when joined and have the condition to go into calf in the following year. First-calf heifers should be given supplementary feed two months prior to calving to ensure they are in condition to become pregnant following calving. Feeding of molasses, urea and meat meal will achieve this.

Properties with better country and cultivation (crop stubble or grazing failed crops) are often better placed to supplement breeders during dry periods.

Mating

On properties with a greater proportion of better land types, either a continuous or seasonal mating system can be applied. However on properties with poorer country, seasonal mating is preferable because of the problems associated with managing cows and calves over winter and in dry seasons.

Seasonal mating

The joining period should be from October to March. If calving starts in August all calves are born by the end of December and early weaning is possible in April if the season is dry (cows are better off if they have calved).

Cows should be pregnancy tested six weeks after the bulls are taken out. Empty cows should be sold immediately unless there is an opportunity to freshen them prior to sale. If dry season feeding has to be undertaken only pregnant cows should be fed.

Two brandings and two weanings are required. This system allows simpler management of cows in dry periods because the calves are of similar ages. The problem of cows losing condition during winter due to suckling calves is also avoided. Late calving puts breeders out of sequence with the season.

Continuous mating

Continuous mating can be applied on better country where cows can be placed on cultivation or good land types in dry times. Severe culling of dry (non-pregnant) cows should occur. Dry cows are easy to select because they are normally fat compared to cows with calves, so pregnancy testing is not required to identify them. However it is possible that fat cows are sold pregnant and this is undesirable.

Two to three weanings per year are required. This depends on preventing horns from becoming too long on calves to ensure effective dehorning. An advantage of the extra handling is that cattle become tamer.

The spread of calving times means that cattle are available for sale throughout the year. Cattle may be sold when the supply from other producers is low and the prices high.

Reproduction rates

A 75 - 80% branding percentage is possible with seasonal mating, and 90% branding is possible using continuous mating.

Weaning

It is preferable to have as many weaners as possible in the first weaning of the season. It is more cost effective to handle large numbers of weaners. The only constraint on the number of weaners handled at one time is yard size. Most yards will handle 300 - 400

weaners. Weanings later in the season are smaller. Weaners are normally held in the yards for a week. Tailing out is used as a training and feeding exercise.

Early weaning strategies can be employed to take the pressure off cows in a dry season. Calves can be taken off to as low as three months of age.

Timing of weaning can have an important effect on cow fertility. The calving period may become later and later over the years if weaning is delayed.

Marketing

Here are some important points to note about marketing:

- Producers must be highly flexible and versatile in their operations due to market and seasonal variations.
- Cattle sales in February are usually better and more consistent because early in the season buyers tend to be more optimistic about how the season will go.
- Taxation arrangements influence the buying and selling activities of graziers. For example sales may be held over until the next financial year to reduce taxable income for the current year.
- Graziers must be aware of market forces and current market demands. Information on the current market situation is obtained from newspapers, radio and by attending sales.

Breeding enterprise

Calves can be sold straight off the cow. Stores can be sold between one and two years of age. Timing of store sales is dependent on prices and the nature of the season. In February many producers are still making up their minds on the season: this may be a good time to sell. Cull cows and heifers can be sold as fats or stores depending on their condition.

Fattening enterprise

Bullocks and steers can be produced for the Japanese and Korean markets. Cows can be sold to the American trade. The EEC market is an option for particular classes.

Following are some dressed weights for age for different bullocks off different land types:

Brigalow/Softwood scrub country	-	300 - 340 kg	3 - 3.5 years
	-	280 - 300 kg	2.5 years
Forest country	-	240 - 300 kg	2.5 - 4 years

Health

Herd health can be affected by disease, drought, feral animals and insect pests.

Three day sickness can be a problem in fat steers.

Blackleg can be a problem in some seasons. It is recommended to vaccinate at branding with 5 in 1 vaccine. Normally only one vaccine is given even though the recommendations are for two vaccinations. A single vaccination appears to be effective.

Ticks can be a problem. It is important to consider the following:

- Breeders and cattle in poor condition should be dipped if heavily infested with ticks. Treating for ticks in other circumstances is unnecessary.
- Fifteen percent of cattle in a herd appear to carry 85% of the ticks found on a herd.
- Cattle develop tick resistance if not dipped.
- Fat cattle are rarely affected by ticks.
- Cattle brought from tick free areas must be vaccinated against tick fever.
- All bulls, regardless of their origin, should be vaccinated against tick fever.
- Cattle brought into the area should be observed for signs of tick fever following their introduction until they are challenged and develop a resistance.
- Some producers vaccinate their weaners.
- Weaners and heifers should be culled if they are not tick resistant.

Buffalo fly is a problem in this area. When buffalo flies appear to be worrying cattle, the mob affected should be mustered and treated. Alternatively, cattle can be treated when they have been mustered for another purpose. Mustering costs in this area average \$2.00/head. Weaners and heifers should be culled if they show susceptibility to buffalo fly.

Calf mortality due to dingoes can be a problem in range country. These losses are often not obvious and may only be seen in increased culling rates of heavy dry cows.

In dry seasons, if supplementary feeding is to be undertaken, it is important to start feeding molasses and urea while there is still grass available to stock. Weaners should be supplemented in their first winter. Lick blocks can be fed in dry periods.

GRAZING LAND MANAGEMENT

Stocking rates and pasture management

Continuous grazing is usually applied. Stocking rates for different types of country are shown in Table 1. Producers who have country which will fatten cattle can buy in cattle to make use of feed surpluses in good seasons.

Forest country

A stocking rate of one cow with calf until weaning per 10 - 12 acres is recommended for developed forest country (Table 1). Stocking rates should be reduced to one breeder with calf until weaning per 20 - 30 acres in undeveloped forest country (Table 1).

Conservative stocking of paddocks is essential to prevent less palatable grasses becoming dominant. Stocking rates should be applied on a paddock by paddock basis. Heavier stocking rates during wet seasons and lighter stocking rates in the dry seasons are recommended. Stocking rates should be adjusted on a paddock basis to delay the forest grasses and black speargrass from going to seed. Black speargrass is of most grazing value when young and should be kept at about six inches in height. When it goes to seed its feed value is reduced severely and when frosted, its feed value is virtually nil. Paddocks dominated by black speargrass can be grazed more heavily to use the pasture before its quality is reduced. This practice can be applied to different paddocks each year to prevent overgrazing of a particular paddock.

Grass levels should be monitored every two weeks throughout the year. Decisions to sell stock to reduce grazing pressure should be made in March and April. If feed is short then stock should be sold. If prices are low use of a spelled paddock could help supply feed.

Spelling (by locking up paddocks) can help to prevent unpalatable grasses from becoming dominant and to ensure that softer forest grasses (blue grasses) regenerate themselves. Spelling for the first three months of the wet season allows grasses to use their root reserves to regenerate. This strategy aids selection of more palatable species over unpalatable species, particularly wiregrasses. Spelled paddocks can be used as a drought feed reserve and used in a dry season.

Pastures can be improved in this country with the introduction of seca stylo, finestem stylos, buffel grass, Katambora Rhodes grass and purple pigeon grass (Rhodes grass generally does better than buffel grass on this country). Purple pigeon grass can be introduced to the areas with heavier soils. Leucaena can be established in areas with high soil phosphorous. In areas with low soil phosphorous, and if it is economically feasible, leucaena can be established with the application of phosphorous fertiliser at planting.

Brigalow and softwood scrub country

The recommended stocking rate is 1 grown bullock per 6 - 7 acres (Table 1). Buffel and other improved grasses provide better food value for stock in winter than those in forest country. A lower stocking rate should be used when establishing improved pastures.

Stocking rates can be maintained at a more even level on brigalow country than on forest country.

River and creek flats

The recommended stocking rate is 1 grown bullock per 6 - 7 acres (Table 1). Nitrogen fertiliser should be used in conjunction with irrigated pastures to increase carrying capacities of improved pastures.

Rosewood country

The recommended stocking rate on better rosewood country is 1 breeder with calf to weaning per 20 - 30 acres (Table 1).

Range country

Drought feed standby only.

Dry season management

The amount of grass present at any time is estimated by experience. Decisions to lighten off should be made early rather than later. It is preferable to lighten stock numbers early and receive a higher price than hold on hoping the season will break. Decide in February and March how the season is progressing; if it looks as though it will be dry, sell older steers first, then pregnancy test cows and sell all empty cows. The decision to sell should be based on the amount of grass present and the number of cattle on hand, on a paddock by paddock basis.

Expectations are different at the start of spring compared with the end of summer. Cattle can be held for a longer period at the end of winter in the expectation of some rainfall in spring and summer. Storing large amounts of hay for drought feeding is not an economic proposition, even with Government incentives. Early weaning down to three months is an option in a dry season.

Tree and woody weed management

Forest country

This country should not be completely cleared. Blocks of timber should be retained and connected by strips. Shade clumps for stock of 1 - 2 acres in size are recommended. If no shade is available in a paddock, regrowth of trees in an area can be allowed to mature to provide shade. Both mature and juvenile trees should be retained in shade areas. Thinning of young seedlings may be needed to ensure that cattle can be mustered out of the clumps with minimum difficulty. Thinning can be achieved using Tordon® or a bull-dozer to take excess timber out of the clump. Wattle country should be handled with care as regrowth problems can often develop after clearing.

The pattern of tree retention should be landscaped to make it more aesthetically pleasing.

There is a limited potential for salinity problems to develop after clearing parts of this land type. These areas can be identified by assessing the topography, geology and the tree species present at a particular site. The point where a basin area drains through a creek or gully, between two ridges, and where the geology is dominated by marine sediments are potential sites for salinity problems to occur. These areas are usually associated with gum-topped box, blue gum and swamp mahogany trees, occurring down the slope from areas of rosewood and softwood scrub. These problem areas should not be cleared if they can be identified prior to development. If clearing has occurred and salinity appears, trees should be re-established by regrowth, or by replanting. Moreton bay ash, gum topped box, blue gums and leucaena can be used to reduce watertable levels.

Brigalow country

Velpar[®] has been used to manage tree regrowth with some success.

Softwood scrub country

Where trees and natural vegetation still occur on this type of country they should be preserved. These areas should be fenced and managed to reduce the problems of pests using them as a refuge (scrub country must be accessible to control rubber vine). If this land type is developed it is recommended that the area be burnt following clearing. Burning should only take place when sufficient fuel is present.

Fire

Partial burning of paddocks can be used to achieve a similar result to spelling. Burning half a paddock at a time allows cattle to use part of the paddock and the balance of the paddock can be burnt in a later year. It is recommended that paddocks be burnt every 3 - 4 years to control regrowth, reduce the amount of rank dry feed and reduce the level of tick infestation in the pasture. Cattle also do better on the ash and green pick following a fire.

The timing of a burn depends on the season and the amount of feed available (e.g. in a dry year the feed may need to be preserved in case the season fails to break). A good time to burn is immediately after the first significant storm in spring.

Improved pasture areas (like buffel and green panic pastures) should not be burnt as often, unless a regrowth problem exists, or unless the body of dry feed is excessive.

On brigalow country a "cooler" fire is preferable.

Decisions to burn should be based on experience and the conditions present at the time. Deciding on the area of the property to burn at any time depends on stocking rates, amount of feed present, the amount of rainfall and the time of year.

Fences and water

Fencing a property into separate land types and suitable management units enables stocking rates to be managed more effectively. If separate land types are fenced off grasses can be grazed when they are most palatable and nutritious. For example it is

better to use the grasses in forest country in summer when they are younger and have higher feed value. This can be done if forest country is fenced off. However, if a paddock has both forest country and scrub country, the cattle prefer to graze on the scrub country and therefore fail to use the forest country grasses before they go to seed. After they have seeded they become rank and unpalatable.

Fencing along ridgelines is recommended for the following reasons:

- Cattle exert less pressure on fences.
- Cattle use the lower areas in summer and move up gullies and ridges in winter, where it does not frost and the grass is still green.
- Mustering along and down ridgelines and gullies is easier.
- Creek crossings are avoided.

The location of watering points should also be considered when positioning fencelines. Water sources include rivers, creeks, dams and bores.

Paddocks are preferably split into areas to support 100 - 120 breeding cows. This mob size allows mustering and yardwork to be done with the least number of men. In normal circumstances two men could muster and handle a mob of this size. Larger mobs require more men and more time to complete husbandry practices.

Having a larger number of paddocks and therefore a smaller average paddock size provides better opportunities to spell and burn a paddock. The number of paddocks depends on the type of country and the cost/benefit of having extra paddocks. In forest country trees fall over fences and increase the cost of maintenance considerably.

Electric fencing can be used in intensively grazed areas to allow better control of grazing. Electric fences should be used at weaning to get weaners used to this type of fencing.

Pests

The following are some details of major plant and animal pests in the area:

- Rubber vine starts in creeks and gullies and can grow on all land types. The cost of controlling rubber vine is worth the benefits that result from the access to feed in creeks and gullies, particularly couch grass.
- Parkinsonia commonly occurs up to the flood line and in creeks and gullies.
- Parthenium occurs in watercourses and on roadsides. Its distribution in this area is limited at the moment.
- Dingoes and feral pigs present problems at times. Dingoes can be a problem in range country. Feral pigs are normally found on river frontage country.
- Scrub wallabies may become a concern if softwood scrub is conserved.

Fauna and flora conservation

Producers in this area advocate responsible management of the ecosystem in the area for sustainable development and maintenance of fauna and flora. Older developed areas no longer have many options for conservation. There is however an option to optimise production from cleared areas in order to reduce future clearing. Clearing strategies should be adopted which leave areas for wildlife. Some softwood scrub should be preserved for future generations. The use of legumes provides an opportunity to develop a property and make improvements without large scale clearing.

If any large undeveloped areas are to be preserved they must be secured and protected to preserve them effectively. At the moment landholders receive no assistance and therefore there is no incentive to take such initiatives. However properties which are well managed in terms of tree clearing and conservation are more in demand than properties which have been completely cleared of trees.

Some wildlife species which require conservation are koalas, the platypus, and emus.

CURRENT AND RECOMMENDED PROPERTY SIZES

Properties in this area vary from between 320 - 96 000 acres, with the average size around 5000 - 6000 acres. Smaller properties may need access to irrigation to be economically viable.

To be viable it is recommended that a beef enterprise have at least 500 breeding cows. The property size necessary to support this number of cattle would vary depending on the area of each land type on the property concerned.

Viability is linked directly to equity, a minimum equity of 80% is desirable. Potential property buyers should approach local Department of Primary Industries, Queensland officers and bankers for advice before making a decision to purchase.

Versatility and flexibility in the management of properties in this area is essential to reduce the effects of adverse seasons and market fluctuations.

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The following officers of the Department of Primary Industries facilitated Local Consensus Data meetings and produced the reports: Neil Cliffe, Dave Chapman and Richard Clark.

Table 1. Land vegetation types and their management in the Gogango Area

Land Type/ Vegetation	Percent of Area	Recommended Stocking Rate	Improvements	Enterprises	Constraints
Forest	60-70		Ring barking, Tordoning [®] , cleared, stickraked, improved pasture, some cultivation	Breeding, growing, fattening in good season	Areas of wattle should not be cleared due to sucker regrowth.
Developed		1 Cow & Calf/10-12 acres (4 - 4.8 ha)			
Undeveloped		1 Cow & Calf/20-30 acres (8-12 ha)			
Creek & River Flats	up to 30		Cleared, stickraked, improved pasture, irrigation, some cultivation	Breeding, growing, fattening	Soil erosion, especially if cultivated.
Brigalow	up to 30	1 bullock/6-7 acres (2.5 - 2.8 ha)	Cleared, stickraked, bladeploughed, improved pasture, cultivation	Breeding, growing, fattening	
Softwood Scrub	up to 30		Cleared, improved pasture, cultivation of flat areas	Breeding, growing, fattening	Salinity in some areas
Rosewood	5	1 Cow & Calf/20-30 acres (8 - 12 ha)	Uncleared	Breeding, growing	
Range	5	---	Uncleared	Drought feed reserve only	Difficult to manage, inaccessible, fire hazard, lack of water

Addendum. Plant Names

Common Names	Botanical Names
Aleman	<i>Echinochloa polystachya</i>
Bambatsi	<i>Panicum coloratum</i> var. <i>makarikariense</i>
Bauhinia	<i>Lysiphyllum hookeri</i>
Black speargrass	<i>Heteropogon contortus</i>
Bloodwood	<i>Eucalyptus erythrophloia</i>
Blue grass	<i>Dichanthium sericium</i>
Blue grasses	<i>Bothriochloa</i> spp.
Blue gum	<i>Eucalyptus tereticornis</i>
Bottle tree	<i>Brachychiton</i> sp.
Brigalow	<i>Acacia harpophylla</i>
Buffel grass	<i>Cenchrus ciliaris</i>
Callide Rhodes grass	<i>Chloris gayana</i> cv. <i>Callide</i>
Coolibah	<i>Eucalyptus coolabah</i>
Couch grass	<i>Cynodon dactylon</i>
Fine-stem stylo	<i>Stylosanthes guianensis</i> var. <i>intermedia</i>
Forest grasses	<i>Bothriochloa bladhii</i>
Green panic	<i>Panicum maximum</i> var. <i>trichoglume</i>
Gum-topped box	<i>Eucalyptus mollucana</i>
Hymenachne	<i>Hymenacne amplexicaulis</i>
Leucaena	<i>Leucaena leucocephala</i>
Moreton Bay ash	<i>Eucalyptus tessellaris</i>
Narrow-leaved ironbark	<i>Eucalyptus crebra</i>
Noogoora burr	<i>Xanthium pungens</i>
Nut grass	<i>Cyperus rotundus</i>
Pangola	<i>Digitaria decumbens</i>
Para grass	<i>Brachiaria mutica</i>
Parkinsonia	<i>Parkinsonia aculeata</i>
Parthenium	<i>Parthenium hysterophorus</i>
Poplar box	<i>Eucalyptus populnea</i>
Purple pigeon grass	<i>Setaria incrassata</i>
Rosewood	<i>Acacia rhodoxylon</i>
Rubber vine	<i>Cryptostegia grandiflora</i>
Seca stylo	<i>Stylosanthes scabra</i> cv. <i>Seca</i>
Silver-leaved myrtle	<i>Alphitonia excelsa</i>
Silver-leaved ironbark	<i>Eucalyptus melanophloia</i>
Swamp mahogany	<i>Lophostemon suaveolens</i>
Wattle	<i>Acacia</i> spp.
Wiregrasses	<i>Aristida</i> spp.
White speargrass	<i>Aristida latifolia</i>
Verano stylo	<i>Stylosanthes hamata</i> cv. <i>Verano</i>

Table 2. Farm Management Data for the Gogango Area

Actual Property Sizes	
Range	320 - 96 000 acres (130 - 38 784 ha)
Average	5000 - 6000 acres (2020 - 2424 ha)
Recommended Living Area	
Area	Varies depending on the mix of land types on the property concerned
Breeder numbers	300 - 500 breeders
Mating systems	Seasonal - Bulls in between October and March Continuous - Bulls in all year
Bull %	2.5 - 4.0%
Reproduction rates	Seasonal mating - 75 to 80% Continuous mating - 90%
Weaning	Seasonal mating - 2 per year Continuous mating - 2 to 3 per year
Turn off weights	
Brigalow/softwood scrub	300 - 340 kg at 3-3.5 years old 280 - 300 kg at 2.5 years old
Forest	240 - 300 kg at 2.5 years old
Cull cow age	10 years
Cull bull age	6 - 8 years
Health procedures	
5 in 1	One vaccination at branding
Ticks	Dip if cattle are ticky and/or in poor condition
Tick Fever	Vaccinate cattle introduced from tick-free country
Buffalo fly	Can be a problem and may need treatment
Supplements	
Molasses/Urea	Supplement weaners in their first winter Start while grass is still available for stock
Lick blocks	Feed in dry periods