CYPLUS
CAPE YORK PENINSULA
LAND USE STRATEGY

LAND USE PROGRAM

MANAGEMENT OF PASTORAL HOLDINGS IN CAPE YORK PENINSULA

G.F. Cotter
Queensland Department of Lands
1995

LANDS

CYPLUS is a joint initiative of the Queensland and Commonwealth Governments

Recommended citation:

Cotter, G.F. (1995). 'Management of Pastoral Holdings in Cape York Peninsula'. (Cape York Peninsula Land Use Strategy, Office of the Co-ordinator General of Queensland, Brisbane, Department of the Environment, Sport and Territories, Canberra, and Queensland Department of Lands, Cairns.)

Note:

Due to the timing of publication, reports on other CYPLUS projects may not be fully cited in the BIBLIOGRAPHY section. However, they should be able to be located by author, agency or subject.

ISBN 0 7242 6222 9

CAPE YORK PENINSULA LAND USE STRATEGY
(CYPLUS)

Land Use Program

MANAGEMENT OF PASTORAL HOLDINGS IN CAPE YORK PENINSULA

G.F. Cotter
Queensland Department of Lands
1995

CYPLUS is a joint initiative of the Queensland and Commonwealth Governments

Physical Resource/GIS Projects	Biological Resource Projects
Land resource inventory (NR02)	Flora data and modelling (NR18)
Environmental region analysis (NR11)	Fauna distribution modelling (NR19)
CYPLUS data into NRIC database FINDAR (NR20)	Golden-shouldered parrot conservation management (NR21)
Queensland GIS development and maintenance (NR08)*	
GIS creation/maintenance (NR07)*	

* These projects are accumulating and storing all Stage 1 data that is submitted in GIS compatible formats.

Research priorities for the LUP were set through the public participation process with the objectives of:

collecting information on a wide range of social, cultural, economic and environmental issues relevant to Cape York Peninsula; and

highlighting interactions between people, land (resource use) and nature sectors.

Projects were undertaken within these sector areas and are listed in the following Table.

People Projects	Land Projects	Nature Projects
Population	Current land use	Surface water resources
Transport services and infrastructure	Land tenure	Fire
Values, needs and aspirations	Indigenous management of land and sea	Feral and pest animals
Services and infrastructure	Pastoral industry	Weeds
Economic assessment	Primary industries (non-pastoral, non-forestry)	Land degradation and soil erosion
Secondary and tertiary industries	Forest resources	Conservation and natural heritage assessment
Traditional activities	Commercial and non commercial fisheries	Conservation and National Park management
Current administrative structures	Mineral resource potential and mining industry	
	Tourism industry	

As a part of the public participation process, community and other groups associated with CYPLUS were invited to review all draft reports. These reviews were designed to correct any errors of fact (which were then modified in the final report) and to provide an opportunity for people to express their views of the information presented. The comments submitted to the CYPLUS process by various community groups and other interested persons in regards to the Pastoral Land Planning Study project are situated within a final attachment to this report.

CAPE YORK PENINSULA LAND USE STRATEGY
STAGE I

PREFACE TO PROJECT REPORTS

Cape York Peninsula Land Use Strategy (CYPLUS) is an initiative to provide a basis for public participation in planning for the ecologically sustainable development of Cape York Peninsula. It is jointly funded by the Queensland and Commonwealth Governments and is being carried out in three stages:

Stage I - information gathering;
Stage II - development of principles, policies and processes; and
Stage III - implementation and review.

The project dealt with in this report is a part of Stage I of CYPLUS. The main components of Stage I of CYPLUS consist of two data collection programs, the development of a Geographic Information System (GIS) and the establishment of processes for public participation.

The data collection and collation work was conducted within two broad programs, the Natural Resources Analysis Program (NRAP) and the Land Use Program (LUP). The project reported on here forms part of one of these programs.

The objectives of NRAP were to collect and interpret base data on the natural resources of Cape York Peninsula to provide input to:

evaluation of the potential of those resources for a range of activities related to the use and management of land in line with economic, environmental and social values; and
formulation of the land use policies, principles and processes of CYPLUS.

Projects examining both physical and biological resources were included in NRAP together with Geographic Information System (GIS) projects. NRAP projects are listed in the following Table.

Physical Resource/GIS Projects	Biological Resource Projects
Bedrock geological data - digitising and integration (NR05)	Vegetation mapping (NR01)
Airborne geophysical survey (NR15)	Marine plant (seagrass/mangrove) distribution (NR06)
Coastal environment geoscience survey (NR14)	Insect fauna survey (NR17)
Mineral resource inventory (NR04)	Fish fauna survey (NR10)
Water resource investigation (groundwater) (NR16)	Terrestrial vertebrate fauna survey (NR03)
Regolith terrain mapping (NR12)	Wetland fauna survey (NR09)

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The aim of this study is to describe and assess the pastoral industry of Cape York Peninsula in terms of its present operations and land management as well as provide an analysis of existing and potential land tenure for pastoral purposes.

Pastoral operations in Cape York Peninsula currently use a number of production systems including:

- traditional grazing systems with the use of natural pasture,
- improved management where all cattle are run on native pastures but receive phosphorous supplementation, early weaning and vaccinations,
- improved pastures only,
- improved pastures and improved management techniques,

The preferred production system of the Department of Lands is that which suits the lessees financial position, skills and personal preference, while adhering to the policy objectives of land sustainability, the living area concept and maximising production within environmental 'safety limits'.

Property improvements of a structural nature including homesteads, yards, fencing, water facilities, lick sheds and mustering aids such as spear traps are beneficial to improve carrying capacities.

Property management planning is encouraged by State Government. It is the process by which landholders assess the natural and financial resources available to them, improve the land, stock and finances and plan for nature conservation and the control of land degradation. Property management plans consist of a stock/crop management plan, a financial management plan and a land management plan.

The pastoral land tenures in Cape York Peninsula consist of Pastoral Holdings, Grazing Homestead Perpetual Leases, Special Leases, Occupation Licences and Permits to Occupy. This study examined 112 pastoral leases covering 9,112, 676 hectares of the Peninsula. Forty six percent of the leases are less than 45,000 ha in area. There are 27 leases smaller than 1,500 ha and the provision of additional small leases is considered to be undesirable due to the possibility of land degradation as lessees attempt to derive a living from small properties.

Ownership of pastoral leases in 1994 was as follows:

- Individuals owned 72 leases covering 53% of the leased areas.
- Private companies owned 25 leases covering 2.95 million hectares or 32% of the area.
- Aboriginal people owned 4 pastoral leases covering 7.1% of the area
- Foreign ownership consisted of 6% of the area of pastoral leases. These 9 leases tended to have been improved above district standard.
- An Australian public company owned 1 property covering 1.4% of the leased area.

As part of this study, 26 country type classifications were created and a natural and potential cattle carrying capacity range for each type was calculated. The potential capacity implies improved pasture establishment on undisturbed country. The assessed carrying capacities are considered to be low, with only 10 of the 112 leases of an acceptable living area size, according to the Department of Lands standards. The analysis of carrying capacities of the properties indicates that there has been little development of the pastoral industry to date and that the potential for development is only minor.

Recent developments in improved pasture technology, supplementation and herd management techniques means that a reassessment of carrying capacity is required. As a result of work undertaken in this study there may be increases in the assessed carrying capacity of leases in the region. This has land planning implications in regard to realising the potential of the land in the current lease areas rather than subdividing/amalgamating leases to achieve living areas.

A number of planning issues may require consideration in Stage 2 of CYPLUS. The existence of economically unviable leases in the Peninsula could be examined to determine methods of achieving viability of living areas through subdivision or amalgamation with other leases, by increasing productivity through altering the production system or by imposition by the crown of new management regimes through the use of lease conditions or land management plans. The policy on land clearing to allow improved pasture and fence lines is also an issue to be considered. The study has also highlighted that further research is required to value and locate the level and location of infrastructure improvements on grazing leases to assist in land use planning for the pastoral industry.

1. INTRODUCTION

A considerable amount of research has been done on the land management practices and economic viability of the pastoral industry in Cape York Peninsula, and due credit should go to the Queensland Department of Primary Industries for this research.

This research has assisted in developing the situation we have today. The pastoral industry in Cape York is undergoing change, rapidly on some properties, and more gradually on others, but almost without exception all properties are managing their land and livestock differently to what they were ten years ago.

Similarly, there has also been major changes in the sociological aspects of Cape York. Improved communications, transport, and education, have reduced the isolation factor. Diversification of economic activity has provided new sources of employment and income, and new emphasis on the environment and Aboriginal affairs have all resulted in a shift in the demographics of Cape York.

The result of all this change is that historical land use planning, and the basis on which that planning was done, must also change. As the manager on behalf of the Crown of almost all of Cape York's pastoral lands, the policies, processes and data used by the Lands Department in its land use planning needs to be explained to the public, and reviewed.

The basic steps to a land use program are:

1. define the basic characteristics of the area
2. measure the important features
3. record these on maps and tables
4. draw conclusions on which future planning decisions can be made.

This study uses information gathered from many sources including scientific, Lands Department and other reports, as well as personal experience to outline the basics of the pastoral industry in Cape York. It points out some uses to which this information has been, or could be, put to in order to achieve a land plan and planning process that meets the needs of the people of the region and of Queensland as a whole.

2. STUDY AREA

2.1 Introduction

The study area comprises those leases of a pastoral nature, namely Pastoral Holding, Grazing Homestead Perpetual Lease, Occupation License, and Permits to Occupy and Special Leases which are of sufficient size to warrant consideration as grazing enterprises (above 450ha), within the Cape York Peninsula Land Use Strategy area, exclusive of the Cooktown hinterland area.

Those leases which are not entirely within the boundary of CYPLUS, but do have a significant area within it, have been considered on a whole lease basis.

The Cooktown hinterland area has been excluded from the study because it is a totally different area with regard to lease size, herd management and productivity and from a land planning perspective, to the bulk of the "large grazing" area of Cape York.

The total number of leases included in the study is 112, aggregating to some 9,352,676ha.

Due to the size of Cape York the study area could be broken down into a number of distinct pastoral zones which roughly correlate to the sub-regional planning zones as identified by Connell Wagner in "Cape York Peninsula Resource Analysis".

Each of these regions have different resources, potentials, and niche in the property market place and consequently require different emphasis in land use planning. Once the future direction of Cape York in general, and the grazing industry in particular, has been decided at the regional level and strategic directions in place, planning at the pastoral zone level can commence.

2.2 Pastoral Zones

Zone A (Northern Zone)

This zone includes the lands to the north and east of the Wenlock River. The leases in the very north of the zone are within the Torres Shire, while those south of the Jardine River are within the Cook Shire.

This zone is limited in its grazing potential due to the generally poor nature of the country and severe accessibility problems.

A live export market through the Port of Weipa would significantly benefit the viability of those leases in the southern part of this zone, while the northern most leases have no potential as serious grazing enterprises. As a quarantine measure the Department of Primary Industries is currently pursuing the concept of a Stock Free Area in the northern part of this zone.

Zone B (Weipa Hinterland)

This zone is widely regarded as having the greatest currently unrealised potential in Cape York. Good quality country, high reliable rainfall and proximity to existing infrastructure at Weipa are factors in its favour.

If a live cattle export market can be established using Weipa as a port, enormous potential exists for intensification of land use in this area.

Zone C (Southern Central Peninsula)

This area is currently the major pastoral zone of Cape York. It has widely varying country types and accessibility, and lease sizes range from large under-utilised properties in the north and western parts to small sub-standard blocks predominantly in the Musgrave area.

There is considerable potential for property improvement in this zone.

Zone D (South-east Zone)

This area is the most developed with regard to property improvements in the Cape. It has closer proximity and generally better access to Cooktown and Mareeba than other zones. It also has generally superior country.

This zone also contains a number of smaller freehold grazing properties, or properties with a freehold component.

Zone E (Carpentaria Zone)

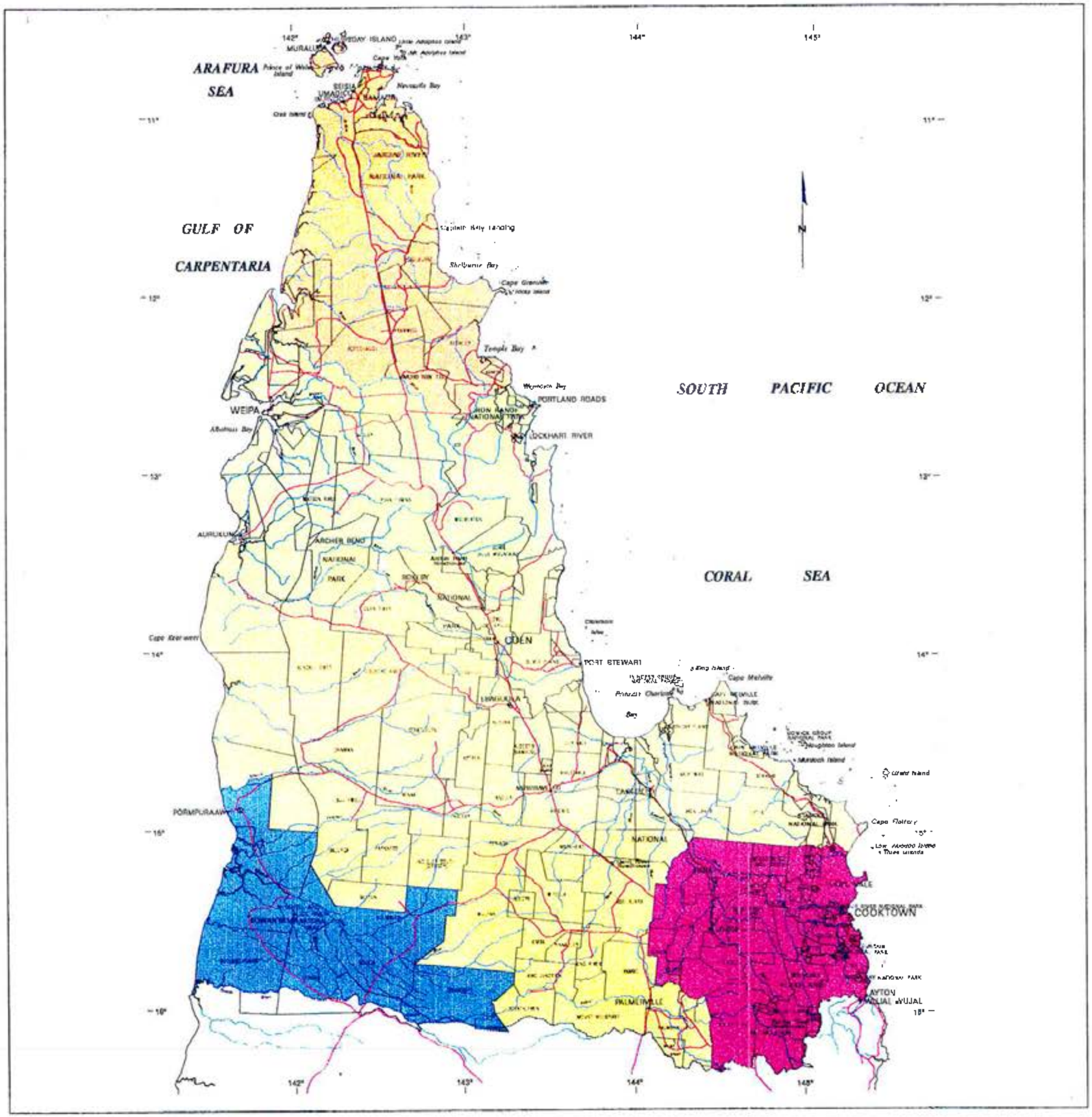
This area consists of only a few very large properties which are generally more closely allied with the Gulf region than Cape York.

The properties fall within Carpentaria Shire and have reasonable proximity to Normanton and the port of Kurumba. This area stands to benefit significantly from the export of live cattle out of Kurumba.

These leases are generally well improved with high carrying capacities, and potential exists for future subdivision.

2.3 Physical Features

The predominant feature of Cape York is the Great Dividing Range which runs north-south, close to the eastern side of the Cape.



CYPLUS

CAPE YORK PENNINSULA LAND USE STRATEGY

CYPLUS is a joint initiative between the Queensland and Commonwealth Governments.

PASTORAL ZONES

The information shown on the map has been supplied by the Department of Lands. Initial enquiries regarding the information should be directed to the Regional Director Far North Region, Cairns.

LEGEND

- ZONE A
- ZONE B
- ZONE C
- ZONE D
- ZONE E

KILOMETRES

0 100 200 250

Albers Equal Area Projection, Central Meridian: 142° East
Standard Parallels: 8° and 18° South

Prepared and produced by the Department of Lands, Queensland, September 1994.

EDITION NO 1

Eastern flowing streams tend to be short and fall steeply to the coast, while streams to the west of the range are much longer and fall more slowly.

The topography generally becomes less undulating as the land becomes more remote from the Great Dividing Range until the near level depositional plains of the coastal edge are reached.

The physical features have determined the position of much of the infrastructure of the Cape. The Peninsula Development Road is located on or near the Great Dividing Range and secondary access roads tend to follow the watershed between river systems. Homesteads and major cattle improvements are often located close to rivers because of the assured water supply and better class grazing country.

2.4 Climate

Cape York Peninsula has a tropical monsoon climate, with distinct wet and dry seasons, with the wet season running from November to April. What is important to note for the pastoral industry is that the Cape receives substantial rainfall each and every year, although a poor or early end to the wet season can lead to difficult conditions late in the dry season.

Rainfall is highest in the north and east parts of the Cape, and decreases from north to south and with distance inland from the coast. Flooding of differing severity can be expected every year.

Temperatures vary between areas within Cape York, but regional temperatures can be summarised as having a mean minimum in excess of 16° and a mean maximum less then 36°. Summer can bring temperatures in excess of 38° (but rarely for extended periods) and high humidity.

3. ANALYSIS OF EXISTING LAND TENURE

The pastoral land tenures in Cape York consist of Pastoral Holding (PH), Grazing Homestead Perpetual Lease (GHPL), Special Lease (SL), Occupation Licence (OL) and Permit to Occupy (PO).

3.1 Pastoral Holding

Purpose:	Pioneer tenure for grazing and agricultural purposes and for the larger mostly unsurveyed leases in the distant areas of the State.
How Available:	Open ballot; priority can be granted to occupier of the land; renewal of lease by application in last 10 years of term; renewal of lease upon expiry; renewal of lease by arrangement; as an additional area.
Term:	Up to 50 years.
Area Limitations:	No limitations on area or numbers of holdings held in the one ownership.
Survey Requirments:	Not required.
Disqualifications & Restrictions:	Person must be 18. Companies must be registered. Organisations must be incorporated or be able to hold by specific statutes. Must be used for grazing or agricultural purposes or other purposes the Minister approves.
Conditions:	Development and improvement conditions as considered relevant.
Actions Allowed:	Amalgamation of contiguous similar tenure, subdivision.
Freeholding:	No freeholding of this tenure available. Conversion to GHPL may be allowed.
Reverts to Crown:	May be resumed for public purposes with full compensation; forfeited for non payment of rent; forfeited for breach of condition; forfeited if acquired by evasion or fraud; surrendered outright to Crown.

3.2 Grazing Homestead Perpetual Lease

Purpose:	Primary tenure for grazing and agricultural purposes in much of the state.
How Available:	Open or selective ballot; renewal of lease upon expiry; renewal of lease upon application; renewal of lease by arrangement; additional area.
Term:	Perpetuity
Area Limitations:	Shall not substantially exceed a living area.
Survey Requirements:	Usually surveyed but not essential.
Disqualifications & Restrictions:	A person cannot apply for or hold two or more GHPL's in excess of two living areas. Corporation, trustee agent or servant can not hold except personal representatives, beneficiaries of estates etc.
Conditions:	As required on the opening lease by the Minister. Agistment of stock for more than 6 months required consent of Minister. Conditions must be performed, but can be varied by agreement.
Actions Allowed:	Amalgamation of contiguous similar tenure; subdivision; conversion to GHFL.
Freeholding:	Can apply to convert to Grazing Homestead Freeholding Lease.
Reverts to Crown:	May be resumed for public purposes with full compensation; forfeited for non payment of rent; forfeited for breach of any condition; forfeited if acquired by evasion or fraud; surrendered outright to Crown.

3.3 Special Lease

Purpose:	Can be used for any means.
How Available:	By auction; ballot and in priority.
Term:	Up to 30 years by auction; to 75 years where conditions require substantial improvements or conversion to freehold is not allowed.
Area Limitations:	No specific area limitations but usual maximum areas are in accord with areas available as GHPL in rural areas.

Survey Requirements:	Survey not required.
Disqualifications & Restrictions:	Person must be 18. Company must be registered; organisation must be incorporated or have ability to hold land by specific statues.
Conditions:	Development conditions as considered relevant. Lease must be used for specified purpose. Conditions must be performed but may be varied by agreement.
Actions Allowed:	Amalgamation; subdivision; conversion to freehold or lesser tenure of NCL.
Freeholding:	Can apply to freehold except if a lease over a reserve which is still required, or lease condition expressly forbids freeholding. Some leases may contain a pre-set purchase price on performance of certain conditions.
Reverts to Crown:	Can be resumed if required by the Crown - often as a condition of lease which provides for compensation for improvements only; forfeited for non-payment of rent; forfeited for breach of any condition; forfeited if acquired by evasion or fraud; surrendered outright to Crown.

3.4 Occupation Licence

Purpose:	Recognises the occupier of the land and who can protect any improvements effected thereon by himself pending any new lease. Used for rural areas where other tenures are inappropriate.
How Available:	By auction; priority given to current occupier of land who would be the lessee of the previous expired lease.
Term:	Reviewed yearly by payment of annual rental.
Area Limitations:	Nil
Survey Requirements:	Not required
Disqualifications & Restrictions:	Person must be 18. Company must be registered. Organisation must be incorporated or have ability to hold land by specific statutes.

Conditions:	Improvement conditions may be required. Must have Minister's consent to effect improvements. Conditions must be performed.
Actions Allowed:	None
Freeholding:	Not allowed
Reverts to Crown:	By giving 3 months notice by Minister.

3.5 Permit to Occupy

Purpose:	To permit use of Crown land, reserve or road, while at the same time preserving the underlying lawful usage.
How Available:	Can be granted over Crown land, a reserve or road without any need of cancelling the reserve or closing the road.
Term:	Can be for a specific term but generally has no term and continues by payment of annual rent.
Area Limitations:	Nil
Survey Requirements:	None required
Disqualifications & Restrictions:	None
Conditions:	Conditions imposed by Minister. If conditions not complied with, Minister can terminate.
Actions Allowed:	None
Freeholding:	None
Reverts to Crown:	Terminable at will by Minister.

3.6 Table 1 (Appendix 2) (Details of leases studied)

Table 1 gives the details of all the leases studied. The reference numbers correlate to the numbers shown on the accompanying Cape York Peninsula Land Tenure map.

The tenure column shown gives the abbreviated tenure type of each block.

The run number column gives the lease number and file reference. The Lands Department is currently upgrading its filing system, and the file reference given is the new file. Those leases that don't have a file reference are still referred to by their lease number.

The PH name column gives the lease name if the lease is a pastoral holding, and the area of the lease.

The station name is the name by which the lease is known locally, regardless of its tenure. Often a station will have a different name to the lease name.

Every parcel of land, regardless of whether it is leasehold or freehold, has a Real Property Description (RPD) expressed partly as a Lot on Plan. Hence Lease 1 which is shown as 1 on Per 5145 would be more fully described as Lot 1 on Plan Per 5145.

The figures in the carrying capacity column are open to contention. The figures used are those adopted in the valuations for rating purposes. The column title "Rate" refers to the number of hectares required to carry 1 beast given average seasons, and under normal district management. "Total" refers to the total number of head the lease can sustainably carry as considered by the Department of Lands.

There are three periods in time at which carrying capacity is calculated. Lease Commencement or natural capacity (given sufficient water supply); Present which is the capacity taking into account any increase in natural capacity arising from property improvements (substantial increase can only occur with improved pastures or clearing) and Potential which assesses the suitability of the lease for further development.

The Living Area column lists the number of cattle that would need to be run in the location of the lease, at its present carrying capacity rate for a family to derive a liveable income.

For the purposes of the Land Act the term "Living Area" is defined as "Such an area of land as having regard to the following matters:

(a) the district in which the land is situated,

(b) the nature of the country, its potential for development, and distance from transport facilities and markets,

(c) whether the land concerned is best suited for pastoral, agricultural, dairying, orchard or mixed farming purposes, as the case may be,

(d) occurrence of variable seasons, will be sufficient to enable a competent person to derive from the working of the land, according to the use for which the land is best suited, an income adequate to ensure a reasonable standard of living for himself, his wife and infant children, as well as to provide a reserve with which to meet adverse seasons and the cost of developing and maintaining the land at a high rate of production throughout average seasons."

The column Present % of Living Area indicates how the lease sits in relation to the Lands Department ideal of a living area size lease. Those leases below 75% can be considered as sub-standard, and those above 125% as above standard blocks. It must be remembered that this is based on present carrying capacity figures as historically assessed by the Lands Department. As a result of work being undertaken in this study there is likely to be a considerable change in the assessed carrying capacity of Cape York leases in the near future.

The last assessment date of leases is the last date at which a report was prepared giving carrying capacities and value of improvements. From the table it can be seen that many leases have not been inspected and reported on for a considerable time. Consequently, the values given in the Approximate Value of Improvements column can be very outdated. Also, because the value of homestead improvements has little relevance in property management or lease administration, the values attributed to structures can not be relied upon as they may not have been subjected to a full valuation.

The value of improvements column is an indication of the level of investment in property infrastructure.

The Valuation Number and Unimproved Value column refers to the rating valuation system. The prefix of the valuation number denotes the shire that the lease is in - 701 = Torres Shire, 705 = Cook Shire, 712 = Mareeba Shire, 707 = Douglas Shire, and 915 = Carpentaria.

Some leases are in more than one shire and thus have more than one valuation number.

The unimproved valuations are usually provided on a whole property basis. Where a property consists of a single lease the value given is from the Valuation Data Listing. Where a property consists of more than one lease the values shown for the individual leases are those calculated consequent to the Land Act Amendment Act 1992 (Wolfe Rentals).

The valuations are not "market" valuations, but rather consider only the grazing value of a property, and make no allowance for the increased value a property would achieve in the market if it has potential for a higher usage such as tourism.

3.7 Statistical Analysis from the Table

3.7.1 Lease Area

The total area of the 112 leases studied is 9,352,676ha. This gives a mean average size of 83,506ha. However, this average size is distorted by a number of very large leases. 46% of the leases are actually under 45,000ha in area.

The table below shows the number of leases within each lease size band:

SIZE	NUMBER
> 1000 ha	5
1000 - 5000 ha	7
5000 - 15000 ha	15
15000 - 30000 ha	12
30000 - 45000 ha	13
45000 - 60000 ha	6
60000 - 75000 ha	8
75000 - 90000 ha	8
90000 - 110000 ha	4
110000 - 130000 ha	9
130000 - 150000 ha	7
150000 - 180000 ha	6
180000 - 250000 ha	7
250000 ha -	5

A criticism that has been levelled at the Lands Department in the past by the grazing industry is that there are few suitable sized blocks in Cape York for people to occupy as an active retirement block (hobby farm). Many people believe it is important for a region to have such blocks available so that people that hold an affinity with the region do not have to leave on retirement. It is also valuable to provide an opportunity for casual or seasonal workers of the region to develop a stake in rural enterprise.

This complaint by the pastoralists of Cape York does not stand the test of analysis. There are 27 leases smaller than 1500 ha, although in fairness a number of these are unsuitable for hobby farms due to poor tenure or location. Offsetting this is the number of small freehold lots in the Lakeland Downs area.

The existence of small blocks has often led to land degradation in the past as lessees attempt to derive a living from a lease that is not a living area in size.

The provision of additional small leases would therefore seem unnecessary and undesirable.

In support of past applications for lease subdivision it was argued that there is a limit to how much area a family unit can effectively manage, and any area over that size will remain unutilised and adds nothing to the well being of the lessee and gives no returns to the property. Just what that area is has not been subjected to study, and would depend on factors such as country type and location of the individual lease. However, 90,000 ha could be considered the upper limit of area workable by a family unit; and there are 38 leases over this size.

The larger properties have potential to have areas excised for amalgamation with sub-standard blocks, or indeed subdivision to provide additional separate leases.

3.7.2. Ownership

The table below sets out the ownership of leases within the study area.

Foreign based companies and individuals hold 568,270 ha or 6% of the study area, while this area carries 7.2% of the assessed carrying capacity. The main reason for this is that foreign held leases tend to have been improved above the district standard.

Certainly the greatest amount of development occurring on Cape York pastoral properties is occurring on foreign held leases. The reasons behind this could be many and varied:

(a) by international standards Cape York land is very inexpensive, on a per hectare basis, and provides an opportunity to take up a substantial landholding at a low cost;

(b) the weak Australian dollar makes development with foreign capital more attractive;

(c) foreigners may perceive the future of Cape York, and its strategic significance, differently.

This development has several advantages for other Cape York pastoralists. The immediate advantage is the employment opportunity, both full and part time, that these developments provide for graziers and family members.

The secondary advantage is that these properties are the test cases of the practical application of different grazing technologies and management techniques. From these properties mistakes and successes the wider Cape York grazing community can take their lead for future development on their own leases.

The public companies such as Australian Agricultural and other grazing enterprise companies that are owned by larger publicly listed companies, such as Stanbroke Pastoral, are absent from the list of lessees in Cape York.

The only lease held by a public company is Sudley PH which is held by Comalco, the bauxite mining company. Sudley is extensively developed, including a small abattoir which supplies meat to Weipa.

Private companies hold 2,955,536 ha, or about 31.6% of the total study area. This accounts for 32.6% of the assessed carrying capacity of Cape York. While there are 25 leases held by private companies, the number of companies holding land in the Cape is only 16, due to a number of leases being held as large aggregations.

There are 72 of the 112 leases studied, totalling 4,806,810 ha, or about 51.4% of the area of Cape York grazing leases, held by individuals or groups of individuals. The size of these leases range from about 500 ha to 283,000 ha with the mean average being about 66,800ha. Individual family ownership of our pastoral and agricultural lands has been the objective of Lands Department policy for many decades and the statistics indicate that this objective is only partially being realised in Cape York.

Aboriginal interests currently hold 4 leases totalling 652,060 ha with an assessed carrying capacity of 14,052 head. Under the Native Title legislation (Mabo) these leases may be convertible to Native Title which will take these areas effectively out of Lands Department administrative control.

ANALYSIS OF OWNERSHIP

FOREIGN OWNED		PUBLIC COMPANY		PRIVATE COMPANY		INDIVIDUALS		ABORIGINAL OWNED	
NO	LEASE	NO	LEASE	NO	LEASE	NO	LEASE	NO	LEASE
24	Silver Plains PH	9	Sudley PH	2	Peak Hill PH	1	PO 5145	16	Coen River PH
25	SL 50136			7	Bertiebough PH	1 A	OL 78	36	Ancilla PH
41	Violet Vale PH		Total = 1	13	SL 35815	3	Shelburne PH	54	Helmsley PH
43	SL 50135		Lease	15	York Downs PH	4	OL 73	87	Bonny Glen
64	SL 52624		130,000 ha	20	Geikie PH	5	Richardson PH		
65	GHTL 235		5,200 head	21	Lovet PH	6	Brunwell		Total = 4
77	Olive Vale PH			44	OL 574	10	Watson River PH		Leases
78	Tungin PH			45	Birthday Plains	11	Bromley PH		652,060 ha
103	Springvale PH				PH	12	Boynton PH		14,052 head
				46	Kalpowar PH	14	SL 28790		
	Total = 9			47	Jack Lakes PH	17	Kendall River PH		
	Leases			48	Lythe PH	18	Holroyd River PH		
	568,270 ha			49	Storeke PH	19	Wolverton PH		
	15,379 head			50	SL 26670	22	SL 39284		
				56	Rutland Plains	23	Lochinvar PH		
				57	PH	26	Southwell PH		
				59	Peringa PH	27	Denman PH		
				60	Wulpan PH	28	Leconsfield PH		
				61	Dunbar PH	29	Aurora PH		
				70	Ingleby South PH	30	SL 47742		
				72	Koolburra PH	31	SL 38891		
				73	King Junction	32	Strathburn PH		
				90	SL 49495	33	Astrea PH		
				92	OL 485	34	Minke PH		
				93	OL 471	35	Ingleby PH		
				110	OL 487	37	Alcestis PH		
					SL 44344	38	SL 43569		
						39	Aglaia PH		
					Total = 25	40	Lily Vale PH		
					Leases	42	Artemis PH		
					2,955,536 ha	51	Baturga PH		
					69,850 head	53	Sefton PH		
						55	Kulata PH		
						58	Harkness PH		
						62	Drumduff PH		
						63	Morehead PH		
						66	Innoya PH		
						67	Wipella PH		
						68	Kimba PH		
						69	Pinnacles PH		
						71	Strathburn PH		
						74	SL 45052		
						75	King River PH		
						76	Yambo PH		
						79	Staunton PH		
						80	Mt Jack PH		
						81	Bridge Creek PH		
						82	Battle Camp PH		
						83	Pickersgill PH		
						84	Escort Creek PH		
						85	OL 408		
						86	Gresley PH		

FOREIGN OWNED		PUBLIC COMPANY		PRIVATE COMPANY		INDIVIDUALS		ABORIGINAL OWNED	
NO	LEASE	NO	LEASE	NO	LEASE	NO	LEASE	NO	LEASE
						88	SL 42292		
						89	OL 563		
						91	OL 564		
						94	Pryde PH		
						95	Brannigan PH		
						96	GHPL 230		
						97	GHPL 231		
						98	Damam PH		
						99	Caloola PH		
						100	Bocabike PH		
						101	GHPL 234		
						102	GHPL 233		
						104	Highbury PH		
						105	Palmerville		
						106	SL 51183		
						107	SL 51679		
						108	Maitland Downs		
						109	Mt Gibson PH		
						111	OL 570		
						112	Diggers Creek PH		
						—	Total = 72 Leases 4,806,810 ha 110,002 head		

3.7.3 Carrying Capacity

The table shows that the total unimproved carrying capacity of Cape York is 207,680 head or 1 beast per 45 ha; the current capacity is 214,483 head, or 1 beast per 44 ha; and that the potential carrying capacity as currently assessed is 233,418 head or 1 beast per 40 ha. This would appear to indicate that there has been little development of the pastoral industry in Cape York to date and that the potential for development is only minor. However, recent developments in improved pasture technology, supplementation and herd management techniques has led to the recognition that a reassessment of carrying capacity is required. Ongoing work following this study is likely to see a significant increase in the assessed unimproved and potential carrying capacities.

3.7.4 Living Areas

The Lands Department ideal is to have as many leases as possible close to 100% of a living area. Those leases below 75% can be considered as sub-standard and those above 125% as above standard blocks. As currently assessed 88 leases in Cape York are below standard and 14 leases are above standard.

The table below shows the number of leases within each percentage of a living area band on present carrying capacity.

% OF LIVING AREA	NUMBER
0 - 5%	20
5 - 10%	12
10 - 20%	10
20 - 35%	16
35 - 50%	13
50 - 75%	17
75 - 100%	5
100 - 125%	5
125 - 150%	7
150 - 200%	3
200% -	4

A reassessment of carrying capacities is not likely to substantially impact on the figures given in the table, but if reassessed potential carrying capacities were used then many more leases would be approaching a living area in size.

Consequently, action needs to be taken where and when possible to bring sub-standard blocks up to a living area capacity. This can be done by amalgamation of leases, or increasing productivity via lease development or a combination of both.

Amalgamation can be achieved up to a maximum workable area by a number of means:

a) amalgamate leases held in the same ownership (see Study 7.0)
b) on lease expiry over standard blocks, excise areas and add them to sub-standard neighbours.

3.7.5 Value of Improvements

Due to the widely varying last assessment dates the improvement details can not be relied upon to be accurate current property improvement values. However, what this column does show, with some notable exceptions, is that properties in the Cape are underdeveloped particularly in relation to fencing and timber treatment.

3.7.6 Unimproved Values

The leases studied have a combined unimproved value of just $8,095,700. Since the area studied is 9,352,676 ha this gives a value per hectare of just 86 cents. It should be noted that these values are based solely on grazing usage. Some properties may have a higher value in the market place due to market perceptions of potential for a higher usage ie. Space Base, tourism.

4. PRESENT OPERATIONS

4.1 Introduction

There are a number of production systems currently in use in the Cape York Pastoral Industry. These range from the traditional system of use of natural pasture, minimal artificial waters and fencing with cattle run as a mixed herd through to highly developed properties where stock are run largely on improved pastures.

The Department of Primary Industries has been advocating certain cattle husbandry practices along with improved pasture establishment for Cape York properties for many years. While some of the cattle husbandry practices have been widely adopted, no significant areas, on a regional basis, have been established to improved pasture. This, I believe, is more of a result of a lack of surplus funds rather than poor acceptance of the benefit of improved pastures.

The returns from grazing under traditional production systems have not produced sufficient surplus funds to allow reinvestment into the property in order to increase property infrastructure. Without this property development there is little hope of an increase in property returns. Hence if improvements are to be made which will take a property from the traditional production system to a more efficient one, alternative sources of income must be accessed.

If the Cape York Pastoral Industry is to realise its potential for substantially increased production then one of the factors to which attention needs to be paid is the marketing of that product. Currently, most cattle from the region are sold through the Mareeba saleyards. Additional markets would improve the stability of the industry.

Two long touted alternatives are the possibility of building a slaughterhouse in the Lakeland - Cooktown area to supply the local trade, and live export through Weipa.

4.2 Property Improvements

There are a wide range of possible property improvements of a structural nature. An outline of these improvements follows:

4.2.1 Homestead & Outbuildings

The homesteads of Cape York are testimony to the historically poor returns obtained from grazing in the region. Virtually non-existent are the grand mansions that are associated with pastoralism of the south. Instead most homesteads are basic structures providing the bare necessities for domestic life. Homesteads don't produce cattle, so money that would otherwise go towards house improvements is usually redirected to plant and machinery or cattle improvements.

A typical lease will have the following outbuildings:

(a) ringers quarters - often the original homestead

(b) generator shed - just large enough to house the main generator plus a back-up in case of break down

(c) machinery shed - large enough to house most of the important machinery and tools

(d) various dilapidated buildings like old meat safes, garages etc.

Most homesteads are now connected to the phone and have satellite TV, which has reduced the isolation factor of Cape York.

4.2.2 Yards

Depending on size most leases have one or two main yards, one usually being located near the homestead. A typical yard will consist of about 200 x 3 m panels and include a drafting yard, race and loading ramp, crush and branding cradle. Many older yards also include a plunge dip and draining pen, however these are seldom used today. Such a yard, excluding the dip, would have a new value of $25,000 - $30,000.

Most leases have numerous "bush yards" scattered around the lease at strategic locations. Typically these yards are circular in shape and consist of 30 - 40 panels of 3 & 4 bush rails. Approximate value = $3,000. Many of these yards are not being maintained as the same function can be performed by portable yards which have greater flexibility of use.

4.2.3 Fencing

Whilst some properties are extensively fenced, on a regional basis there is relatively little fencing.

Many graziers do not like fencing for a number of reasons. Many believe that cattle don't do well "behind wire" which is due to cattle needing large areas over which to selectively graze because of the poor nutritional status of native pasture. Also, at the time of first storms cattle need to be able to "chase the green pick". Fencing is also costly to construct and requires constant maintenance.

Because of the inherently low carrying capacity of Cape York, long distances of fencing are required if any reasonable number of cattle are to be contained within a single paddock.

A new attitude towards fencing seems to be developing, however. A number of lessees are recognising that cattle must be controlled and they believe that this is best achieved by fencing. Consequently, recent years have seen some extensive fencing programs on a number of leases.

Good quality fencing done by contract costs around $2,000/km.

4.2.4 Water

Considering the size of Cape York there are relatively few man made water facilities. The annual wet season has meant that there has been a great reliance on natural waters. However, if stocking rates and the amount of fencing increases, there should be a corresponding increase in the number of water facilities.

The most common type of water facility is a small unequipped gully dam. Since the wet season is reasonably reliable, dams can be small as they do not have to last through a number of drought years. These dams require little day to day management except perhaps at the end of the dry season when cattle may start to bog.

Earth tanks complete with silt trap and equipment are relatively rare in the Cape. So too are equipped bores.

There are a few flowing artesian bores on a number of properties, the majority of which were sunk by mining exploration companies. If conditions allow, many watering points can be supplied by pipe from a single bore and thus flowing bores can be quite cost effective.

4.2.5 Lick (Supplement) Sheds

Lick sheds take many forms. One type is a small relocatable steel and galvanised iron structure, which can be moved when the need arises eg. soil surrounding the shed becomes bulldusted. The other extreme in construction is a shed of wood posts and frame with a low sloping roof with a loft and concrete pad. The concrete pad prevents bulldusting, the low sloping roof weather proofs the lick trough, and the loft allows dry storage of supplement so that a man on a horse can service the licks during the wet season. In practice most sheds are a compromise of the two extremes.

4.2.6 Mustering Aids

There are a number of mustering aids. The most common and simple is the spear trap. This consists of a number of "arms" of steel or timber which can be brought together at one end to form a V shape. Typically, a water source in an otherwise dry paddock will be fenced off. The fence will have a spear trap which is left open most of the time like an open gate. Cattle become used to using the spear to access the water. When the spear is put into use the cattle enter through the inlet spear, but the outlet spear is closed and thus the cattle are trapped.

A variation on the spear trap is a cow-calf separator where the separator replaces the outlet spear. This enables calves to be drafted into small holding yards for further handling.

4.3 Improved Pasture

4.3.1 Introduction

Improved nutrition is seen by many as the key to the long term future of the grazing industry of Cape York. One way of achieving this is through the use of improved pastures.

To date most efforts to establish improved pasture have centred on legumes. Legumes supply nitrogen and protein which leads to higher stocking rates. Weight loss in the dry season is reduced and hence survival increased.

The most commonly used legumes are seca, verano and glenn jointvetch. Wynn cassia is also becoming popular.

One drawback with the introduction of legumes is the inability of native grasses to tolerate higher stocking rates associated with legume pastures. One solution to this problem is to introduce improved grasses. Unfortunately, grasses may have difficulties establishing and spreading where soil has not been disturbed. Species which have met with some success are humidicola, urochloa and gamba.

4.3.2 Establishment

When sowing improved pastures, species mixtures are best because different species will grow well together, but individual species can take advantage of small paddock changes so that different species dominate in different areas. Also, by adopting this approach a pasture will remain productive even if there is a failure in one species. Once established, legumes and grasses are capable of natural spread.

Fertiliser requirements depends on the fertility of the country. For establishment, stylos require soil phosphorous levels in excess of 3 ppm and show increased response up to 8 ppm. Soils may also require additional sulphur. As a general rule, country suitable for improved pasture requires an application of about 60 kg/ha of Pasture King fertiliser at the time of sowing. Grasses require a higher phosphorous level.

Established pastures respond well to maintenance applications of fertiliser every two to four years, and give higher production because carrying capacity and weight gains are raised. However this cost can be minimised because pastures persist without maintenance applications and cattle can be given direct supplementation.

Graziers have a choice of which pasture regime they may adopt depending on establishment and maintenance inputs, nature of their country and personal preference. The main regimes are termed minimal, low, medium and high intensity.

Minimal intensity pasture relies on natural spread. Seed may be fed to stock in hay and supplements or broadcast whilst mustering, checking waters etc. It takes many years before any noticeable improvement in pastures occurs using this method.

Low intensity pasture developments require the country to be prepared either by burning or heavy grazing so at the time of first storms native pasture has been depleted and thus provides reduced competition to improved pasture establishment. A mixture of stylos and a small amount of grass seed are aerially sown at a rate of 2-3kg/ha along with the required amount of fertiliser. Heavier sowing in strips probably leads to better establishment than blanket sowing, allowing natural spread to fill in the country between the strips.

By the third year after sowing, this pasture regime should be approaching full production and could be conservatively expected to carry 1 beast to 5 ha long term. Its advantages are a lower cost which enables larger areas to be sown and fewer environmental problems due to the absence of clearing. However, legume build up is slower than in more intensive regimes and the carrying capacity at full production is lower.

Medium intensity pasture developments follow well established practices of the brigalow belt. Trees are pulled and country spelled to allow grass build up and then burnt. The fire reduces the amount of timber on the ground and knocks back sucker regrowth. The country is then sown with mixed legumes and grass at a rate of 4-5 kg/ha and the required fertiliser.

It should take three years after the initial pulling for this regime to reach full production when it would be expected to carry 1 beast to 2 or 3 ha. Its advantage is its lower cost than the high intensity regime and lying timber can act as an erosion control measure. Its main disadvantage, apart from the length of time to full production, is that regrowth can be difficult to control.

The high intensity pasture regime requires the land to be cleared, burnt, stickraked and ploughed. Often ploughing will be done twice in opposite directions across the paddock.

Legumes and grass species are sown at a rate of 4-5 kg/ha with the required fertiliser and the pasture should reach full production during its second wet season. It would be reasonable to expect this regime to carry 1 beast to 2 ha or better. The advantages of this system are high carrying capacity and the control of regrowth resulting from ploughing and the short period to full production. The disadvantages are the high cost (about $300/ha depending on country type) and extra precautions required to avoid environmental problems.

It is important to avoid allowing legume pastures being burnt before seed is set. If pastures are burnt each year for three or four years legumes may not persist.

Any substantial area of improved pasture becomes the focal point of a grazing operation. If calves are weaned under 6 months they require protein supplementation. Weaning onto improved pasture is one means of supplying this. Sale cattle, growing cattle and weak breeders particularly benefit from access to improved pastures.

The benefit also spreads across more of the herd than the actual cattle carried on the pasture. The condition and survival rate of breeders using native pasture improves when calves are weaned as young as possible.

4.3.3 Case Study of an Improved Pasture Paddock

To establish a 2,400 ha paddock of improved pasture would require the following improvements.

Fencing: assume one side of paddock already fenced 14 kms of 3 barb, steel posts, 10 metre panels. Lessees own labour not included in cost. 14 kms x $1,300 = $18,200.

Water: ideally the paddock would include a permanent natural water but assume requires 1 x 7,500 m^3 dam at $1.50/$m^3$ = $11,250.

Supplement Shed: 1 supplement shed at $500.

Seed: Per hectare costs are

1.5 kg seca at $8/kg	=	$12.00
1.25 kg verana at $6/kg	=	$ 8.00
.25 kg wynn at $11.50/kg	=	$ 3.00
.1 kg urochloa at $10/kg	=	$ 1.00
		$24/ha x 2,400 ha = $57,600

Fertiliser: 60 kg/ha of Pasture King which is equivalent to 120 kg/ha of superphosphate. Cost on property is $500/tonne. 144 tonne x $500 = $72,000.

Spreading: aerially spread at $3/ha = $7,200

Total Cost: $166,750 or $69.47/ha.

If the country developed is average good quality open country, in its natural state, it may carry 1 beast to 20 hectares (120 head). Given reasonable establishment after three years the country will conservatively carry 1 beast to 5 ha (480 head). The 360 head increase costs $463/beast.

Recent sales in Cape York show that properties are selling for about $150/beast. These figures indicate that it is far cheaper for a lessee to purchase additional country rather than develop land currently held. However, simply purchasing additional country does not give the added animal husbandry advantages such as reduced mortality, higher branding rates, reduced mustering costs etc that developing country does. Indeed, it is argued by grazing industry representatives that buying more unimproved land simply means additional management costs and going broke faster.

4.4 Marketing of Product

Currently, most cattle from Cape York are sold through the Mareeba saleyards, where a weekly sale is conducted.

An inferior road system is seen as a major limiting factor in the marketing of cattle. Cattle are usually delivered in single deck semi-trailers or body trucks. If roads were upgraded greater usage of semi-trailers could be made, freight costs lowered and access to possible future marketing centres made feasible.

If sale cattle numbers were increased and those cattle carried as a segregated class preferably on improved pasture, then lessees could make more efficient use of transport and choose the marketing time for their cattle, rather than sell as mustered as occurs on many properties at present.

The development of alternative markets to Mareeba would also improve stability of the industry. Live cattle export to south-east Asia holds considerable potential. Demand is increasing and the type of cattle required can be produced in the region. Karumba and Weipa are the ports best located to take advantage of this trade.

Karumba has access to a far larger herd, with cattle being sourced from as far away as Cloncurry and Charters Towers. Approximately 15,000 head were shipped from Karumba in the latter half of 1994.

Those Cape York producers most likely to benefit from development of Karumba as a live export port are those in the Carpentaria zone.

Weipa has many advantages for the trade in live cattle. It has excellent existing deep water loading facilities and is obviously well located in regard to overseas markets. A marshalling facility, necessary to accumulate a boat load of cattle and provide quarantine, vaccination and dipping facilities, could be provided at Sudley, or a site closer to Weipa such as Napranum Community land, or perhaps a Weipa revegetation area. Such a facility would involve only a moderate cost.

The downside to Weipa is the lack of supply. There are simply not enough cattle in Cape York at present to put together boat loads of cattle. Greater productivity needs to be encouraged to take advantage of this expanding market.

Another marketing possibility is a slaughterhouse in the Cooktown area. A feasibility report has indicated that such a project is feasible. The market exists, if approached in the right manner, and there is adequate quality supply. This project would mostly benefit the Cooktown hinterland and Lakeland areas where butchers cattle are most easily produced.

Productivity and improved road access would appear to be the key to better marketing. Greater productivity and improved roads allow more efficient use of transport, choice of marketing timing, and the development of a live cattle export industry. Land planning should accommodate this need within environmental safety limits.

4.5 Production Systems in Use

4.5.1 Traditional System

Under the traditional system all cattle are run on native pasture. Cattle are mustered once a year when calves are branded and castrated and sale cattle are removed. Sale cattle are either 1 1/2 - 3 year old steers suitable for the store market or 3 + year old steers and bulls, some aged cows and feral cattle which are meatworks cattle. Heifers are rarely sold because they are required to replace aged breeders which have a high mortality rate under this system.

'Production parameters for this system are poor. Breeder mortality is high, as it is also for other classes of cattle, calving percentage is low, mustering efficiency is poor while mustering costs are high. Weight gain is also lower than in other production systems.

Property infrastructure, apart from homestead improvements, usually consists of a couple of paddocks, a horse paddock and a sale cattle paddock, several artificial waters, a main yard usually located at the homestead and numerous small bush yards.

This system results in the existence of feral herds because of the poor mustering efficiency. Financial returns are also low. However, this system results in minimal environmental impact.

This system continues to carry favour with many graziers for a number of reasons. Firstly, a relatively unimproved property provides a cheaper entry into the industry. Those purchasers who look for the cheaper entries are usually undercapitalised and are unable to carry out development work. Existing graziers are reluctant to borrow funds to improve their properties and the properties do not provide sufficient surplus funds, so unless a sizeable off-property income is earned the property remains underdeveloped.

Another major reason is simply a reluctance to change. Many of the current lessees families have been in the Cape for generations and many believe that since they have survived on the land until now why should they change their practices?

The traditional production system requires large land areas to provide a living, and indeed DPI studies have shown that no matter how large an area is available, the traditional system may not provide a positive cash flow.

Lands Department figures give an average carrying capacity for Cape York of 1 beast per 45 hectares. If a living area is 3,500 head, then 157,500 ha of unimproved country is required. Very few leases are larger than this. If a major amalgamation scheme to bring leases up to a living area in size is to be avoided, then an intensification of usage of leases is required. This intensification can only occur with improved management practices and the use of improved pasture.

4.5.2 Improved Management

In this production system all cattle are run on native pastures.

The fundamentals of this system are:

(1) Phosphorous supplementation - carrying capacity is increased because it enables better utilisation of native pasture; weight gain is increased; congregates cattle at licks for easier mustering; by increasing weight it reduces mortality during the dry season.

(2) Early weaning - weaning down to 3 months increases breeder survival and calving rates in the following year.

(3) Vaccinating against botulism and vibriosis increases breeder survival and calving rates.

Additional spin-offs from this system are quieter cattle and hence easier mustering due to increased contact at licks and whilst handling young weaners.

There are various other management techniques which may also prove profitable such as using cow/calf separators and other trapping technology.

This system results in far more saleable cattle including a significant percentage of females which are not required for breeding purposes due to lower mortality. This fact alone can contribute significantly to the profitability of a grazing enterprise.

Additional property infrastructure required for this system are fencing and water for a weaner paddock and supplement sheds.

This system is the easiest improved system for lessees to implement. It requires only modest capital expenditure for some additional fencing, perhaps a water facility, and for lick shed materials.

4.5.3 Improved Pasture

In this system the whole herd is run on improved pasture which is established largely on cleared country. Maintenance fertiliser is applied every two to four years. Improved management techniques are followed ie. early weaning, botulism and vibriosis vaccination. Phosphorus supplementation is not necessary, however, recent research is showing that it may be more efficient to supplement phosphorous direct to cattle rather than spreading it on pasture.

The infrastructure required in this system includes full clearing (clear, stick rake, plough, seed and fertilise with regrowth control measures required in following years). The carrying capacity of cleared country in average condition can be assessed at about 1 beast to 1.5 hectares, so in order to carry 3,000 head, 4,500 hectares needs to be cleared. Other required improvements are one main yard, 50-60 kms fencing and several artificial waters.

The obvious advantages of this system, once the pasture is established, is the ease of management due to the cattle being congregated in a small area. The demands on day to day management of this system are low. Other advantages are low mortality rates, high branding rates, clean and cheap musters, good weight gain and maintenance. Culling for temperament and cattle training are also possible.

The intensity of this production system also means that only a relatively small area is required to provide a living area.

The disadvantages of this system are also numerous. The clearing operation has a very high capital cost and this would exclude most existing Cape York lessees from pursuing this type of development. There also needs to be a commitment to control regrowth. The seasonality of Cape York weather means that clearing operations have to be well planned if environmental problems are to be avoided.

This production system is little used outside of the small holdings in the Cooktown hinterland area, although several Cape York lessees are basing their operations on large cleared areas within their larger holdings.

4.5.4 Improved Management with Improved Pasture

In this production system breeders are run on native pasture using improved management (supplements, early weaning, disease vaccination), while weaners, weak breeders and sale cattle (cull cows, steers, spayed heifers) are run on improved pastures.

Property infrastructure required are areas of improved pasture either in cleared country and/or through standing timber; sufficient internal fencing for weaner, hospital and sale cattle paddocks; sufficient water facilities and numerous lick sheds.

This system provides many of the advantages of the whole herd on improved pasture system at a significantly lower cost and with decreased risk of environmental problems. Mustering efficiency is a little lower and costs higher due to breeders being in unfenced native pasture country, and branding percentage is also a little lower.

4.5.6 The Preferred Production System

The production system preferred by the Department of Lands is that which suits the individual lessees financial position, skills and personal preference. So long as the various policy objectives such as land sustainability and the living area concept are adhered to, lessees are mainly left alone to pursue the production system of their choice. However, the Department does wish to maximise the economic benefit to the State from land under its control. In regard to the grazing industry of Cape York this means maximising production within environmental "safety limits".

The Department of Primary Industries in their development plan for Batavia Downs have outlined the management objectives and the required structures, pastures and husbandry practices to meet those objectives. I refer readers to the Department of Primary Industries Project Report "The Cattle industry of Cape York Peninsula" by P J McKeague which outlines the preferred production system for Batavia Downs which can be adopted for much of Cape York. I quote:

"The property development was designed to meet the following objectives:

* maintain a branding rate of 75% or better
* limit death rates: weaners 5%; steers and heifers 2%; breeders 4%
* maintain annual live weight gain of steers: 140 kg/ha and heifers 120 kg/ha
* maintain segregation between stock classes
* educate weaners
* contain labour costs
* maximise marketability
* preserve and respect the environmental integrity of the area.

The following structures, pastures and husbandry practices are designed to meet these objectives:

To maintain branding rate at 75% or better

- heifers run on sown pastures from weaning until they wean their first calf
- after weaning the first calf, all breeders run on native pasture with phosphorus supplements
- heifers without a calf at first calf weaning culled
- supplement sheds provided at 1 shed/125 head
- twice/year weaning
- heifers run on low input sown pastures with phosphorus supplements
- heifers mated to calve in November (predicted break in dry season)
- heifers and bulls vaccinated against vibriosis

Control death rates

- early weaning
- high input pastures for weaners
- all stock fed phosphorus supplements
- meal and non-protein nitrogen supplements fed to weaners
- high input pasture for hospital paddock
- heifers run on low input sown pastures until first calf is weaned
- inoculation for botulism.

Maintain live weight gain of steers and heifers

- steers and heifers run on low input sown pastures with phosphorus supplementation.

Stock segregation

- 4 breeder paddocks (4,000 - 8,000 ha)
- 10 steer and heifer paddocks (500 - 800 ha)
- 5 weaner, horse and hospital paddocks (25 - 75 ha)

Weaner education

- weaners fed in yards for 10 days
- weaners given further handling while run on intensive pasture for 6 weeks.

Contain labour costs

- use of dams with trap yards in the breeder paddocks
- Wenlock River not used for watering cattle
- property boundary fenced. This would not be necessary if the neighbouring land were being used for similar type grazing
- 2 sets of cattle yards
- cattle requiring regular handling eg. weaner, first calf heifer, sale cattle run at higher stocking rates
- sown pasture, higher stocking rate areas adjacent to yards
- areas unsuitable for grazing fenced out.

Maximise marketability

- dehorn
- educate weaners
- phosphorus supplementation
- wean twice/year

Preserve and respect environmental integrity

- fire remains as the main vegetation control measure in 80% of area
- heavily grazed areas stabilised with sown pastures
- identified environmentally important areas eg. Embley Range, deciduous and riverine forests not developed."

To achieve this production system requires a small area of cleared intensively developed country near the yards and homestead, a larger area of less intensively developed country and a large area of relatively undeveloped country.

This roughly corresponds to the findings of the "Gulf Region Land Use and Development Study 1991" which recognises "Pastoral Zones" of better quality well improved country with an area of "Pastoral Support" land adjoining. That study also recognises that there are areas of little or no value to grazing which are better put to other uses.

5. LAND MANAGEMENT PLANS

It is the intention of the Department of Lands to encourage sound and sustainable land management practice on Crown leasehold land used for primary production through the use of land management plans.

Property management planning "is a process by which landholders can properly assess the natural resources available to them, improve the land, stock and financial management and plan for nature conservation and the control of land degradation". (Decade of Land Care Plan - Queensland - 1992)

The property management plan is the instrument by which valuable information is passed from one landholder to the next or to any person or organisation to whom it is in the best interests of the landholder to give it.

A land management plan is the land component of the more comprehensive property management plan. Property management plans normally include a further two components.

1) a stock/crop management plan, containing technical information on breeding, veterinary health, and/or cropping.

2) a financial management plan, which is the business plan for the property containing information on budget management, estate planning and marketing.

The Department of Lands is concerned only with the land management plan.

The benefits of land management planning are:

1) to protect landholders' long term interests by encouraging sound and sustainable land management practice.

2) to record the knowledge about the property which lease holders have built up, the decisions made and the actions taken both for their own benefit and that of any future lessee.

3) to protect the public interest by encouraging the sustainable management and utilisation of the Crown estate.

4) to help maintain the productive value of the land.

In the past the Department of Lands has dictated what development should be carried out on a lease via lease conditions. Such conditions can become problematic, for instance many leases in Cape York have a condition requiring the construction and maintenance of a cattle dip. This condition may have been fine in the 1960's when a lease commenced but modern technologies and management practices make dips obsolete and the maintenance of dips should no longer be required.

A land management plan is more flexible than the formal conditions of a lease and can accommodate seasonal, economic and technological changes. Where a lease is underdeveloped, rather than dictate to lessees what development they should carry out, lessees are being encouraged to provide land management plans which take advantage of their personal strengths, i.e. if a lessee has considerable machinery he could undertake an extensive dam building program relatively cheaply in preference to sowing pasture. Nevertheless, where land is assessed to be highly degradable, or a specific type of development is considered essential, then explicit conditions of the lease will be set.

To ensure that a land management plan isn't simply produced and then forgotten they may be supported by a condition of lease that states:

> *"The lessee shall manage the property generally in accordance with the approved Land Management Plan and at the expiration of every five year period from the commencement of this lease, or sooner if the lessee so applies, the lessee shall submit to the Minister a plan updating the information contained in the Land Management Plan".*

Leaseholders are best placed to prepare their own land management plans. They have greater familiarity with their properties than anyone else. However, assistance is available from the Department of Primary Industries and the Department of Lands. The information being provided from both the CYPLUS NRAP and Land Use Programs should be a significant help in the generation of these plans.

The following is a recommended procedure for undertaking the basic process of land management planning. It represents a standard but is not intended to be totally prescriptive. Variations can be acceptable.

There are two principal parts to a land management plan. They are:

(a) a map of the property overlays,

(b) a written description of proposed development and management practices.

THE MAP OF THE PROPERTY

A base map is best prepared from aerial photographs or a satellite image. Aerial photographs, whether as separate prints or joined together to form a photo-mosaic, may be arranged through the local office of the Department of Lands or the Department of Primary Industries. The boundary of the property can be identified and marked on the base map.

Overlays of clear plastic are used to depict and highlight natural features and improvements, land and soil types, land usage and areas requiring special management.

The map of the property should show the following information:

Natural Features

On the base map highlight all significant natural features, eg watercourses, springs, swamps and water-logged ground; ridgelines, escarpment, etc.

Country Types (1st overlay)

Land/soil types are areas of relatively uniform natural vegetation, soils and land slope having similar land use potential and management requirements. On an overlay (1) a boundary should be drawn around each country type which should be named by referring to the type of soil and vegetation. The Geographic Information System (GIS) being created by CYPLUS should be of assistance in this regard, when operational.

Property Improvements (2nd overlay)

Show on another overlay (2) all property improvements. These should include fences; paddock names; access tracks; buildings; dams; bores; bore drains; troughs; pipelines; powerlines; stockyards; dips; contour, diversion and pondage banks.

Present Paddock Use (3rd overlay)

On overlay (3) show the present use of all paddocks using the following use classifications:

* Pastures: native pasture - timbered;
  native pasture - open;
  native pasture and legumes;
  improved pasture.

* Cultivation: dryland; irrigated.

* Drought fodder.

* Heavy timber and stands of commercial species.

* Shade, shelter belts, wild life corridors, honey producing trees and other native vegetation.

* Agriforestry.

Also show adjacent property land use; timbered areas, cleared areas, state forests, national parks.

Areas Requiring Special Management (3rd overlay also)

On overlay (3) also show areas which require special management. These would include areas subject to tree re-growth, woody weeds, soil erosion (eg scalded areas, gullies, eroded creek banks), degraded pasture, salinity, contaminated land (eg old cattle dip sites), waterlogging. Such areas would include also places of archaeological, cultural or heritage significance and nature conservation interest.

Proposals for Improved Property Management (4th overlay)

On overlay (4) show proposals leading to improved property management. The following is relevant:

* areas of proposed land use change, eg new areas of cultivation or improved pasture;
* areas where land degradation control measures will be applied;
* areas to be spelled;
* changes to fencing layout;
* areas where trees will be encouraged to re-generate or be planted;
* areas of native vegetation to be retained for wildlife preservation, honey production and general aesthetics;
* additional watering points to encourage better use of pasture

Additional Overlays

Further development proposals or landcare measures can be shown on additional overlays.

THE WRITTEN DESCRIPTION

This should explain some aspects shown on the overlays. It should provide also a summary of the overall strategy to be used in managing the property including a brief description of the proposed use and management of each land type. This should include the stocking rates appropriate to each land type.

Specific proposals for each paddock should be described and should include:

* improvements for that paddock,
* land use intentions,
* management practices,
* strategies for overcoming land degradation problems.

Land management plans are dynamic documents and should be reviewed continually by the landholder. For Department of Lands administration purposes, a five year interval is seen as appropriate for the submission of a revised land management plan.

In summary, land management plans should be seen by the pastoral industry as a tool for lessees to put down on paper how they wish to see their management of their leases proceeding. However, they should ensure that their objectives are in line with the principles of land sustainability and environmental and cultural values.

6. COUNTRY TYPE CLASSIFICATION

6.1 Introduction

The Lands Department has historically classified leases according to the areas of the various country types that they are comprised of. A typical land description of a lease could be "3,000 ha (30%) of undulating melonholey black soil box country; about 3,000 ha (30%) dark soiled open molloy box, poplar gum, ghost gum, ti-tree river frontages and about 4,000 ha (40%) of poor red sandy soil stringybark, bloodwood, ironwood country".

The carrying capacity of this lease could then be calculated as follows:

	Area	Present Rate	Potential Rate
	3,000 ha	1 - 12 (250 head)	1 - 5 (600 head)
	3,000 ha	1 - 15 (200 head)	1 - 5 (600 head)
	4,000 ha	1 - 50 (80 head)	1 - 50 (80 head)
Total	**10,000 ha**	**1 - 19 (526 head)**	**1 - 8 (1,250 head)**

Unfortunately for Lands Department officers, Cape York leases are so large and country types are so varied and sporadically occurring that it has been very difficult to accurately classify a lease, until now.

The CYPLUS NRAP project NR01 Cape York Peninsula Vegetation Mapping enables much more accurate classification to occur. This project has used aerial photography interpretation, followed by extensive ground truthing to produce 1:250 000 scale maps showing vegetation map units. These maps can be used to classify a lease according to vegetation types.

As can be seen from the prior example country classifications are a combination of soil and vegetation characteristics. However, vegetation characteristics are most commonly relied on because they are also a useful indication of soil types, although some species are not confined solely to particular soils. This is why field verification by an inspecting officer must be carried out.

The CYPLUS NRAP project NRO2 Land Resource Inventory provides valuable soils related information which when combined with the vegetation mapping should allow the potential of a lease to be assessed.

6.2 Country Types

For lease classification purposes I have developed the table shown below.

The table shows 13 major country types, some of which are subdivided into a number of lesser country types, giving a total of 26. These are the country types I believe will describe most areas within Cape York. Beside each type is a column in which the present and potential carrying capacities of each type is listed. These capacities are shown as a range which reflects the possible difference in quality of different parcels of land of the same country type. Such differences can be attributed to variances in rainfall, quality of soil, prevalence of weeds etc. On-ground inspection is required to nominate where a particular parcel of country type sits within the carrying capacity band.

The views of relevant Government Departmental officers and members of the Cape York Peninsula Pastoral Advisory Group have been sought on the completeness of the country type list and the carrying capacities attributed to each type. The table reflects the resulting consensus from the views received.

Natural carrying capacity is estimated as if the country is sufficiently watered and given district average supplementation. Potential carrying capacity is assessed on the suitability of the country type for improved pasture establishment on undisturbed country (low input).

Some country types which are shown on the Schedule to have no potential for establishment of improved pasture on undisturbed country may be suitable for alternative development regimes such as clearing. Individual areas proposed for this type of development require inspection to determine suitability having regards to factors such as soil and slope.

COUNTRY TYPE	CARRYING CAPACITY BEAST TO HECTARES	
	NATURAL	POTENTIAL
1. Tetrodonta (Stringybark, Messmate) Associations		
(a) Stringbark, bloodwood, ironwood on a range of soils including sand, bauxite and ironstone.	1-40/100	Nil
(b) Stringybark, carbeen, swamp mahogany moist lowland areas and creek edges.	1-15/30	Nil
(c) Stringybark, bloodwood sandstone ranges.	1-40/250	Nil
2. Chlorophylla (Box) Associations		
(a) Undulating box country, sometimes with ghost and cabbage gum on a range of soils, often with undergrowth.	1-15/30	1-4/7
(b) Open melonholey dark soil box, yellow-wood.	1-10/15	1-5
3. E Cullени (Ironbark) Associations		
Ironbark, bloodwood and sometimes generally mixed eucalypt on shallow skeletal soils, hill slopes and platean edges.	1-20/50	1-5/8
4. E Leptophleba (Molloy Box) Associations		
(a) Rolling downs and drainage lines of molloy box, poplar gum and broad leaved carbeen.	1-10/20	1-5/8
(b) Dark soiled open molloy box, poplar gum, ghost gum, ti-tree river frontages.	1-10/20	1-5
5. E Clarksonia (Bloodwood) Associations		
(a) Open bloodwood, molloy box, ironwood, stringbark, undulating hills and lower slopes.	1-30/60	Nil
(b) Bloodwood dominated river flood plains.	1-15/30	1-5/8
6. Ti Tree Association	1-10/30	1-5
(a) Ti tree soaks and depressions, swamps and lagoons.		
(b) Low open ti tree and bloodwood, range of soils - usually silt clay and sandy clay loams.	1-20/40	1-7/10
(c) Poor sandy soiled undulating ti tree, ironwood, stringybark, grass tree.	1-40/80	Nil

COUNTRY TYPE	CARRYING CAPACITY BEAST TO HECTARES	
	NATURAL	POTENTIAL
7. Rainforest Associations		
(a) Rainforest and closed scrubs including beach dune scrubs.	1-30/50	Nil
(b) River gallery forest and more open riverine forest.	1-15/25	Nil
(c) Deciduous vine thickets.	1-20/40	Nil
8. Grasslands		
(a) Marine couch coastal plains.	1-10/20	Nil
(b) Generally level coastal plains.	1-7/12	1-3/5
(c) Undulating black soil plains, odd terminalia.	1-7/12	1-3/5
(d) Alluvial creek flats.	1-7/15	1-5/10
9. Heath Communities		
Includes windswept headlands, Cape Flattery type dunes and mixed scrublands.	1-100/250	Nil
10. Mangroves	1-100/250	Nil
11. Wet Eucalypt and Wattle Communities		
(a) Level to undulating carbeen, bloodwood forest often with a dense shrubby understorey in the wetter coastal areas.	1-15/25	1-5
(b) Level to steep very mixed eucalypt and wattle forest communities found mostly between the Annan and Bloomfield Rivers.	1-15/25	1-5
12. Basalt Country		
Red basaltic soils, generally undulating with considerable stone, timbered with box and gum.	1-15/25	1-3/5
13. Unavailable		
Country unavailable to cattle including steep broken mountains, rock outcrops, bare sand areas, urban centres.	1-250	Nil

7. A CASE STUDY OF A LAND MANAGEMENT DEALING WITH A CAPE YORK PROPERTY

7.1 Introduction

It is hoped that this section will give the reader an insight into the policies and practices of the Lands Department.

The two leases concerned are Olive Vale and Tungin Pastoral Holdings which are leased by Deugro Australia Pty Ltd.

This case study is an actual live dealing with these two holdings and the bulk of the actual report is reproduced here with explanations and alterations of terminology for the benefit of the reader. Some details have been omitted where necessary to protect client confidentiality.

7.2 The Report

DO Ref: CNS 5786

OLIVE VALE PASTORAL HOLDING
PARISHES OF DELINGUR, WOLENA & OLIVE VALE
REPORTS FOR NEW LEASE UNDER PART VI

The Regional Operations Manager
CAIRNS

Preamble: The lessee of Olive Vale PH applied for a GHPL in December 1991. Normally this application would have been rejected as it is not within the last ten years of the lease. However, in accordance with Lands Department policy the application should proceed because exceptional circumstances exist due to the vast development program being undertaken by the lessee and the opportunity the dealing presents for boundary rationalisation, relinquishment of areas of significant Aboriginal interest, and other matters advantageous to the Crown.

After discussion with relevant officers, I suggested to the Company Manager, Mr Warren Entsch, that the application could be investigated on the basis that the adjoining Tungin Pastoral Holding, also held by the applicants, would be included in the dealing. The basis of my report would be relinquishment of a substantial area for Aboriginal interests and boundary rationalisation.

As Olive Vale Pastoral Holding is substantially in excess of a living area, while Tungin PH is substantially less than a living area, this dealing also presented an opportunity to upgrade a substandard block by amalgamating Tungin PH with part of Olive Vale PH and thus creating two living area sized blocks.

It is on this basis that I have approached my report.

Description: Olive Vale Pastoral Holding 14/5312 being Lot 5312 on Plan PH 1863, Parishes of Delingur, Wolena and Olive Vale, County of Mosman.

Tungin Pastoral Holding 14/5268 being Lot 5268 on Plan PH 1458, Parishes of Tungin and Redbluff, County of Mosman.

Lessee: Deugro Australia Pty Ltd

Area: The amalgamated area of Tungin and the western part of Olive Vale (Fairview) = about 73,000 ha.

The eastern part of Olive Vale = about 66,360 ha.

Situation & Access: Olive Vale is situated about 1 km west of Laura and about 250 kms north-west of Mareeba. Access is had by about 150 kms bitumen and 101 kms formed earth and gravel road.

Services: Rural power is connected to Olive Vale and Fairview homesteads, Jackass outstation and 6 Mile Bore. Telephone is connected to Olive Vale, Fairview and Jackass.

Carrying Capacity: **Fairview**

Present:	1 beast to 28 ha (2,607 head)
Potential:	1 beast to 17 ha (4,294 head)

Olive Vale

Present:	1 beast to 24 ha (2,765 head)
Potential:	1 beast to 13 ha (5,105 head)

A living area in the subject location is considered to be about 3,000 head. However, the intensive development undertaken by the lessees, (which is continuing), results in much greater cattle control and calving percentages and reduces operating costs. Under such management a living area could be a low as 2,500 head.

The two proposed leases will carry in excess of 2,500 head and when all suitable country is developed with improved pasture, which is the lessees intention, the leases will carry 4,300 and 5,100 head respectively.

Roads: A road exists that is part of the frequently used Palmerville Road, but is not dedicated. This road should be opened as a 60m wide road.

The existing road dedication that this road replaces should be closed.

No other alteration to the road system is required.

Fencing: Much of the boundary of Olive Vale PH is newly fenced or has stock proof natural boundaries. By the end of 1994 all of the proposed lease boundaries will be stock proof.

Regardless of the lessees intentions, boundary fencing is not the norm in Cape York and a specific boundary fencing condition is not required.

Public Interest: I believe public interest would not be adversely affected by the proposed dealing. Indeed this dealing is an opportunity to provide for the public interest by opening roads, creating reserves and providing for Aboriginal interests.

Forestry Interest: Commercial species exist on the holding, but there is no requirement for State Forest purposes. Forestry views have been requested.

If timber production and/or other State Forest type objectives were considered the highest use of parts of this lease then consideration would be given to recommending that a Reserve for State Forest be created. However, throughout the bulk of Cape York there is little land of sufficient Forestry interest to warrant this. Regardless, the views of the Forestry Service are sought in most land dealings because there are huge quantities of commercial species in Cape York of interest to sleeper cutters, wood turners, seed collectors, etc, and Forestry may have specific requirements which must be considered.

Environmental Interests: I have had discussions with Department of Environment and Heritage officials. The verbal advise has been that there is no area of environmental significance requiring protection under a conservation tenure. However, Department of Environment and Heritage would like to see an area of open terminalia (yellow-wood) woodland adjoining Lakefield National Park prevented from being cleared.

This requirement can be met as clearing operations can only be undertaken with a Permit to Destroy trees, and a permit would not be issued over the area of concern to DEH.

The written views of DEH have been requested. For the benefit of the reader when the new Nature Conservation Legislation is enacted a greater degree of flexibility in dealing with areas of conservation interest will be afforded. In the past, areas of interest had to be excised from a lease, either voluntarily or by resumption, and included in a National Park. Under the new legislation conservation agreements can be struck between lessees and DEH thus negating the need to exclude areas of interest from leases.

Department of Transport Views: DOT has advised that it has no objection to the conversion of Olive Vale PH to GHPL.

Council Views: The Cook Shire Council has advised that it is not opposed to a GHPL being granted over Olive Vale PH. Their official views on this wider proposal have been requested.

Remarks: In addition to excising an area of aboriginal interest from Tungin PH, I also propose excising about 4,640 ha to be included in the adjoining Yambo Pastoral Holding. This area is currently worked by cattle from the Yambo PH side of the watershed and is inaccessible to Tungin PH cattle. This proposal regularises the existing situation and has the approval of the lessees of Tungin PH and Yambo PH.

The area of Tungin PH to be excised for Aboriginal interests is about 15,060 hectares. This area should be made available for Aboriginal claim under the Aboriginal Land Act. This area, in all likelihood, will become part of the large "Quinkan Rock Art" area under Aboriginal ownership.

This rock art area is of world significance, and while it is not practical to include all rock art sites within Aboriginal held tenures, the addition of this area to "Quinkan" would be a worthy addition with no consequent loss to the grazing industry or other groups.

Another area of rock art sites exist in the south-east corner of Olive Vale PH. This is an area of little grazing value and should be made available for Aboriginal claim.

There are a number of sites of importance to Aboriginal people in the Sandy Creek area, which I was informed were within Olive Vale PH. Without an official survey being carried out it is difficult to determine whether the sites are in or out of Olive Vale. With the mapping information I have on hand, it appears that the sites are outside of Olive Vale and consequently I propose to take no action regarding these sites.

Aboriginal sites on leases can be protected by three methods. The first is voluntary relinquishment by the lessee for the creation of an Aboriginal held tenure over the site. The second is a declaration by Order in Council as a Designated Landscape Area under the Cultural Records Act. The third method is to have lessees identify areas of significant Aboriginal interest by consultation with the traditional owners and outline measures for preservation of those areas in a Property Land Management Plan.

The lessees wish to have Reserve for Local Government (Water Supply, Gravel and Maintenance Camp) Purposes R16 (formerly Camping and Water Reserve R3) amalgamated with their adjoining lands.

This reserve has a Stock Route Water Facility and is in the middle of the most intensively developed part of the lease. It is also located away from the main stock route which is the Peninsula Development Road. The presence of the reserve interferes with the lessees property layout and creates a risk of disease contamination from travelling stock.

A solution to this problem is available. The Cape York Development Road has been fenced both sides for almost the entire length of Olive Vale PH. A Camping and Water Reserve adjoining this Stock Route, with a good water facility, would be more advantageous to travelling stock and public than the location of R16 and would alleviate the management problems foreseen by the manager.

A suitable location for this new reserve is considered to be around the dam known as Jump Up Dam. An area of 259 hectares as shown crosshatched green on the attached sketch would be a suitable area swap for the current R16.

The Cook Shire Council and Cattleman's Union have agreed to this proposal.

This proposal should demonstrate to lessees how land tenure/management problems can often be overcome to the benefit of all parties concerned.

I have approached this report on the basis that the bulk of the available cattle country of Tungin Pastoral Holding will be amalgamated with part of Olive Vale PH to create a living area sized block, which would result in the remaining area of Olive Vale PH being around one living area in size.

The lessee has requested perpetual lease tenure. As the two proposed leases are neither substantially in excess of, or less than, a living area (Lands Department policy requires that new leases should be not greater than 1.25 living areas in most circumstances), and are improved well above district standard and having due regard to the large area relinquished for Aboriginal interests, I believe perpetual lease tenure should be granted.

No special development conditions should apply to the proposed leases as they are already developed well above district standard.

While none have been recommended in this report esplanades along major watercourses and ocean frontages are being created when dealing with a lease in the manner of this report. There is growing demand for access to waterways for recreational angling, camping, tourism and commercial usage. There is also a need to control and manage riverine forest.

The creation of esplanades allows the public access to waterways and brings control firmly back to the Crown. The grazing usage of the esplanade and access to the water for the current lessee can be continued by granting a Permit to Occupy over the esplanade.

Esplanades along rivers would normally be 40m wide and ideally would stretch from the river mouth upstream to the limit of permanent water flow or significant holes.

At points where roads cross esplanade areas, reserves for Camping and Recreation or similar purposes are being created, usually under the trusteeship of the Shire Council. Such reserves places the onus of management on the Shire rather than on the current lessee who receives no monetary return for the public usage of part of his lease.

Recommendation: I recommend that the necessary procedures be undertaken to grant two Grazing Homestead Perpetual Leases over the areas indicated on the attached sketch.

The leases to be subject to the conditions shown on the respective opening reports.

A sixty metre wide road to be opened replacing the existing road dedication.

An area of Tungin PH be included with Yambo PH.

An area of Tungin PH should be made available for claim under the Aboriginal Land Act.

An area of Olive Vale PH be made available for claim under the Aboriginal Land Act.

Local Government Reserve R16 be cancelled and the area amalgamated with the surrounding lease. In consideration for this action an area is to be gazetted as a Camping and Water Reserve under the trusteeship of the Cook Shire Council and the lessee is to pay the required cash adjustment.

The lessee of the proposed "Fairview" lease is to be granted a Special Lease over the new Camping and Water Reserve subject to the conditions set out in the opening report for the "Fairview" lease.

PROPOSED GHPL OPENING REPORT
BLOCK I "FAIRVIEW"

Description: Part of Olive Vale Pastoral Holding being the western part of Lot 5312 on Plan PH 1863, Parishes of Delingue, Wolena and Olive Vale and the northern part of Tungin Pastoral Holding, Lot 5268 on PH 1458, Parish of Tungin, County of Mosman.

Area: About 73,000 ha

Term & Commencement: Olive Vale - fifty years from 1 May 1990
Tungin - fifty years from 1 October 1980

Lessee: Present lessees are:

Deugro Australia Pty Ltd
PO Box 5896
CAIRNS Q 4870

Under the Land Act, companies are not allowed to hold GHPL's, so before a GHPL could be granted, arrangements need to be made to hold the leases in individual names.

Distance & Direction:

a) 16 kms west of Laura
b) 266 kms north-west of Mareeba

Access:

About 150 kms bitumen, 116 kms of formed earth and gravel Peninsula Development Road.

Water Supply:

Natural:

Long lasting holes in the Kennedy River, Black Dog and Pine Tree Creeks. Temporary water in numerous creeks and swamps. Scattered near permanent springs.

Artificial:

1 artesian bore, 1 equipped bore, 1 equipped well, 1 equipped spear, 13 unequipped dams, 1 equipped dam.

Supply is sufficient, although additional water on the western side of the Kennedy River would be an advantage. The lessee intends constructing three new dams in this area in the near future. (If supply was not sufficient the lessee would be expected to address this in the Land Management Plan. Previously a condition of the new lease would have required that X number of water facilities be provided within x years).

Education Facilities:

Primary school is available at Laura.

Country:

Country classification is determined from the CYPLUS vegetation mapping project and on ground inspection.

About 29,650 hectares (40%) of gently undulating stringybark, bloodwood, ironwood and quinine country usually with red or grey sandy soils. Poorer white sandy areas of heavy wattle while better areas have ti-tree and box influence.

About 17,200 hectares (24%) of gently undulating ti-tree country with areas of box and yellow wood influence and scattered swamps.

About 2,300 hectares (3%) of mixed narrow river country including gallery forest of acacia, paperbark, coolabah and leichardt and more open ti-tree, box and bloodwood.

About 10,700 hectares (15%) of undulating mostly black soil, often melonholey, mixed box, yellow wood country with areas of heavy ti-tree influence.

About 1,700 hectares (2%) of open grassland and yellow wood country, generally having melonholey, mixed box, yellow wood country with areas of heavy ti-tree influence.

About 1,700 hectares (2%) of open grassland and yellow wood country, generally having melonholey black soil.

About 5,800 hectares (8%) rough sandstone hills and ranges timbered with ironbark, bloodwood, stringybark and other eucalypts.

About 5,650 hectares (8%) rough hills and ranges mostly unavailable to cattle.

a) The lease was in natural condition at lease commencement.

b) About 30 hectares cleared and planted to stylo.

c) Large areas suitable for pasture establishment exists.

Purpose for which holding is used: Breeding and growing at present, with future potential to fatten.

Highest & Best Use: Breeding and growing.

Grazing Lands:

a) The whole area is used for grazing but an area in the south-west corner is generally unavailable to cattle.

b) The whole area has been assessed as grazing.

c) Natural grasses are white and black spear, oatentop, fire, kangaroo, native sorghum and other varieties.

d) Stylos are well established at Jackass Station and are scattered elsewhere through the property.

e) No fodder crops are grown.

Carrying Capacity:

Commencement:	1 beast to 30 ha (2,423 head)
Present:	1 beast to 28ha (2,607 head)
Potential:	1 beast to 17ha (4,292 head)

Potential can be reached by planting about 12,400 hectares to improved pasture at a cost of about $50/ha.

Carrying capacity is assessed by the method shown in the table below. Refer to Section 5.2 table for country type numbers.

COUNTRY TYPE	AREA	PRESENT CC	TOTAL	POTENTIAL CC	TOTAL
1 A)	29,650 ha	1 - 40	741	1 - 40	741
6 B)	17,200 ha	1 - 25	688	1 - 25	688
7 B)	2,300 ha	1 - 15	153	1 - 15	153
2 B)	10,700 ha	1 - 15	713	1 - 5	2,140
8 C)	1,700 ha	1 - 10	170	1 - 5	340
1 C)	5,800 ha	1 - 60	97	1 - 60	97
Unavailable 1C	5,650 ha	-	-	-	-
	73,000 ha	1 - 28.5	2,562	1 - 17.5	4,159
Adopt	73,000 ha	1 - 28	2,607	1 - 17	4,294

Noxious Plants & Animal Pests: Pigs and dingoes are common in the locality. Rubbervine is established and spreading.

Living Area: A living area in the vicinity is considered to be about 3,000 head. However, the intensive development undertaken by the lessee (which is on-going) results in much greater cattle control and calving percentages and reduced operating costs. Under such management a living area could be as low as 2,500 head.

Improvements: **Fairview**

Homestead and attached quarters	$157,000
Second house	$ 70,000
Outbuilding (old telegraph station, garage, feed/machinery shed, old shed, carport, quarters)	$ 44,000
Jackass Outstation (machinery shed, old shed, carport, quarters)	$ 29,000
Fairview yards	$ 66,000
Jackass yards	$ 18,800
Boundary Fencing abt 48 kms	$ 45,500
Internal Fencing abt 130 kms	$229,000

Water

1 artesian bore, 1 equipped bore, 1 equipped well, 1 equipped spear, 13 unequipped dams, 1 equipped dam	$180,000

Timber Treatment

30ha cleared and grassed	$ 6,000
Total Value of Improvements	$845,300

Other Lands Held: The lessees own the adjoining proposed new lease areas, as well as several mixed arable/grazing blocks at Lakeland and Mareeba. Cattle will be fattened on these mixed blocks.

Conditions: Conditions requiring further development of the proposed lease should not be included in a new lease as the area is developed well above district standard.

As discussed in the main report the lessees of this proposed new lease should be granted a Special Lease over the proposed Camping and Water Reserve. The conditions that should apply to this lease are set out in the recommendation.

Recommendation: I recommend that the lessees be granted a Grazing Homestead Perpetual Lease over the subject area subject to the following conditions; and after provision of an adequate Land Management Plan.

1. The rent shall be paid yearly in advance and for the first annual rental period or part thereof shall be at the rate of $ per annum.

2. The annual rent for the remaining rental periods shall be determined in accordance with the provisions of the Land Act 1962.

3. The lessee shall pay the cost of any required survey.

4. The lessee shall maintain the leased land free from noxious plants.

5. The lessee shall manage the property generally in accordance with the approved Land Management Plan, and at the expiration of every five year period from the commencement of this lease, or sooner if the lessee so applied, the lessee shall submit to the Minister a plan updating the information contained in the Land Management Plan.

6. The lessee shall during the whole term of the lease maintain all improvements on the lease together with improvements effected in compliance with Condition No 5 in a good and substantial state of repair.

I further recommend that a Special Lease be granted to the lessee of the subject area over the proposed Camping and Water Reserve for a term of thirty years subject to the following conditions:

1. The lessee shall use the leased land for (81) Primary Industry (Grazing) - Reserves - Camping & Water.

2. The rent shall be paid yearly in advance and for the first annual rental period or part thereof shall be at the rate of $50 per annum.

3. The annual rent for the remaining rental periods shall be determined in accordance with the provisions of the Land Act 1962.

4. The right of resuming the whole or any part of the leased land at any time on giving six (6) months notice and compensating for improvements only shall be reserved to the Crown.

5. No compensation for improvements or developmental work shall be payable by the Crown at the expiration of the term of the lease but the lessee shall have the right to remove moveable improvements within a period of three (3) months provided all moneys due by the lessee to the Crown on any account whatsoever have been paid. However, should the land be again made available for lease or purchase, the former lessee will be entitled to receive payment for the value of the improvements or developmental work, in accordance with the principles set out in the aforementioned Act.

6. The lessee shall not at any time destroy any tree upon the leased land without the prior permit in writing of an authorised officer responsible for the region or contrary to any of the terms and conditions of such permit.

7. The lessee shall not interfere with any forest products or remove any quarry material (including any stone, gravel, sand, earth, soil, rock, guano or clay which is not a mineral within the meaning of the Mineral Resources Act 1989) or other material upon the leased land without the permission of the Minister administering the Land Act 1962 except under the authority of and in compliance in every respect with the requirement of a permit, license, agreement or contract granted or made under the Forestry Act 1959.

8. The lessee shall allow any person authorised under the Forestry Act 1959 access to the leased land for the purpose of cutting and removing timber or removing other forest products, or quarry material, or other material from the leased land.

9. The lessee shall during the whole term of the lease maintain the existing water facility and any other improvements effected in accordance with this lease on the leased land in a good and substantial state of repair to the satisfaction of the Minister.

10. The lessee shall hold the leased land so that the same may be used for the public purpose for which it was reserved without undue interruption or obstruction.

11. The lessee shall within 1 year from the commencement of the term of the lease, at his own expense, provide, erect and maintain erected in prominent positions on the road frontages and at all points where roads enter the Reserve, notice boards to the satisfaction of the trustee of the Reserve stating clearly that the land is a Camping and Water Reserve and that travelling stock and the travelling public have the right to use the land for such purposes.

12. The stocking of the leased land shall be managed by the lessee to the satisfaction of the Minister administering the Land Act 1962 and in such a manner as to ensure as far as reasonably possible that a reasonable body of pasturage is available to bona fide travelling stock.

13. The lessee shall maintain the leased land free from noxious plants.

14. The lessee shall not effect any structural improvements other than boundary fencing on the leased land.

A similar opening report would be provided for the proposed "Olive Vale" GHPL.

8. LAND PLANNING CONSIDERATIONS

If a healthy, viable grazing industry is to be maintained in Cape York then a number of planning issues need to be considered.

Unviable leases will need to be made viable, either by amalgamation with other leases, or by increasing productivity. However, simply amalgamating leases will not result in a viable lease, regardless of size, where only traditional management is carried out. Thus, it needs to be decided if the Crown should impose new management regimes on leases, and whether this should be through the use of lease conditions or land management plans.

Currently the assessed carrying capacities (natural, present, potential) seem low with most leases below a living area in size.

However, as a result of information being gathered by CYPLUS NRAP teams, and work being done by the Department of Lands, there is likely to be an increase in the assessed carrying capacities in the near future. This increase may throw a new light on the potential of the grazing industry in Cape York. This has obvious land planning implications, for example where a lease can currently carry 1,800 head (about 50% of a living area) but reassessment of potential indicates it can carry 3,000 head (about 85% of a living area) then the lessee may be encouraged to realise the potential, rather than pursue amalgamation.

In discussions on subdivision/amalgamation it needs to be decided what is the area of land that can be effectively worked by a family unit in Cape York. It would be pointless to amalgamate leases if it results in an area too large for a family to work.

The preferred production system is for a core intensively developed area, adjoining less intensively developed area, and a large area of relatively undeveloped country. For this to be put into effect graziers must be assured of permission to clear at least a small part of their holdings for improved pasture and fencelines. Naturally, clearing should only be allowed having regard to normal environmental criteria, but a policy to disallow any clearing on Cape York would make it difficult for a healthy, viable industry to be developed and maintained.

If an accurate knowledge of the level and location of infrastructure on grazing leases is considered important in producing an overall land use plan, and I believe it is, then extensive research will be required to value and locate these improvements.

Currently large areas of Cape York held within pastoral tenure are unsuitable for grazing. Either they are too poor to make grazing economic, or they are environmentally sensitive. Consequently many areas can be removed from pastoral tenures without any ill effect on the industry. Such areas can then be made available for alternative uses ie. conservation, Aboriginal, recreation etc. Considerable investigation will need to be done to ensure that any excision of these areas has as small an impact as possible on the effective management of the affected lease.

9. ACKNOWLEDGMENTS

For their assistance in providing information and opinions used in preparing this report, I would like to acknowledge the following people:

* Department of Primary Industry Officers, past and present, Peter McKeague, John Boorman and Joe Miller who have provided advice on grazing and government policy, animal production and husbandry and pasture development.

* Department of Environment and Heritage officers, Peter Stanton for his input on environmental factors, John Clarkson and John Neldner whose vegetation mapping forms the basis of my Country Type classifications.

* The graziers of Cape York and their representative body, the Cape York Peninsula Pastoral Advisory Group, who have supplied much of the information and policy issues used in this report.

10. REFERENCES

Anon (1989) Cape York Peninsula Resource Analysis prepared by Connell Wagner (Qld) Pty Ltd for Queensland Government

Anon (1991) Gulf Region Land Use and Development Study 1991 prepared by the Northern Territory Department of Lands and Housing

Arnold, G (1990) Wrotham Park, 1963-1988. A paper

Boorman,J - Editor (Various)
The Insufferabulletin - a newsletter for Peninsula Cattlemen, Queensland Department of Primary Industries, Mareeba

Boorman, J (1990) Management Practices for Peninsula and Gulf Properties, Queensland Department of Primary Industries, Mareeba

Burrows, WH; Scanlon, JC and Rutherford, MT (Editors) (1988)
Native Pastures in Queensland. The Resources and their Management. Queensland Department of Primary Industries, Brisbane

Gittoes, CAS; McKeague, PJ: Boorman, J (1989)
The Economics of Cattle Property Development in Cape York Peninsula, Queensland Department of Primary Industries, Mareeba

Grundy, MJ & Heiner, IJ (1991)
Soil Associations of Batavia Downs,
Queensland Department of Primary Industries Research Establishments Publication

McKeague, PJ (1992)
The Cattle Industry of Cape York Peninsula
Department of Primary Industries, Brisbane

Neldner, VJ and Clarkson, JR (1991)
Vegetation survey of Batavia Downs, Cape York Peninsula.
Queensland Department of Primary Industries Research Establishments Publication

Wolfe, MP: Wright, RG: Murphy, DG (1990)
Report of a Review of Land Policy and Administration in Queensland.
Queensland Department of Lands, Brisbane.

APPENDIX 1 REVIEWS OF THE DRAFT STUDY

Reviews of the Draft Report were received from Cairns and Far North Environment Centre (CAFNEC), Cape York Peninsula Pastoral Advisory Group (CYPPAG), Queensland Department of Primary Industries (QDPA) and the Meat and Livestock Branch of the Department of Primary Industries and Energy (DPIE).

Apart from some technical issues and points requiring clarification, most of which have been addressed in the text, most of the comments revolved around carrying capacity - productivity, living areas and economic analysis.

CARRYING CAPACITY

CYPPAG has made much comment about carrying capacities. The overall inference seems to be that the capacities given in Section 6.2 are too conservative. This criticism is also made by QDPI in regard to some of the potential carrying capacities. In defence of this, the Department of Lands must be conservative in its estimates of carrying capacity in the interest of land sustainability. Evidence from grazing properties with extensive long established pastures indicate that the suggested potential carrying capacities are not unreasonable.

CYPPAG is also critical of the way in which Cape York land has been categorised stating that -

> *it is simply not possible to categorise Cape York land in this way".*

No explanation of its deficiencies is given or alternative suggested. Whilst it is recognised that Cape York is a very diverse region, the whole of Queensland is categorised in a similar fashion and it is not apparent why this system should not be applied to Cape York.

Since the preparation of the Draft Report, the reassessment of unimproved and potential carrying capacities has been carried out as suggested in Section 3.7.3. This reassessment has been done using the Geographic Information System for Country Type Classifications and the carrying capacities shown in Section 6.2 and the author's knowledge of individual properties. However, as a property by property inspection has not been carried out to verify the estimated carrying capacity for the country types as they occur on each lease, it would not be proper to release details for individual properties. However, from a regional planning perspective the assessed figures should be adequate.

The new preliminary assessed carrying capacities for the whole of the study area are:

Unimproved:	265,000 head or 1 beast to 35 ha
Potential:	595,000 head or 1 beast to 16 ha

It should be remembered that this potential does not consider the potential of certain country types for clearing and planting improved pasture. If this type of development is envisaged then the potential could be significantly higher.

LIVING AREAS

In their reviews of the Draft Report, CAFNEC and CYPPAG have both been critical of the living area concept for apparently opposing reasons. CYPPAG appear to consider living areas as restricting closer settlement while CAFNEC states:

> *The Living Area concept has an aura of maximising production from the land rather than conservative stocking which can ride out the vicissitudes of drought and put land stewardship first".*

It needs to be pointed out that Living Areas are embodied in legislation and current policy and are used to prevent arbitrary decisions being made.

I can do no better in explaining the Living Area concept than to attach an excerpt from "Report of a Review of Land Policy and Administration in Queensland" (Wolfe Report) which deals with this subject.

The Tables below show the number of leases within each percentage of a Living Area band on newly assessed unimproved and potential carrying capacities.

UNIMPROVED

% OF LIVING AREA	NUMBER
0 - 5%	17
5 - 10%	11
10 - 20%	13
20 - 35%	12
35 - 50%	12
50 - 75%	14
75 - 100%	10
100 - 125%	8
125 - 150%	0
150 - 200%	7
200 - 300%	5
300% —	3

POTENTIAL

% OF LIVING AREA	NUMBER
0 - 5%	11
5 - 10%	8
10 - 20%	10
20 - 35%	10
35 - 50%	6
50 - 75%	7
75 - 100%	8
100 - 125%	8
125 - 150%	7
150 - 200%	8
200 - 300%	15
300% ---	14

As discussed in 3.7.4 the Lands Department ideal is to have as many leases as possible close to 100% of a living area. Those leases below 75% can be considered as sub-standard and those above 125% as above standard blocks. The newly assessed carrying capacities indicate that on an unimproved basis 79 leases in Cape York are below standard and 15 leases are above standard.

If the newly assessed potential carrying capacities are considered 59 leases are below standard and 44 leases have the potential to be above a living area in size. These figures also show that on potential, there are about 29 leases capable of subdivision into living area sized blocks producing about 65 additional leases. However, it is conceivable that a property designated as being 3 living areas in size (because of its carrying capacity) is incapable of being subdivided as such because of the distribution of good country, water, roads etc. Each situation needs to be viewed and considered on its own merits.

ECONOMICS

Some reviewers expressed concern at the apparent lack of supporting economical analysis in the Report. The main reason for this is to avoid duplication as there is a parallel CYPLUS Pastoral Industry Report produced by Landcare Management Services which contains a considerable amount of economic data and analysis.

Wolfe, M.P., Wright, R.G., and Murphy, D.G. (1990)

Report of a Review of Land Policy and Administration in Queensland, Qld Department of Lands, Brisbane. P 73-78.

3.1.6 Living Areas

(i) General

Family ownership of the grazing and pastoral lands in closely settled areas or areas suitable for closer settlement is to be encouraged.

The appropriate mechanism for determining a sufficient area of land for the family unit, depending on the location of the land, is the living area, for this measure if wisely and carefully implemented will ensure that the family unit is supported and productive.

For the purposes of the Land Act 1962-1990 the term "Living Area" is defined as:-

> "Such an area of land as having regard to the following matters -
> (a) the district in which the land is situated;
>
> (b) the nature of the country, its potential for development, and distance from transport facilities and markets;
>
> (c) whether the land concerned is best suited for pastoral, agricultural, dairying, orchard or mixed farming purposes, as the case may be;
>
> (d) occurrence of variable seasons, will be sufficient to enable a competent person to derive from the working of the land, according to the use for which the land is best suited, an income adequate to ensure a reasonable standard of living for himself, his wife and infant children, as well as to provide a reserve with which to meet adverse seasons and the cost of developing and maintaining the land at a high rate of production throughout average seasons."

The concept of a living area is necessary for effective day-to-day administration of Crown lands for deciding -

(a) areas suitable for opening for new units of production;

(b) eligibility of persons applying for additional areas of land necessary to build their holdings to an economic size;

(c) whether a holding may be converted to freehold or perpetual lease;

(d) whether a new lease should be granted over the whole or part of an expiring holding.

(e) the basic unit of measurement for control of aggregations.

(This aspect has declined in importance in recent years as present policies have been directed to improvement of the lot of existing landholders rather than endeavouring to open up more land for development and production.)

Living area standards have been in existence since 1927 for sheep areas. The most recent review relating to sheep areas was placed before Cabinet in 1970 following the drought and slump in wool prices in the preceding decade. The 1970 standards were a substantial increase on the previous standards.

The initial Living area standards for cattle lands were agreed to in principle in 1958. Their adoption represented the first systematic setting out of district by district figures for the guidance of Departmental officers. A further review was undertaken in 1975.

A review of the Living area standard for both sheep and cattle was undertaken in 1983, however the recommendations have not been implemented as a policy, as the proposed changes only varied slightly from the existing standards.

The standards are again under review by the Department, however they are as yet incomplete. A schedule of the current living area standards (as set by the 1970 and 1975 recommendations respectively) follows:-

LIVING AREA STANDARDS - SHEEP

DISTRICT	Sheep Numbers	Remarks
Goondiwindi	a 4500/5750	Large degree of agriculture
Toowoomba	a	
Stanthorpe	a	Closely settled districts
Inglewood	a	
Dalby	a 4500/5000	Large degree of agriculture
Roma	a 4500/8750	Large degree of agriculture
St George	5500/9000	
Cunnamulla	8000/12500+	
Charleville	7500/12500+	
Blackall	7500/12500+	
Barcaldine	7500/12500+	
Longreach	8000/12500	
Jundah	9000/12500	
Winton	11000/12500	
Hughenden	10000/12500	
Cloncurry	10000/15000	
Boulia	12500/15000	

(a) Each case on its individual merits.

LIVING AREA STANDARDS - CATTLE

District	Agricultural Potential (Fattening)	Grazing only (Mixed Herd)
Bundaberg group (Bundaberg, Maryborough Monto, Gayndah)	650/1050	1050/1300
Rockhampton and Gladstone	650/1050	1050/1300
Gympie and Nanango	650/1050	1050/1300
Dalby and Taroom	650/1050	1050/1300
Goondiwindi	650/1050	1050/1300
Roma	900/1300	1300/1950
St George		1550/2200
Mackay, Bowen	900/1300	1300/2600
Clermont, Springsure	900/1300	1300/2600
Townsville, Carters Towers	1050/1300	1500/3000
Atherton, Cairns	1050/1300	1300/3900
Cooktown, Georgetown		2600/5200
Normanton, Burketown, Cloncurry		3900/5200
Hughenden		1550/3900
Longreach, Winton		1550/5200
Charleville, Cunnamulla		1550/5200
Blackall, Barcaldine		1300/3250

(ii) Living Areas in Other States and Territories

Queensland is one of the few States where the concept of living area is embodied in legislation.

The New South Wales Crown Lands (Continued Tenures) Act 1989 (for the purpose of restricting transfer of certain leasehold land) defines a 'home maintenance area', as an area which when used for the purpose for which it is reasonably fitted, would be sufficient for the maintenance in average seasons and circumstances of an average family. (Transfer is restricted where the dealing will result in one person holding an area of land which is substantially in excess of a home maintenance area.)

All States except Queensland (and perhaps Western Australia) are fully developed so far as the concept of closer settlement is concerned and consequently in those States there is no longer a need for a mechanism to produce additional areas, such as by ballot blocks.

In most States and Territories the subdivision and transfer of pastoral or grazing leases requires the consent of the appropriate authority and each dealing is scrutinised to ensure that non-viable leases are neither created nor transfered.

(iii) Comment

The concept of living area recognises that some areas like the semi-arid lands are incapable of development at the pace possible for more fertile lands. The size of a holding considered sufficient to provide a living area will be larger in the semi-arid lands. It also recognises the varying fortunes of the grazing industry which is a slave to the vagaries of climate, but aims to establish an area, taking into account conditions of soil, climate and location which will permit prudent development to its utmost and ensure maximum production concomitant with the capacity of that land without destruction or degradation of the land which would render it useless or less productive in the years to come.

The concept of a 'Living Area' is defined in the Land Act 1962-1990, for the purpose of subdivision of land; however the definition is in the nature of a general guideline and only becomes specific when related to a specific situation.

Standards for Living Area units have been laid down from time to time, always with the objective to stimulate production and to settle the State.

The matter of determining these Living Area Standards has always been a contentious issue due to the many variables which need to be considered. However at all times it would appear that the Land Administration Commission has included as it saw fit at the time, a margin for the unexpected eventualities of the industry.

The concept of a Living Area, and its embodiment within the Land Act, is as useful today as it was 60 years previously.

It would appear that within the grazing community there is some general

misunderstanding of the term, that it denotes a 'minimum area for economic survival'. Although the definition in the Land Act is quite clear there may be some justification for providing a change to the term or name.

Submissions have been received which included reference to 'living areas' and in some cases a change to the definition, viz.

- ...an area of land sufficient to produce a reasonable standard of living and return for capital and assets invested.

- ...an "economic unit" which would be "an area of land which if reasonably developed and efficiently managed, would provide a continuing income sufficient for its maintenance as a viable rural property without additional land being required". In arriving at such an area, regard could be had in developed areas to the most common size of existing properties (ie history has shown the size of a reasonable unit). If there is not sufficient historical evidence in the locality, then regard should be had to the nearest comparable districts.

- ...an area ... to support a family to a satisfactory standard of living which does not require a reliance on the welfare system ... to support a necessary work force.

- A holding should be of sufficient size to adequately support the owner (and family) without creating a need for overuse of the land resource. The variation between seasons should be allowed for in the initial determination.

- ...living areas should be generously adequate to provide a comfortable living not only for the landholder but also his employees.

The area must be large enough to provide a margin of safety so that with falling prices and rising costs it will still generate sufficient reserve finance for development and drought resistance.

Living areas must be set to be adequate, not only at the time of their creation or for a short while thereafter, but for many years hence through all the seasonal vicissitudes which impact on the Australian rural community.

- When determining a "living area" the following considerations must be taken into account:-

  (a) soil types, natural grasses and trees;
  (b) the suitability of the land for improved pastures;
  (c) variance of rainfall and availability of water;
  (d) average carrying capacity of the land in good and drought years;
  (e) distance from major business and selling centres;
  (f) the agricultural potential of the land if any;
  (g) an average return from commodities produced from that land.

One "viable economic area" is of such a size as to allow a family based enterprise to derive from the holding a profitable existence whilst maintaining the long term productivity of the natural resource.

(iv) The defined area should take into account the following matters:-

- the district in which the land is situated;
- the nature of the country, it's potential for development and it's distance from transport facilities and markets;
- whether the land is best suited for pastoral, agricultural, dairying, orchard or mixed farming purposes, as the case may be;
- frequency and reliability of the seasons;
- the ability of a competent person to derive from working on the land according to it's best use, an income adequate to ensure a reasonable standard of living.
- long term sustainability of land use.

This should also cover the needs of having adequate reserves for meeting adverse conditions and seasons that impact on economic viability of the lease.

(v) Summary

The present definition encompasses the principles highlighted in each of the submissions however, as pointed out in one of the submissions...

> "Steadily declining real commodity returns, increasing farm costs, declining farm profitability, expectations of increasing living standards and high interest rates all combine to make it difficult to adequately define the concept of a long-term living area under today's economic and climatic conditions."

Whatever the definition there are two important principles; the first is that there must be a measure of living area for the administration of the grazing lands, and such measure must be relative to the "living area" concept. Secondly regardless of the definition there must be a margin in the application for the uncertainty of seasons and markets.

In supporting the concept of families holding pastoral lands in closely settled areas or areas suitable for closer settlement, the policy should continue to ensure those who obtain interests in grazing holdings by testamentary instrument or on intestacy should not be deprived of that interest.

However some restrictions must be placed on aggregations, whether held by corporations or individuals or family associations where those aggregations affect the market or limit the opportunity for families to obtain lands suitable for closer settlement. This aspect is covered elsewhere.

Recommendation

There needs to be a measure for determining appropriate areas of grazing and pastoral lands to support the family unit. Such measure must be relative to the living area concept and must contain a margin for the uncertainty of seasons and markets.

APPENDIX 2

TABLE 1

TABLE I

APPENDIX 2

NO	TENURE	RUN NO	PH NAME AREA	STATION NAME	RPD LOT ON PLAN	LESSEE	CARRYING LEASE/AGREEMENT RATE	CARRYING LEASE/AGREEMENT TOTAL	CARRYING PRESENT RATE	CARRYING PRESENT TOTAL	CAPACITY POTENTIAL RATE	CAPACITY POTENTIAL TOTAL	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL. NO. & UV VAL. 31/3/92
1	P.H.	43/5145 File Ref 7251	- 15300 ha	Prince of Wales Island	1 on PER 5145	[illegible]	1-50	306	1-50	306	1-50	306	Nil		19[illegible]	Structures $Nil at Yards $Conseq. Fencing $ Water $ Timber Treat $ (improved part) TOTAL $	701 436 $11,000
1A	O.L.	43/76	- 517.37 ha	Entrance Island	78 on OL 76	RP Fell-Tyrell	1-50	10	1-50	10	1-50	10	Nil		1989	Structures $Nil at Yards $Conseq. Fencing $ Water $ Timber Treat. $ (improved part) TOTAL $	701 451 $13,600
2	P.H.	43/4959 File Ref 5882	Peak Hill 1423 ha	Punsand Bay	4959 on PH 1369	Halinta P/L Nottingham Estate	1-85	17	1-85	17	1-85	17	5000 head	0.3%	1990	Structures $Nil Yards $Cattle Fencing $Sheep Water $ Timber Treat $ (improved part) TOTAL $	701 491 $220,0[illegible]
3	P.H.	43/5117 File Ref 7499	Shelburne 49967 ha	Shelburne	5117 on PH 576	ER Nixon	1-70	714	1-70	714	1-70	714	5000 head	14%	1989	Structures $13,000 Yards $ 2,500 Fencing $13,600 Water $ 4,000 Timber Treat. $ 9,600 (improved part) TOTAL $43,300	705 2152 $12,000
4	O.L.	73 File Ref O.L. 73	- 66563 ha	Part of Shelburne	73 on OL 343	DO & ER Nixon	1-65	1024	1-65	1024	1-65	1024	5000 head	20%	1989	Structures $Nil Yards $ Fencing $ Water $ Timber Treat. $ (improved part) TOTAL $	705 2167 $17,600
5	P.H.	43/4775 File Ref 5610	[illegible] 90800 ha	Part of Bramwell	2 on SH 15	T Heinemann	1-62	1465	1-62	1465	1-62	1465	4500-5000 head	33%	1989	Structures $ Yards $20,000 Fencing $10,000 Water $ Timber Treat $ (improved part) TOTAL $30,000	705 2161 $33,000
6	P.H.	43/3691 File Ref 5236	Bramwell 37296 ha	Bramwell	3691 on PH 2147	T Heinemann	1-40	932	1-40	931	1-40	932	4500-5000 head	21%	1989	Structures $203,000 Yards $ 9,100 Fencing $ 79,600 Water $ 8,200 Timber Treat. $ (improved part) TOTAL $299,900	705 2111 $21,000
7	P.H.	43/4190 File Ref 7616	Bertiehaugh 135000 ha	Bertiehaugh	4 on DL[illegible] 4	Anlia P/L & EF Bruce	1-50	2700	1-50	2700	1-50	2700	4500-5000 head	60%	1990	Structures $ 4,000 Yards $ 9,100 Fencing $30,000 Water $ Timber Treat $ (improved part) TOTAL $43,[illegible]	705 2107 $68,000

NO	TENURE	NUM NO	FN NAME AREA	STATION NAME	AND LOT ON PLAN	LESSEE	CARRYING: Rate	CARRYING: Total	PRESENT: Rate	PRESENT: Total	CAPACITY POTENTIAL: Rate	CAPACITY POTENTIAL: Total	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL NO & UV VAL
8	[illegible]	R41/ [illegible] Bursey	- 240000 ha	Bauhinia Downs	2 on DLH 5	[illegible]	1-30	4800	1-45	5333	1-45	5333	4000-4500 head	133%	[illegible]	Structures $[illegible] Yards $[illegible] Fencing $[illegible] Water $ Timber Treat. $ (improved past) TOTAL $	705 1655 $144,000
9	P.H.	43/5464	Sudley 170000 ha	Sudley	1 on YK10	Comalco	1-33	4060	1-25	5200	1-17	7647	3500-4000 head	149%	1989	Structures $756,000 Yards $ 96,000 Fencing $365,000 Water $150,000 Timber Treat. $377,000 (improved past) TOTAL $1,764,000	705 2134 $94,000
10	P.H.	43/5420 File Ref 6045	Watson River 89000 ha	Watson River	1 on YK 4	C & D Quinn[illegible]	1-40	2225	1-40	2225	1-32	2741	4000-4500 head	56%	1984	Structures $43,100 Yards $ 6,400 Fencing $ 5,100 Water $ 9,000 Timber Treat. $10,000 (improved past) TOTAL $33,800	705 2162 $72,000
11	P.H.	43/5152	Bramwell 156507 ha	Bramwell	5152 on PH 726	RAI Rankine	1-65	2439	1-65	2439	1-65	2439	4500-5000 head	54%	1981	Structures $13,400 Yards $ 3,700 Fencing $13,800 Water $ Timber Treat. $ (improved past) TOTAL $30,900	705 2113 $39,000
12	P.H.	43/5457 File Ref 7896	Bayside 8890 ha	Carron Valley	6 on SH 7	WE Boston	1-25	356	1-25	356	1-25	356	4500-5000 head	8%	1985	Structures $ 9,200 Yards $ 1,600 Fencing $ 5,200 Water $ 1,000 Timber Treat. $ 1,000 (improved past) TOTAL $18,000	705 2110 $10,000
13	S.L.	43/33815 File Ref 5222	36100 ha	Wards Hills	1 on SH 16	Steele P/L	1-125	289	1-125	289	1-125	289	4500-5000 head	6%	1991	Structures $42,400 Yards $ 3,000 Fencing $ Water $ Timber Treat. $ 3,300 (improved past) TOTAL $47,300	705 1646 $15,300
14	S.L.	43/26790	780 ha	Silverdale	4 on WMF25	Peter Kedwell Est	1-15	52	1-15	52	1-15	52	4500-5000 head	1%	1987	Structures $26,000 Yards $ 1,200 Fencing $ 1,100 Water $ 4,300 Timber Treat. $ (improved past) TOTAL $36,800	705 2033 $10,000
15	P.H.	43/5272	York Downs 335000 ha	Merluna	7 on YK 11	Merluna Cattle Station P/L	1-36	9306	1-36	9306	1-35	9306	3500-4000 head	266%	1986	Structures $146,200 Yards $ 27,400 Fencing $314,500 Water $ 69,600 Timber Treat. $135,000 (improved past) TOTAL $692,[illegible]	705 3566 $[illegible]

NO	TENURE	RUN NO	PH NAME AREA	STATION NAME	RPD LOT ON PLAN	N. of LESSEE	CARRYING LEASE CURRENT RATE	CARRYING LEASE CURRENT TOTAL	CARRYING PRESENT RATE	CARRYING PRESENT TOTAL	CAPACITY POTENTIAL RATE	CAPACITY POTENTIAL TOTAL	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS		VAL NO & UV VAL 31/3/93
16	P.H.	343819 File Ref 8204	Coen River 186170 ha	Merapah	3819 on PH 2262	ATSIC	1-35	5328	1-35	5328	1-35	5325	3500-4000 head	152%	1986	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$137,000 $ 26,000 $128,000 $ 14,000 $ 6,000 $331,000	705 2116 $139,300
17	P.H.	34/4653 File Ref 7202	Kendall River 274000 ha	Kendall River	4653 on PH 1502	J Bach	1-60	4567	1-60	4567	1-50	5480	3500-4000 head	130%	1992	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 50,000 $ 30,000 $ 46,000 $ 1,000 $ 15,000 $134,000	705 2130 $110,000
18	P.H.	34/4652 File Ref 5631	Holroyd River 283000 ha	Holroyd River	4652 on PH 918	K Shepherdson	1-45	6289	1-45	6289	1-30	9660	3500-4000 head	140%	1992	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 22,000 $ 9,000 $ 55,500 $ 33,200 $ 20,500 $139,200	705 2124 $225,000
19	P.H.	43/4633 File Ref 6334	Wolverton 137000 ha	Wolverton	2 on WAT 70	W Jackson	1-50	2740	1-50	2740	1-50	2740	3500-4000 head	78%	1992	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$111,000 $ 40,500 $ 73,300 $140,000 $ 18,400 $383,200	705 2144 $90,000
20	P.H.	43/4509 File Ref 5561	Geikie 112665 ha	Blue Mountains	4509 on PH 159	Crealup P/L	1-65	1733	1-65	1733	1-65	1307	3500-4000 head	43%	1987	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ $ 11,200 $ 300 $ $ $ 11,500	705 2131 $41,000
21	P.H.	43/4483 File Ref 3699	Lanef 48400 ha	Mt Koolt	4 on SD 800144	Estate [illegible]	1-45	1076	1-45	1076	1-50	1076	3000-3500 head	32%	1988	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ $ 6,300 $ 18,800 $ 12,300 $ $ 37,100	705 2130 $40,000
22	S.L.	39284 File Ref 7224	987.9 ha	Part of Lochinvar	4 on CO 8	N Shepherd	1-12	82	1-12	82	1-12	82	3000-3500 HEAD	3%	1978	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ $ $ 4,000 $ $ $ 4,000	705 1676 $4,000
23	P.H.	43/4348 File Ref 6446	Lochinvar 35400 ha	Lochinvar	9 on CO 15	N Shepherd	1-35	326	1-30	447	1-30	447	3000-3500 HEAD	28%	1981	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 19,400 $ 18,300 $ 18,600 $ 19,100 $ 9,400 $ 84,800	705 2137 $27,500

NO	TENURE	AUTH NO	PH SHIRE AREA	STATION NAME	RPD LOT ON PLAN	NO OF LESSEE	CARRYING (Sheep/Cattle) RATE	CARRYING (Sheep/Cattle) TOTAL	CARRYING RATE	CARRYING TOTAL	CAPACITY POTENTIAL RATE	CAPACITY POTENTIAL TOTAL	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL NO & UV VAL 31/3/93
24	P.H.	14/5530 File Ref 5236	Silver Plains 175000 ha	Silver Plains	15 on SD 33	K Read & Princess Charlotte Pastoral Co P/L	1-50	3500	1-50	3500	1-50	3500	3500-4000 head	100%	1991	Structures $ Yards $ Fencing $ 14,000 Water $ Timber Treat. $ (improved past) TOTAL $ 14,000	705 2153 $114,000
25	S.L.	14/50136 File Ref 6513	23970 ha	Part of Silver Plains	13 & 14 on SD 33	R Read & Princess Charlotte Pastoral Co P/L	1-50	479	1-20	1200	1-12	2000	3000-3500 head	40%	1991	Structures $319,300 Yards $ 33,000 Fencing $110,000 Water $ 35,000 Timber Treat. $849,000 (improved past) TOTAL $1,345,300	705 2155 $19,200
26	P.H.	14/5485 File Ref 5967	Southwell 121000 ha	Southwell	2 on LK4	MP Price	1-60	2017	1-60	2017	1-60	2017	3500-4000 head	58%	1945	Structures $ 6,300 Yards $ Fencing $ 7,300 Water $ Timber Treat. $ (improved past) TOTAL $ 13,400	705 2154 $48,500
27	P.H.	14/5484 File Ref 8131	Dunmore 146000 ha	[illegible]	1 on LK 4	RJ & JR Price	1-65	2246	1-65	2246	1-53	2755	3500-4000 head	64%	1985	Structures $ 55,400 Yards $ 25,000 Fencing $ 41,400 Water $ 2,400 Timber Treat. $ 24,000 (improved past) TOTAL $151,200	705 2117 $54,000
28	P.H.	34/4622	Lowerfield 89100 ha	Glendale	1 on CO 17	M Glendine	1-50	1782	1-50	1782	1-50	1782	3500-4000 head	42%	1984	Structures $ Yards $ 6,300 Fencing $ Water $ Timber Treat. $ (improved past) TOTAL $ 6,300	705 2153/1 $55,000
29	P.H.	14/3386 File Ref 3920	Aurora 123000 ha	Yarraden	10 on SD 17	BI & IM Shephard	1-40	3075	1-40	3075	1-40	3075	3500-4000 head	88%	1984 & 1987	Structures $117,000 Yards $ 39,600 Fencing $ 23,000 Water $ 35,000 Timber Treat. $ 10,000 (improved past) TOTAL $229,600	705 2100 $111,000
30	S.L.	14/47742	874 ha	Part of Yarraden	1 on SD 11	BI & IM Shephard	1-30	29	1-30	29	1-30	29	3500-4000 head	1%	1990	Structures $ Yards $ Fencing $ 3,500 Water $ 6,700 Timber Treat. $ (improved past) TOTAL $ 9,200	705 2101 $7,400
31	S.L.	14/38891	40760 ha	Running Creek	Lease A on HN r being part of 83 on FTY 824	D Hill	1-45	910	1-45	910	1-45	910	3500-4000 head	26%	1966	Structures $ 8,400 Yards $ 4,000 Fencing $ 7,300 Water $ 8,400 Timber Treat. $ (improved past) TOTAL $ 28,900	705 2171 $31,000

NO	TENURE	RUN NO	PH NAME AREA	STATION NAME	RPG LOT ON PLAN	No. of LESSEE	CARRYING: Lease Stocking Rate	Total	Present Rate	Total	CAPACITY POTENTIAL: Rate	Total	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL NO & UV VAL 31/3/92
32	P.H.	34/4149 File Ref 8196	[illegible] 246049 ha	[illegible]	[illegible]	G Gorst & RJ Fraser	1-55	4474	1-46	5349	1-46	5349	3500-4000 head	153%	1985	Structures $ 51,000 Yards $ 12,700 Fencing $ 50,000 Water $ 21,000 Timber Treat. $ 8,400 (improved past) * TOTAL $112,100	304 2156 $176,000
33	P.H.	34/3824 File Ref 8243	Astrea 62419 ha	Astrea	3874 on PH 2133	JM Gordon	1-75	832	1-75	832	1-75	832	3500-4000 head	24%	1986	Structures $ 31,000 Yards $ 2,700 Fencing $ 16,100 Water $ Timber Treat. $ (improved past) TOTAL $ 49,300	705 2102 $20,000
34	P.H.	34/4343 File Ref 5235	Alinka 120435 ha	Strathmay	4343 on PH 868	AE Schwenke	1-50	2409	1-50	2409	1-50	2409	3500-4000 head	69%	1984	Structures $ 35,000 Yards $ 21,700 Fencing $ 19,900 Water $ 3,300 Timber Treat. $ 10,000 (improved past) TOTAL $ 89,900	705 2140 $10,000
35	P.H.	34/4505 File Ref 5493	Ingleby 64700 ha	[illegible]	5 on KA 835479	J Robinson	1-55	1176	1-55	1176	1-55	1176	3500-4000 head	34%	1985	Structures $ 15,300 Yards $ 3,800 Fencing $ 9,800 Water $ 2,400 Timber Treat. $ 6,000 (improved past) TOTAL $ 36,700	705 1637 $36,000
36	P.H.	34/3875	Arcadia 90132 ha	Glen Garland	3875 on PH 1151	Edward River Aboriginal Corporation	1-55	1639	1-55	1639	1-55	1639	3500-4000 head	47%	1987	Structures $ 65,000 Yards $ 12,900 Fencing $ 37,400 Water $ 9,300 Timber Treat. $ 13,500 (improved past) TOTAL $123,300	703 3100 $51,000
37	P.H.	14/3385 File Ref 7921	Abacatia 80000 ha	Bandina	3385 on PH 1755	VMO Evans	1-45	1778	1-45	1778	1-45	1776	3500-4000 head	51%	1985	Structures $ 6,400 Yards $ Fencing $ 2,900 Water $ 23,600 Timber Treat. $ (improved past) TOTAL $ 38,900	703 2099 $64,000
38	S.L.	14/43569 File Ref 5608 35200 ha		Part of Lily Vale	Lease B on HN 13 being part R3 on PTY 1124	FW Shephard	1-45	782	1-45	782	1-45	787	3500-4000 head	22%	1989	Structures $ Yards $ 1,500 Fencing $ Water $ 16,700 Timber Treat. $ (improved past) TOTAL $ 18,150	705 2136 $25,000
39	P.H.	14/3384 File Ref 7899	Aglaia 6870 ha	Boubou	3384 on PH 1601	VM Evans	1-45	137	1-45	137	1-45	137	3500-4000 head	4%	1986	Structures $ 20,000 Yards $ 12,800 Fencing $ 5,500 Water $ 10,900 Timber Treat. $ (improved past) TOTAL $ 49,200	705 2099 $4,000

NO	TENURE	REF NO	PH NAME AREA	STATION NAME	RPD LOT ON PLAN	LESSEE	CARRYING CAPACITY						LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS		VAL NO & UV VAL 31/3/97
							LEASE AGREEMENT				POTENTIAL							
							RATE	TOTAL	RATE	TOTAL	RATE	TOTAL						
40	P.H.	14/5363 File Ref 6052	Lily Vale 36500 ha	Lily Vale	5363 on PH 8864	PW Shephard	1:36	1014	1:36	1217	1:36	1217	3500 4000 head	35%	1996	Structures Yards Fencing Water Timber Treat. + (improved past) TOTAL	$ 91,400 $ 23,500 $ 20,600 $ 34,000 $ 4,100 $173,500	705 2139 $88,000
41	P.H.	14/5367 File Ref 5245	Violet Vale 70800 ha	Violet Vale	3362 on CP 359336	HA & AK Chapple	1:40	1770	1:35	2020	1:30	2360	3500-4000 head	58%	1991	Structures Yards Fencing Water Timber Treat (improved past) TOTAL	$ 80,600 $ 33,900 $ 183,300 $ 44,800 $ 197,000 $540,600	705 2161 $71,000
42	P.H.	14/4365 File Ref 7689	Artemis 125100ha	Artemis	4365 on PH 1824	TD Shephard	1:55	2275	1:50	2502	1:50	2502	3500-4000 head	91%	1993	Structures Yards Fencing Water Timber Treat (improved past) TOTAL	$ 78,600 $ 15,400 $ 56,000 $ 27,000 $ 1,300 $178,500	705 2101 $76,000
43	S.L.	14/50135 File Ref 7348	3500 ha	Part of Silver Plains	Lease C on DP 14 being part of R3 on PTY 1124	R Reid & Princess Charlotte Federation	1:50	66	1:50	66	1:50	66	3500-4000 head	2%	1986	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$Nil $ $ $ $ $	705 2153 $9,000
44	O.L.	574 File Ref 7392	10819 ha	Part Kalpowar	574 on OL 142	Watson P/L	1:40	265	1:40	265	1:40	265	3500-4000 head	8%	1981	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$Nil $ $ $ $ $	705 2108 $9,000 unofficial
45	P.H.	14/2531 File Ref 5487	Birthday Plains 63200 ha	Part Kalpowar	2 on MIE 600315	Watson P/L	1:40	1580	1:40	1580	1:32	1975	3500-4000 head	45%	1988	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$775,000 $ 35,000 $ 31,900 $115,600 $ $957,500	705 2108 $34,000
46	P.H.	14/2308 File Ref 5809	Kalpowar 80031 ha	Part of Kalpowar	2308 on PH 890	Watson P/L	1:35	2287	1:35	2287	1:28	2835	3500-4000 head	65%	1988	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 500 $ 15,800 $ 43,500 $ 51,500 $ $111,300	705 2108 $96,000
47	P.H.	14/4642 File Ref 5787	Jack Lakes 42621 Ha	Part of Kalpowar	4642 on PH 891	Watson P/L	1:30	2754	1:30	2754	1:27	3592	3500-4000 head	79%	1988	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$127,400 $ 30,200 $ 31,500 $ 61,400 $ 25,000 $215,500	705 2130 $99,000

NO	TENURE	SUN NO	PH NAME AREA	STATION NAME	SPD LOT ON PLAN	LESSEE	CARRYING Lease Current Rate	Total	Present Rate	Total	CAPACITY Potential Rate	Total	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS		VAL NO & UV VAL 31/3/92
48	P.H.	14/4780	Lythe 172752 ha	Part of Kalpowar	4330 on PH 2247	Watson P/L	1-125	1382	1-125	1341	1-125	1341	3500-4000 head	39%	1984	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$Nil $ $ $ $ $	405 2109 $61,000
49	P.H.	14/2498 File Ref 5105	Starcke 177000 ha	Starcke	2498 on PH 1402	George Quaid Holdings P/L	1-40	4425	1-40	4425	1-34	5206	3500-4000 head	126%	1991	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 1,000 $ $ 5,800 $ 16,200 $ 34,400 $ 57,400	705 2156 $213,500
50	S.L.	26630 expired File Ref 5087	479 ha	Part of Starcke	3 on DS 81	George Quaid Holdings P/L	1-40	12	1-40	12	1-40	12	3500-4000 head	0.3%	1954	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$Nil $ $ $ $ $	705 2156 $40,000
51	P.H.	14/4695	Balurga 116000 ha	Balurga	4695 on PH 1656	DA Price	1-70	1657	1-70	1657	1-70	1657	4000-4500 head	41%	1984	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ $ 1,350 $ $ $ $ 1,350	705 2104 $40,000
53	P.H.	14/4839 File Ref 5368	Sefton 78995 ha	Sefton	4839 on PH 436	NH Finch	1-70	1129	1-70	1129	1-70	1129	4000-4500 head	28%	1980	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 5,300 $ 8,400 $ $ $ $ 13,600	705 2151 $33,000
54	P.H.	14/5545 File Ref 5369	Holroyd 233000 ha	Oriners	12 on CTH 3	Kowanyama Community Council	1-55	4136	1-55	4136	1-55	4136	3500-4000 head	118%	1986	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 15,400 $ 34,000 $ 7,500 $ $ 3,000 $ 60,100	705 2135 915 962 $121,000
55	P.H.	14/5546	Kolate 170000 ha	Koolatah	13 on CTH 3	GL,CB,KM Hughes	1-35	4857	1-35	4857	1-35	4857	3500-4000 head	139%	1988	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$150,000 $ 77,500 $136,000 $ 40,000 $ 5,000 $408,500	915 912 $102,000
56	P.D.H.	14/4796	Rutland Plains 336000 ha	Rutland Plains	1796 on PH 1372	MDH P/L	1-22	10727	1-21	10727	1-19	12421	3500-4000 head	355%	1982	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$153,000 $ 48,800 $106,700 $140,000 $ $457,500	915 999 $330,000

NO	TENURE	MAP NO	PH BASE AREA	STATION NAME	RPD LOT ON PLAN	LESSEE	CARRYING				CAPACITY		LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL NO & UV VAL 31/3/93
							LEASE CURRENT		PRESENT		POTENTIAL						
							RATE	TOTAL	RATE	TOTAL	RATE	TOTAL					
57	P.H.	34/4467	Dunbar 68300 ha	Dunbar	3 on LI612	MDH P/L	1-40	[illegible]	1-40	[illegible]	1-32	21344	3500-4000 head	400%	1964	Structures $ 55,100 Yards $149,600 Fencing $151,600 Water $ 56,000 Timber Treat. $ (improved past) TOTAL $412,400	613 934 713 4757 $663,000
58	P.H.	34/4732	Hackness 136751 ha	Hackness	4732 on PH 2209	HJ Falcon	1-75	1853	1-75	1853	1-75	1823	3500-4000 head	52%	1964	Structures $Nil Yards $ Fencing $ Water $ Timber Treat. $ (improved past) TOTAL $	705 2123 $44,000
59	P.H.	34/4662 File Ref 1161	Ingleby South 113000 ha	Cronbie	4662 on PH 1137	Gurin P/L	1-70	1614	1-70	1614	1-70	1614	3500-4000 head	46%	1993	Structures $Nil Yards $ Fencing $ Water $ Timber Treat. $ (improved past) TOTAL $	705 2124 $40,000
60	P.H.	14/5340 5480 File Ref 5961	Pewnga 140000 ha	Part of Dixie	1 on WR 4	Dixie Holdings Pty Ltd	1-65	2154	1-65	2154	1-65	2154	3500-4000 head	61%	1964	Structures $132,400 Yards $ 33,000 Fencing $ 80,000 Water $ 59,000 Timber Treat. $ 7,000 (improved past) TOTAL $291,600	705 2145 $77,000
61	P.H.	34/5464 File Ref 8887	Wolpan 267000 ha	Part of Dixie	1 on WR 3	Dixie Holdings Pty Ltd	1-65	4031	1-65	4031	1-65	4031	3500-4000 head	115%	1984	Structures $ Yards $ 6,400 Fencing $ 14,500 Water $ 3,000 Timber Treat. $ (improved past) TOTAL $ 23,900	705 2144 $103,000
62	P.H.	34/2003 File Ref 3711	Drumduff 204000 ha	Drumduff	2 on SN 848571	CL,CB,HM Hughes	1-30	6800	1-30	6800	1-30	6800	3500-4000 head	194%	1982	Structures $ 46,500 Yards $ 44,700 Fencing $ 33,500 Water $ 8,800 Timber Treat. $ (improved past) TOTAL $133,500	705 2139 712 6758 $285,000
63	P.H.	14/4579 File Ref 6359	Moorehead 37800 ha	Mary Valley	4579 on PH 1383	MJ & CE Shepherd	1-40	945	1-40	945	1-60	945	3500-4000 head	27%	1974 & part 1967	Structures $ 12,000 Yards $ 5,600 Fencing $ 38,200 Water $ 4,300 Timber Treat. $ 3,000 (improved past) TOTAL $63,100	705 2141 $41,000
64	S.L.	14/53414 File Ref 5101	43109 ha	Part of Kalinga	36 on CP 850114	BP,LP,AIG Hardy	1-55	784	1-55	784	1-55	784	3500-4000 head	22%	1990	Structures $ Yards $ Fencing $ Water $ 6,300 Timber Treat. $ (improved past) TOTAL $ 6,300	705 3133 $35,000

NO	TENURE	AGT NO	PH NAME AREA	STATION NAME	RPG LOT ON PLAN	LESSEE	CARRYING LEASE CURRENT RATE	CARRYING LEASE CURRENT TOTAL	CARRYING PRESENT RATE	CARRYING PRESENT TOTAL	CAPACITY POTENTIAL RATE	CAPACITY POTENTIAL TOTAL	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS		VAL NO & UV VAL 31/3/92
65	CPPL	44/235 File Ref 6309	43500 ha	Part of Kalinga	17 on CP 850114	RP,LJ,MG Hardy	1-35	1046	1-35	1016	1-15	2440	3500-4000 head	15%	1990	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 70,000 $ 7,300 + $ 36,600 $ 41,800 $135,500 $300,200	705 1532 $37,0[illegible]
66	P.H.	34/5324	Jimmya 26500 ha	Jimmya	5324 on PH 1242	KJ Duffy	1-55	442	1-44	442	1-55	442	3500-4000 head	11%	1986	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 44,000 $ 17,600 $ 30,000 $ $ 5,000 $ 96,600	705 3126 $16,9[illegible]
67	P.H.	34/2370	Wipella 101009 ha	Killarney	2370 on PH 2050	PT O'Shea	1-65	1554	1-55	1857	1-55	1837	3500-4000 head	31%	1991	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$189,600 $ 23,400 $ 56,800 $ 89,500 $ 6,000 $365,300	705 3163 $38,000
68	P.H.	34/5565 File Ref 5111	Kimba 62500 ha	Kimba	47 on C 846835	GC & RG Raymond C & M Innes	1-65	962	1-65	962	1-65	962	3500-4000 head	27%	1988	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$132,000 $ 14,400 $ 35,200 $ 12,100 $ $193,700	705 3134 $29,000
69	P.H.	34/5564 File Ref 8123	31200 ha	Dinnelia	48 on CP 846355	GC & RG Raymond C & M Innes	1-65	480	1-65	480	1-65	480	3500-4000 head	14%	1988	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 51,200 $ 13,900 $ 7,300 $ 10,000 $ 7,300 $100,500	705 3150 $14,500
70	P.H.	34/2367 File Ref 8140	King Junction 76081 ha	King Junction	2367 on PH 2069	Sand Reach P/L	1-43	1769	1-35	2174	1-35	2174	3500-4000 HEAD	42%	1993	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$115,900 $ 12,400 $ 60,000 $ 6,900 $ 44,200 $242,400	705 2133 $85,000
71	P.H.	34/1434 File Ref 8148	[illegible] 93347 ha	[illegible]	1 on SN 848572	JM Kopicke	1-26	3590	1-25	2734	1-25	2734	3500-4000 head	107%	1979	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 50,000 $ 15,300 $ 8,400 $ 4,300 $ 15,000 $ 93,300	705 2158/5 712 6792 $152,000
72	S.L.	49495	1480 ha	The Hann Roadhouse	1 on WR 5	G&D Turner & Greater Finance P/L	1-35	42	1-35	42	1-15	99	3500-4000 head	1%	1990	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$300,500 $ $ 16,000 $ 27,900 $ 3,800 $348,200	705 1531 $42,[illegible]

NO	TENURE	RUN NO	PH NAME AREA	STATION NAME	R/O LOT ON PLAN	LESSEE	CARRYING – LEASE CURRENT RATE	CARRYING – LEASE CURRENT TOTAL	CARRYING – PRESENT RATE	CARRYING – PRESENT TOTAL	CAPACITY – POTENTIAL RATE	CAPACITY – POTENTIAL TOTAL	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL NO & UV VAL 1/7/93
73	P.H.	14/2393 File Ref 7573	Koolburra 160000 ha	Koolburra	2 on MS 13	SJ & MD Lohagcier	1-40	4000	1-40	4000	1-40	4000	3500-4000 head	114%	1985	Structures $ 53,000 Yards $ 6,400 Fencing $110,500 Water $ 6,400 Timber Treat. (improved past) $ TOTAL $174,300	705 2134 $180,000
74	S.L.	45053 File Ref 7311	18300 ha	Jungle Creek	1 on WK 3	G & D Hebert	1-50	366	1-50	366	1-50	366	3500-4000 head	10%	1987	Structures $ 16,500 Yards $ 1,000 Fencing $ 8,000 Water $ 3,600 Timber Treat. (improved past) $ 100 TOTAL $ 30,200	705 1936 $23,000
75	P.H.	14/5063	King River 55500 ha	King Vale	1 on KG 3	PA & AB Cummings	1-50	1110	1-50	1110	1-50	1110	3500-4000 head	32%	1990	Structures $ 35,400 Yards $ 13,500 Fencing $ 15,500 Water $ 11,300 Timber Treat (improved past) $ 1,000 TOTAL $ 76,600	705 2133 $41,500
76	P.H.	14/5218 File Ref 7490	Yambo 107000 ha	Fairlight	5218 on PH 1803	KJ & SM Callaghan	1-30	3140	1-42	2548	1-41	2548	3500-4000 head	73%	1986	Structures $ 40,000 Yards $ 12,100 Fencing $ 15,900 Water $ 42,500 Timber Treat. (improved past) $ 48,500 TOTAL $159,000	705 2165 $84,000
77	P.H.	14/5312 File Ref 5786	Olive Vale 118000 ha	Olive Vale	5312 on PH 1863	Dougas Aust P/L	1-30	3933	1-30	3933	1-30	3933	3000-3500 head	113%	1990	Structures $ 45,300 Yards $ 44,200 Fencing $135,200 Water $ 78,200 Timber Treat. (improved past) $ TOTAL $302,800	705 3146 $200,000
78	P.H.	14/5268 File Ref 5566	Yarngle 41500 ha	Jackass	5268 on PH 1458	Dougas Aust P/L	1-50	830	1-50	830	1-50	830	3500-4000 head	24%	1986	Structures $ 8,400 Yards $ 11,600 Fencing $ 13,300 Water $ 900 Timber Treat. (improved past) $ 3,300 TOTAL $ 39,700	705 2160 $33,000
79	P.H.	14/4589 File Ref 7220	Strathmore 6470 ha	Inverleigh	4589 on PH 1079	WS O'Grady PJ Tresize	1-55	118	1-55	118	1-55	118	3500-4000 head	3%	1985	Structures $ 34,300 Yards $ 600 Fencing $ 4,500 Water $ Timber Treat. (improved past) $ TOTAL $ 36,600	705 2137 $8,000
80	P.H.	14/4658 File Ref 5367	Mt Jack 23700 ha	Mt Jack	4658 on PH 1332	BO & EA Kille	1-60	395	1-60	395	1-60	395	3500-4000 head	11%	1986	Structures $ 3,500 Yards $ 4,000 Fencing $ 13,700 Water $ Timber Treat (improved past) $ 15,300 TOTAL $ 68,500	705 2143 $13,500

NO	TENURE	RUN NO	PH NAME AREA	STATION NAME	RPD LOT ON PLAN	PH. LESSEE	CARRYING LEASE CHART RATE	CARRYING LEASE CHART TOTAL	CARRYING PRESENT RATE	CARRYING PRESENT TOTAL	CAPACITY POTENTIAL RATE	CAPACITY POTENTIAL TOTAL	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL NO & UV VAL 31/3/92
81	P.H.	14/5106 File Ref 5611	Bridge Creek 19900 ha	[illegible]	1 on BS 234	DR Harwood	1:40	332	1:40	332	1:40	332	3500-4000 head	9%	1989	Structures $ 52,300 Yards $ 10,400 Fencing $ 14,100 Water $ Timber Treat (improved past) $ 7,000 TOTAL $ 84,200	705 2121 $12,000
82	P.H.	14/4624 File Ref 4265	Battle Camp 13300 ha	Battle Camp	4024 on PH 5334	DG & EA Kitto	1:27	493	1:27	493	1:27	493	3500-4000 head	14%	1981	Structures $ 5,000 Yards $ 4,300 Fencing $ 19,000 Water $ 1,000 Timber Treat (improved past) $ 34,000 TOTAL $ 63,300	705 2114 $36,500
83	P.H.	14/4377 File Ref 5396	[illegible] 32325 ha	Normanby	4377 on PH 467	RJ Bell	1:65	498	1:65	498	1:65	498	3500-4000 head	14%	1992	Structures $ Yards $ Fencing $ Water $ Timber Treat. (improved past) $ TOTAL $	705 2140 $64,000
84	P.H.	14/4638 File Ref 7700	Eason Creek 69900 ha	Welcome	198 on BS 205	DR Carlos	1:55	1271	1:48	1456	1:48	1456	3500-4000 head	42%	1989	Structures $ 33,000 Yards $ 10,300 Fencing $ 36,600 Water $ 20,000 Timber Treat. (improved past) $ 36,600 TOTAL $129,000	705 2150 $45,000
85	O.L.	404	 11785 ha	Deighton	408 on DL 871	JF,PJ,MF, SR Trezise	1:40	295	1:40	291	1:40	295	3500-4000 head	6%	1968 [illegible] 1991	Structures $ 22,000 Yards $ Fencing $ 9,000 Water $ Timber Treat. (improved past) $ TOTAL $ 31,000	705 2168 $21,500
86	P.H.	14/4964 File Ref 7952	Geasley 54900 ha	Crocodile	8 on BS 295	DR Carlos	1:30	1830	1:20	2745	1:20	2745	3000-3500 head	92%	1987	Structures $ 40,900 Yards $ 21,800 Fencing $ 42,400 Water $ 61,500 Timber Treat. (improved past) $373,600 TOTAL $540,600	705 2122 $110,000
87	P.H.	14/4566 File Ref 3466	Bonny Glen 143449 ha	Bonny Glen	4566 on PH 2201	Wujal Wujal Community Council	1:33	1590	1:50	2849	1:30	2849	3000-3500 head	95%	1984	Structures $ 15,300 Yards $ 20,000 Fencing $ 28,400 Water $ 16,300 Timber Treat (improved past) $ 19,300 TOTAL $ 99,300	705 2109 $95,000
88	S.L.	42292 File Ref 5932		 1130 ha	6 on BS 178	N & K Cullback	1:30	57	1:20	57	1:30	57	3000-3500 head	2%	1966	Structures $ 34,300 Yards $ Fencing $ 6,100 Water $ 10,000 Timber Treat (improved past) $ 4,500 TOTAL $ 57,600	705 1614 $35,000

NO	TENURE	PART NO	PH NAME AREA	STATION NAME	RPD LOT ON PLAN	PH type / LESSEE	CARRYING				CAPACITY		LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS		VAL NO & DV VAL 31/3/12
							base current		present		POTENTIAL							
							RATE	TOTAL	RATE	TOTAL	AREA	COVER						
89	O.L.	563	12100 ha	Part of Eldorado	563 on GL 136	A Seagren	1-30	404	1-30	404	1-30	404	3000-3500 head	13%	1988	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 34,500 $ $ 6,100 $ 10,000 $ 4,500 $ 57,100	705 2838 $8,500
90	O.L.	465	2072 ha	Part of Stuarts	465 on GL 127	George Quaid Holdings P/L	1-30	69	1-30	69	1-30	69	3000-3500 head	2%	1990	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$Nil $ $ $ $ $	705 2836 $5,200 unofficial
91	O.L.	564	35300 ha	Part of Eldorado	564 on GL 432	A Seagren	1-100	353	1-100	353	1-100	353	3000-3500 head	12%	1990	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$Nil $ $ $ $ $	705 2833 $8,000 unofficial
92	O.L.	471 File Ref 7774	1748 ha	Part of Stuarts	275 on BK 15755 & 208 on BK 15358	George Quaid Holdings P/L	1-50	35	1-50	35	1-50	35	3000-3500 head	1%	1990	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ $ $ 10,500 $ $ $ 10,500	705 2836 $9,500 unofficial
93	O.L.	487 File Ref 7775	5763 ha	Part of Stuarts	487 on GL 128	George Quaid Holdings P/L	1-60	96	1-60	96	1-60	96	3000-3500 head	3%	1990	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$Nil $ $ $ $ $	705 2836 $1,300 unofficial
94	P.H.	14/4840	Pryde 6294 ha	Part of Louisiana	5 on BS 245	MM Bendilin	1-80	79	1-80	79	1-80	79	3000-3500 head	3%	1985	Structures Yards Fencing Water Timber Treat (improved past) TOTAL	$ $ 1,500 $ 1,600 $ $ $ 3,100	705 2832 $28,500
95	P.H.	14/4839	Brassington 6000 ha	Part of Louisiana	4839 on PH 1044	AEM Bendilin	1-30	200	1-30	200	1-30	200	3000-3500 head	7%	1985	Structures Yards Fencing Water Timber Treat. (improved past) TOTAL	$ 700 $ 2,200 $ 8,000 $ $ 8,000 $ 18,900	705 2832 $36,000
96	CHPL	230 File Ref 5530	7770 ha	South Endeavour	101 on BS 308	C & D Allied	1-35	222	1-35	222	1-35	222	3000-3500 head	7%	1989	Structures Yards Fencing Water Timber Treat (improved past) TOTAL	$ $ 500 $ 5,800 $ 600 $ 4,000 $ 10,900	705 2835 $34,000

NO	TENURE	RUN NO	PH NAME AREA	STATION NAME	RPD LOT ON PLAN	Mt. rfrs. [illegible] LESSEE	CARRYING				CAPACITY		LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL NO & UV VAL 31/3/92
							LEASE CURRENT		[illegible]		POTENTIAL						
							RATE	TOTAL	RATE	TOTAL	RATE	TOTAL					
97	GHPL	231 File Ref 6609	18900 ha	Alkoomie	4623 on BS 285	RS Hardy AE Holmes	1:65	291	1:65	291	1:65	291	3000-3500 head	10%	1987	Structures $ 13,400 Yards $ 5,800 Fencing $ 4,000 Water $ 1,000 Timber Treat. $ (improved past) TOTAL $ 30,400	705 1630 $47,000
98	P.H.	14/3317 File Ref 7808	Darnum 4144 ha	Part of Oakey	3317 on PH 2213	CJ Martin	1:25	166	1:25	166	1:27	166	3000-3500	6%	1986	Structures $ Yards $ Fencing $ 3,900 Water $ 2,600 Timber Treat. $ (improved past) TOTAL $ 6,500	705 2115 $16,000
99	P.H.	14/4634 File Ref 5572	Calanda 18100 ha	Part of Oakey	674 on BS 286	CJ Martin	1:25	724	1:25	724	1:15	724	3000 + 3500 head	24%	1987	Structures $ 3,000 Yards $ 11,300 Fencing $ 26,900 Water $ 13,200 Timber Treat $ (improved past) TOTAL $ 54,400	705 2115 $73,000
100	P.H.	14/2713 File Ref 7574	Beeshike 2200 ha	Beeshike	2713 on PH 1003	O & V Meason	1:25	88	1:23	96	1:23	96	3000-3500 head	3%	1991	Structures $ Yards $ Fencing $ 16,400 Water $ 6,000 Timber Treat. $ (improved past) TOTAL $ 22,400	705 2146 $44,000
101	GHPL	234 File Ref 6319	18700 ha	Part of Kings Plains	2009 on BS 297	DR & SV Bramahan	1:28	649	1:25	748	1:25	748	3000-3500 head	25%	1986	Structures $ Yards $ 16,300 Fencing $ 47,300 Water $ 16,400 Timber Treat. $ 6,000 (improved past) TOTAL $ 86,000	705 2145/1 $48,500
102	GHPL	233 File Ref 6147	45600 ha	Part of Kings Plains	1980 on BS 396	DR & SV Bramahan	1:40	1140	1:40	1140	1:40	1140	3000-3500 head	38%	1986	Structures $ Yards $ 24,700 Fencing $ 22,800 Water $ 6,600 Timber Treat. $ (improved past) TOTAL $ 54,100	705 2145/1 $56,000
103	P.H.	14/242 File Ref 5662	Spinyvale 56000 ha	Spinyvale	242 on PH 1265	O Bower & Ors	1:30	1867	1:28	2000	1:28	2000	3000-3500 head	67%	1986	Structures $ 44,300 Yards $ 18,400 Fencing $ 43,800 Water $ 14,700 Timber Treat. $ 53,500 (improved past) TOTAL $174,700	705 2155 $101,000
104	P.H.	14/333 File Ref 5554	Mt Mulgrave 302000 ha	Mt Mulgrave	333 on PH 1796	LW Wedaway & Ors	1:30	10067	1:30	10067	1:30	10067	3000-3500 head	336%	1985 Part 1989	Structures $144,500 Yards $164,000 Fencing $139,000 Water $128,500 Timber Treat $ (improved past) TOTAL $576,000	705 2174 711 6774 $560,000

NO	TENURE	RUN NO	PH NAME AREA	STATION NAME	RPD LOT ON PLAN	FILEBEE F-	CARRYING LEASE CLIENT RATE	CARRYING LEASE CLIENT TOTAL	CARRYING PRESENT RATE	CARRYING PRESENT TOTAL	CAPACITY POTENTIAL RATE	CAPACITY POTENTIAL TOTAL	LIVING AREA THIS PROPERTY	PRESENT % OF LIVING AREA	LAST ASSESSMENT DATE	APPROX VALUE OF IMPROVEMENTS	VAL NO & UV VAL 31/3/94
105	P.H.	14/5612 File Ref 5837	Palmerville 13600 ha	Palmerville	2 on CF 10	AG Wilson	1-55	2473	1-55	2473	1-55	2473	3500-4000 head	70%	1988	Structures $ 9,000 Yards $ 10,000 Fencing $ 47,000 Water $ 20,600 Timber Treat. $ 21,500 (improved past) TOTAL $108,100	705 2147 $96,000
106	S.L.	14/55183 File Ref 7468	19700 ha	Kerns Water	1 on GH 14	A & H Pedersen	1-100	197	1-100	197	1-100	197	3000-3500 head	2%	1988	Structures $Nil Yards $ Fencing $ Water $ Timber Treat. $ (improved past) TOTAL $	705 1858/5 712 6733 $4,900
107	S.L.	15/18679 File Ref 5815	200 ha arable	Part Maitland Downs	3 on CF 16	G & J Ahlers	1-55	91	1-55	91	1-55	91	3000-3500 head	3%	1985	Structures $ Yards $ Fencing $ Water $ 7,300 Timber Treat. $ (improved past) TOTAL $ 7,300	705 2139 $8,000
108	P.H.	14/3113	Maitland Downs 20300 ha	Maitland Downs	117 on CF 16	G & J Ahlers	1-55	3278	1-50	3406	1-50	3406	3000-3500 head	47%	1985	Structures $104,000 Yards $ 24,000 Fencing $ 39,500 Water $ 63,300 Timber Treat. $ 30,000 (improved past) TOTAL $303,800	705 2139 712 6771 $58,000
109	P.H.	14/4626 File Ref 7771	Mount Gibson 3500 ha		4646 on PH 2334	K & B Robson	1-85	462	1-85	412	1-85	412	3000-3500 head	14%	1974	Structures $ 7,900 Yards $ Fencing $ Water $ 6,000 Timber Treat. $ (improved past) TOTAL $ 8,900	705 2142 $21,000
110	S.L.	14/6216 File Ref 6004	19100 ha		1 on CF 9	Mainoli Holdings P/L	1-80	238	1-80	238	1-80	238	3000-3500 head	8%	1991	Structures $ 37,400 Yards $ Fencing $ Water $ 10,000 Timber Treat. $ (improved past) TOTAL $ 47,400	703 2094 713 6734 $22,600
111	O.L.	570 File Ref 7783	9842 ha		570 on OL 059	H Simms	1-85	116	1-85	116	1-85	116	3000-3500 head	4%	Pre 1982	Structures $Nil Yards $ Fencing $ Water $ Timber Treat. $ (improved past) TOTAL $	705 2174 712 4000 $16,400
112	P.H.	09/4555 File Ref 7691	Diggers Creek 6475 ha		4555 on PH 2013	TM Fiske	1-85	76	1-85	76	1-85	76	3000-3500 head	3%	1981	Structures $Nil Yards $ Fencing $ Water $ Timber Treat $ (improved past) TOTAL $	703 2116 707 4002 $16,300

APPENDIX 3 REPORT TERMS OF REFERENCE

* Undertake a complete analysis of existing and potential land tenure for pastoral purposes including one (1) case study and a full description of the principles, practices and considerations applied in the preparation of land management plans;

* Prepare maps and GIS layer of vegetation of reclassified vegetation types and cadastre;

* Provide information to assist the Pastoral Industry project consultant to prepare a GIS layer of carrying capacities and environmental condition of pastoral lands.

ATTACHMENT

The following attachment incorporates responses from community and other groups associated with the CYPLUS process in regards to this project. These comments were circulated to the author (where possible) to assist in the revision of the draft report.

From these responses, issues of fact were amended within the final report. Sections of the following comments also portray the views of the respondent and their 'constituency' (if available) in regards to the information presented by the report.

The Cape York Peninsula Land Use Strategy recognises that various and contrasting opinions exist within the wider community. The inclusion of all responses made in relation towards the information within this report, indicates that the CYPLUS process has been, and continues to be, inclusive of all points of view presented by the community.

GF COTTER'S - A STUDY OF THE PASTORAL INDUSTRY OF CAPE YORK PENINSULA

BY DPI QUEENSLAND DEPARTMENT OF PRIMARY INDUSTRIES - NORTH REGION

Typed verbatim from a poor copy. Issues raised that were amended within the final report have not been repeated here.

4.1 PRESENT OPERATIONS: Introduction

The adoption of improved cattle husbandry practices has the potential to generate greatly improved cash flow provided the increased brandings and reduced cattle deaths which occur as a result are capitalised on. Those who have adopted these practices generally retain the traditional attitude to breeder sales. That is, only sell cows which are 10 or 11 years old or older. Under improved management, this leads to overstocking of the property and does not allow generation of the cash surpluses which would be available if breeder sales were 50% of the number of female calves branded each year.

Such female sale levels are needed once improved husbandry practices are adopted if the property is not to be overstocked, as branding rates are lifted by 20% and breeder death rates are at least halved. In addition, if breeder numbers are maintained at the same level as before the improved management started, steer/bullock sales will be lifted by 50%.

As I see it, the problem is not one of a lack of pasture improvement as Mr Cotter implies. Rather, it is a lack of capitalisation on the potential available as a result of using improved cattle husbandry (for an outline of the recommended husbandry practices see section 4.5.2 Improved Management in Mr Cotter's paper).

If attitudes to female sales can be changed there will be plenty of surplus funds available for pasture development. However, until there is a change in this most fundamental of attitudes, little improved pasture will be established because there will be no money available for it. And, while improved markets such as a local slaughter house or live export through Weipa could improve the situation, based on the budgets I have done, they will have no where near the impact that combining improved husbandry with extra female sales will have.

4.3.1 IMPROVED PASTURE: Introduction

While pastures may be seen by many as the key to the long term future of the grazing industry of the Peninsula I believe that this is a dangerous misconception (see above).

Fertilized legume pasture can be an attractive alternative to feeding protein meals to weaners. But equally, unfertilized legume pastures can be just as attractive as an alternative provided the weaners are given adequate levels of phosphorus supplement. However, without the fertilizer a slightly lighter stocking rate would be needed on the pasture.

With fattening steers, because of the heavier stocking rates which could be improved on fertilized legume pastures, they are likely to be more profitable than fertilized pastures on which the cattle are fed a phosphorus supplement. The problem here is, the high cost of applying fertilizer every four years as opposed to the lower annual cost of phosphorus supplement.

4.3.2 IMPROVED PASTURE: Establishment

A stocking rate for low intensity pasture of one beast to 5 ha is, I believe, extremely conservative. Even allowing for the need to shut one quarter of the pasture up one year in four for burning to control suckers, a stocking rate of one beast to 4 ha is eminently more realistic.

A demonstration area at Mareeba (900 mm annual rainfall) which ran for 15 years was able to maintain a stocking rate of one beast to 3.25 ha while maintaining "normal" liveweight gains over three consecutive years when the annual rainfalls were 330 mm, 508 mm and 304 mm. Rainfall in the area covered by CYPLUS is higher and more reliable than the rainfall at Mareeba.

4.5.2 IMPROVED MANAGEMENT

The improved management system does not, as Mr Cotter suggests, make greater demands on labour resources.

In fact, because the licks congregate cattle, they do, as he says, make mustering easier. Also, early weaning means that weaners are handled much more intensively. However, the weaners are a small proportion of the total herd and they are usually handled in reasonable confined areas. The intensive handling as weaners, though, bears fruit in later life because they are much easier to muster as older cattle than are uneducated cattle.

In addition, lick feeding helps to keep cattle quiet. As a result, mustering rates have been increased from between 50% and 70% to 95+% on properties using improved management. The effects of these activities is actually to reduce labour requirements.

The use of cow/calf separators and other trapping technology can also reduce labour requirement. In fact, on one property using licks, early weaning and traps, the owner claims to have reduced mustering time by 50% while lifting capture rates from 50% to 95+%.

6.2 COUNTRY TYPES

The carrying capacity potential in the table in this section is, I believe, extremely conservative for those areas which have some potential. Mr Cotter says, "Potential carrying capacity is assessed on the suitability of the country type for improved pasture establishment on undisturbed country (low input)".

The comments made on section 4.3.2 IMPROVED PASTURE: Establishment, above, are relevant here.

A carrying capacity on established pasture of one beast to 5 ha is, I believe, low, but a carrying capacity of one beast to 8 ha or 10 ha is way too low.

The CYPLUS report on the Pastoral Industry

Typed verbatim from a poor copy.

COMMENT

The secondary sources which we would have relied on to add anything to the overall picture of the report have already been incorporated into the CYPLUS draft report. QDPI, which holds regionalised information on the pastoral industry in this region of Queensland, seems also to have already provided substantial input into the process. We feel an overview of the area's production, put in the context of national and State levels, would be useful.

The region in question is characterised by a marginal pastoral industry which would respond well to the stimulus provided by developments such as live cattle exports. The added impetus that a growing export market in live cattle to Asia should provide is a stronger, healthier pastoral industry and, through it, an improved contribution to the regional economy. This is an area which under the BTEC program much of the livestock herds were slaughtered to clear the area of brucellosis and tuberculosis and have not been substantially restocked.

Although the live cattle export trade could be considered a step backwards to the meat industry on a national basis (reverting to bulk supplying rather than value adding), this trade provides an alternative outlet for North Australian cattle to sending them south for feedlotting and slaughter. However, northern Queensland already faces stiff competition in this trade from both the Kimberleys in Western Australia and from the Northern Territory.

BACKGROUND

In 1992-93 there were 9.6 million cattle in Queensland, accounting for 41 per cent of the Australian herd

- slaughterings in 1992-93, at 2.9 million, accounted for 38 per cent of national slaughterings
- beef and veal production in 1992-93, at 765 kt carcase weight, represented 42 per cent of Australian production
- the feedlot industry in the State was estimated to account for 46 per cent of cattle on feed in Australia in February 1994.

The cattle industry is widespread throughout Queensland and is export oriented, with about half of production exported

- the northern and western regions are characterised by large scale properties with low stocking rates
  - cattle from these regions are mainly destined for the United States or domestic markets, or are sold as store cattle for fattening in feedlots or transferred within company property chains (such as Stanbroke Pastoral Company) for finishing in the southern regions
- cattle raised in the higher stocked central-eastern regions of the State and the southeast corner are generally of higher quality and are targeted towards the domestic, Japanese, Korean, US and EC markets
  - these regions also host the feedlot industry in the State.

North Queensland Cattle Industry

- North Queensland accounted for 16 percent of slaughterings in the State in 1991-92 (15 per cent of beef produced)

- The Northern Queensland herd represents about 20% of the national herd.
  - the herd is predominantly Bos Indicus (Brahman) breeds.

- Production is mainly of store cattle (cattle sold for further fattening rather than immediate slaughter) rather than fat cattle, but beef production is valued at $0.5 billion.

- The industry in the area is export-oriented, with exports mainly destined for the USA and small amounts to Japan and Korea.

- Most cattle sales in the area are on an over-the-hooks basis (ie. direct sales from producer to processor on a carcase weight and grade basis)

- The area also exports live cattle to Southeast Asia (Indonesia, Thailand, Philippines and Malaysia).

- Area achieved Brucellosis and Tuberculosis (BTEC) free status in December 1992.

- The Industry in this area has historically been based on the harvesting of feral cattle during the dry
  - the BTEC, mustering costs and the need for a higher standard of animal husbandry have resulted in the elimination of these feral herds and have forced cattle producers to control their animals through the erection of fences and to adopt a more intensive production system.

- With the harvesting system, producers could rely on native pastures, which are of low nutritional value, for most of the year
  - however, under the more intensive system, the native pastures do not provide sufficient nutrition and consequently producers are now looking towards pasture improvement.

On Cape York Peninsula there are 75 pastoral leases covering a total area of 7.382 million hectares (averaging roughly 100,000 hectares per lease) and about three years ago with a turn-off number of 16,000 head of cattle, from a total herd of 100,000

- the pastoral industry presently comprises 54% of the Cape York Peninsula proper, producing $6.5 million in gross income annually.

The Cape York Peninsula Pastoral Advisory Group has stated its belief that the region has a vast potential for cattle production and there is an opportunity for this to be done in an environmentally sensitive way

- with this in mind it projects the cattle turn-off could be increased to over 250,000 head from a herd of over 1.1 million, producing a gross income of over $80 million.

Producers in the region believe it will be necessary to subdivide their properties to generate the capital necessary to undertake the development of the region and to ensure that the productive capacity of the region can be utilised

- a consequence of subdivision would be an increased permanent population in the region and an increased need for infrastructural services.

Should this development not take place, it is possible that the Peninsula may revert to the situation of a large feral cattle population

- we do not see this as a desirable situation because of the vulnerability of the Peninsula to exotic diseases and pests.

Insufficient information is available at this time on the Queensland Gulf district, but given that the Northern Territory's Gulf Region Land Use and Development Study of 1991 found the Gulf district on the NT side of the border to be "...the least developed and least populated region in underdeveloped northern Australia.", it would seem likely that the Queensland side would face similar problems

- this study also expressed specific concern on the more marginal and poorer pastoral leases relying on feral harvest of livestock and a low level of improvement infrastructure and herd management.

Meat & Livestock Branch,
Commonwealth Dept of Primary Industries & Energy

A STUDY OF THE PASTORAL INDUSTRY OF CAPE YORK PENINSULA

by G. COTTER DOL

A REVIEW BY CYPPAG

Typed verbatim from a poor copy. Issues raised that were amended within the final report have not been repeated here.

1. Compliance with Terms of Reference

This paper presents the Pastoral Industry from a Department of Lands perspective. It will be interesting to compare the DoL perception of Cape York with the NRAP reports and the findings of the Pastoral Review consultants.

2. Standard of Writing

The report is clearly written.

3. Standard of Maps, Diagrams & Tables

Adequate for the purpose.

4. Adequacy of Research Methodology

This is a compilation of DoL background information on present and past decision making processes which should be readily available.

5. Depth of Research

It is clear that in the absence of clear documentation of previous and current DoL policies on Cape York pastoral lands, the writer has had to draw on his personal experience and conduct considerable research to compile this report from the limited information available.

6. Accuracy of Reliability of the Data and Information

The accuracy of the data, must be regarded as reliable. However much of the policy appears to be based on arbitrary decisions which have not been well documented. Many of the interpretations of data are wrong and misleading inferences are drawn.

7. Summary

The paper does well to describe the Pastoral Industry from a Department of Lands perspective and provides the reader with an insight into their position.

From a graziers perspective it fails to understand and accurately identify the underlying reasons for current problems being encountered by the pastoral industry in Cape York.

Apart from Zone A (the Far Northern Zone) accessibility is not mentioned as a constraint to productivity. All Cape York properties suffer excessive transport costs when compared to other regions in Queensland. Apart from wages, freight for turn off and inward freight on inputs is the biggest single operating cost factor. This mitigates heavily against adoption of technology which uses inputs to improve productivity. There is a good deal of discussion on the potential benefits the adoption of improved technology could bring, such as higher carrying capacity and more efficient management.

The report regularly quotes DPI as an authority on property development and management but has displayed no evidence of using the information in forming policy making decisions.

Past DoL policies have not attempted to encourage smaller holdings and closer settlement which would increase productivity of the region and hopefully provide better services.

A survey conducted by CYPPAG in 1990/91 clearly demonstrated that the smaller, well developed freehold properties, generally in the Cooktown area, had significantly higher productivity than the larger pastoral leases. The higher productivity cannot be attributed to better land.

It also demonstrates that investment in development of pastoral properties is dependent on security of tenure.

Comparisons between Pastoral Leases and Free Hold properties.

	Pastoral Leases	Free Hold
Stocking Rates	Low - 1 hd / 63 ha	High - 1 hd / 1.8 ha
Turn Off percentage	14%	21%
Turn Off Type	Older meatworks male cattle	Younger store cattle (steers 0 - 3 years)
Stock control/management	Poor	Good

In the summing up of Land Planning Considerations it appears that the DoL seem to prefer the option of restricting the number of landholders by increasing property sizes to attain (what they call) viable living areas for family units based on their outdated and arbitrary definitions which have no technical basis.

STATEMENTS OF PARTICULAR AREAS OF CONCERN

3.0 ANALYSIS OF EXISTING LAND TENURE

3.1 Pastoral Holding: Purpose "Pioneer tenure for grazing and agricultural purposes for the larger mostly unsurveyed leases in the distant areas of the State." This suggests some other form of tenure is more appropriate once substantial development is considered.
Actions Allowed "Amalgamation of contiguous similar tenure, subdivision." Needs explanation, how, why?
Reverts to Crown "May be resumed" on what conditions?

3.2 Grazing Homestead Perpetual Lease "Primary tenure for grazing and agricultural purposes in much of the State." But not in Cape York! Why not?
Actions Allowed "Amalgamation of contiguous similar tenure, subdivision." Needs explanation, how, why?
Reverts to Crown "May be resumed" on what conditions?

3.3 Special lease
Actions Allowed "Amalgamation; subdivision; conversion to freehold or lesser tenure of NCL." Needs explanation, how, why?
Reverts to Crown "May be resumed" on what conditions?

3.6 Table 1 (Details of leases)
Details of Methodology. "The figures in the carrying capacity column are open to contention." They are therefore not definitive. Therefore they should not be used to infer maximum numbers of stock which a parcel of land can safely run and still be sustainably utilized.

The Lands Department definition of a "Living Area" is "Such an area of land as having regard to the following matters": Among other things "which will provide an income adequate to ensue a reasonable standard of living for a man, his wife and infant children." Does not refer to land area, stock numbers or ability to achieve a return on investment. Otherwise the description of "DoL ideal of a living area size" is extremely vague. Details of how these assessments are made are required and the whole concept of "living areas" as they apply to Cape York should be dealt with in detail.

Valuations as listed appear to have little resemblance to practice. e.g. Starke, Silver Plains.

3.7 Statistical Analysis from the Table

3.7.1 Lease Area It is claimed criticism of the Lands Department policy on the provision of smaller sized blocks for alternative or multiple land uses "does not stand the test of analysis, there are 27 leases smaller than 1500ha, although in fairness a number of these are unsuitable for hobby farms due to poor tenure or location. Offsetting this is the number of small freeholding blocks in the Lakeland Downs area. The existence of small blocks has often led to land degradation in the past as leasees attempted to derive a living from a lease that is not a living area in size. The provision of additional leases would therefore seem unnecessary and undesirable."

27 small leases in an area more than half the size of Victoria! With policies like this, is it any wonder the area is under populated and undeveloped.
"The larger properties have potential to have areas excised for amalgamation with sub-standard blocks."
Despite the benefits of sub-division, the rights of the companies and individuals to own and work large land parcels should not be ignored. sub-division prior to lease expiry should only be possible with the consent of the lessee. Guidelines for excision of land for any purpose appear to be arbitrary. The DoL does not have qualified staff to assess potential productivity of leases and appears unwilling to draw on outside sources.

3.7.2 Ownership The opening statements "Foreign based companies hold 6% of the study area. This area carries 7.2% of the assessed carrying capacity which indicates that the quality of the country in foreign hands is slightly above average. The main reason for this is that foreign held leases tend to have been improved above district standard". The third sentence contradicts the second! Which is correct?

The big pastoral companies such as A.A. and Stanbroke, etc, are not present in Cape York. "Cape York has potential as breeding country held by such companies to provide store cattle for their southern fattening blocks." This simplistic statement displays the writers lack of knowledge of the industry and could be misleading! No doubt he has heard the term Northern Breeding properties. What does he intend to convey? Does he consider that Peninsula properties do not have the ability to fatten cattle?

Does he believe that only "big companies" can transfer cattle south? Does DoL policy advocate this type of development? It is at odds with the following statement.
"Individual family ownership of our pastoral and agricultural lands has been an objective of Lands Department policy for many decades and the statistics indicate that this objective is only partially being realized in Cape York." So, DoL are aware of the problem. The existing policies obviously do not work, what have/are they doing to alter them to make them work?

The writer also identifies the problem of large areas of land being held as pastoral leases for speculative purposes without supporting a grazing enterprise. This also contributes to the fragmentation of the industry.

3.7.3 Carrying Capacity "There has been little development of the pastoral industry in Cape York to date and the potential for development is only minor." On whose assessment? This statement and the basis on which the assumptions are made must be justified! They are quite simply wrong!

"Recent developments in improved pasture technology, supplementation and herd management techniques has led to the recognition that a reassessment of carrying capacities is required."

The "new technology" has been actively promoted by the DPI for many years. Acceptance by pastoralists has been slow because they have not had the surplus funds to invest. Apparently acceptance by the DoL has been even slower. Because of the un-availability of smaller parcels of land, opportunities for small investors to improve small blocks has been severely limited. Does the DoL have experienced staff qualified to judge potential carrying capacity?

3.7.4 Living Areas Analysis of this Table shows that of 112 leases only 10 fall within the range of 75% to 125% of a living area. What an indictment of the system! Surely it is wrong, why therefore should it not be changed?
DoL appear to be determined to assess "living areas" on unimproved carrying capacities. Why this policy must apply in Cape York and not elsewhere is not disclosed.
"Consequently action needs to be taken where and when possible to bring sub-standard blocks up to a living area capacity." How the DoL could "take action to bring sub-standard blocks up to a living area capacity by amalgamation of leases or increasing productivity via lease development" is not explained. Obviously if people cannot make a living on an unimproved 100 000 ha, they will not make a living on an unimproved 200 000 ha.

Development is the only option!

3.7.5 Value of Improvements How out of date are these valuations? They do not reflect the current situation.

4.0 PRESENT OPERATIONS

4.2.3 Fencing "Many graziers do not like fencing for a number of reasons". etc. True - These are the traditional views and they have some basis in fact under the traditional management system. However under more modern management, due to progress, technology and increased input costs, these views are no longer realistic.

4.3 Improved Pastures

4.3.1 Introduction "One drawback with the introduction of legumes is the inability of native grasses to tolerate higher stocking rates associated with legume pastures." This is an involved and complicated biological process and this superficial account gives the reader some wrong impressions. e.g. Weeds will invade.

4.4 Marketing of Product

"Land planning should accomodate the need for greater production, within environmental safety limits." Good, would like to see a full explanation.

PRODUCTION SYSTEMS IN USE

4.5.1 Traditional Systems This is a good account of the system. It is interesting to note that DoL acknowledges that "DPI studies have shown that no matter how large an area is available, the traditional system may not provide a positive cash flow." True, increased areas requiring management at low stocking rates are basically "cattle hunting" operations.

In the absence of their own studies, why have DoL been reluctant to use DPI technical information in assessing land use capabilities.

How the DoL can reconcile it's various positions on establishing the area required for a living area based on unimproved carrying capacity is unclear. Some of the definitions cited and statements made are:

3.6.1 "a living area" sufficient for a family to derive a liveable income.
3.7.1 The statement "90 000 ha could be considered the upper limit of area workable by a family unit".
4.5.1 "If a living area is 3 500 head, then 157 000ha is required".
How level of stocking rates can possibly be established on unfenced properties is not explained.

"If a major amalgamation scheme to bring leases up to a living area in size is to be avoided, then an intensification of usage is required. This intensification can only occur with improved management practices and the use of improved pastures." In other words amalgamation would be disastrous. Why is it even contemplated?

4.5.6 The Preferred Production System It is noted that the model referred to achieves the required carrying capacity of the property by development of improved pastures. The size of the examples given range from 32 000 ha to 50 000 ha, each with a notional herd of 5 000 cattle. This concept is a complete departure from previously stated DoL policy and assessment of property carrying capacity. Since this development has not come to pass, the readers are left wondering why DoL are not actively encouraging and promoting this type of development. Is this actually DoL stated policy, or, like the "living area" concept only a tentative indication of what may or may not be approved.

5.0 LAND MANAGEMENT PLANS

The concept of management plans as outlined contains a great deal of detail and therefore will require too much updating and change. What is important are overall principles and concepts. Property management and biology are dynamic systems.
It should also be recognised that sound and sustainable land use is the intention of at least the overwhelming majority of land owners and managers.

6.0 COUNTRY TYPE CLASSIFICATION

6.2 Country Types

We believe the Table is very misleading and serves no purpose. The data presented is often incorrect and entirely misleading. It is simply not possible to categorise Cape York land in this way.
Both natural and potential carrying capacity are entirely dependent on the inputs. What is district average supplementation?
The assertion that Tetradonta country cannot be improved via Stylo in standing timber is wrong and dangerously so. If land holders are prepared to water, fence, supplement and manage, practically all Cape York land could achieve considerably improved carrying capacity.

Even if land cannot be developed as per Page 34, it may well be suitable for some alternative development schedule.

7.0 A CASE STUDY OF LAND MANAGEMENT DEALING WITH A CAPE YORK PROPERTY

The action taken by the DoL in implementing conversion to an improved tenure for the land in question is commendable. However it does not explain why in Cape York, a huge investment in the property is necessary prior to the issue of a G.H.P.L. which is termed a "primary tenure for grazing and agriculture in much of the State."

8.0 LAND PLANNING CONSIDERATIONS

If, as envisaged, land use plans become an integral part of DoL lease conditions, it is to be hoped that extensive consultation will occur with leasees and DPI to establish rational and achievable goals for property planning.

For this to occur, the use of inconsistent definitions of "living areas" and "carrying capacity" need to be discarded and replaced with overall guidelines and principles to allow individual producers to choose the production system that best suits their situation.

It is hoped that if regulations are imposed they will be performance based focusing on the achievement of objectives which are clearly defined. This approach would allow land holders to use of a variety of methods to achieve the desired result and flexibility in adoption of changing technology.

The writer has also identified the problem of large areas of land being held for speculative purposes. While pastoralists would be reluctant to have additional conditions imposed on their leases, the use of a pastoral lease as a pastoral enterprise should be a fundamental requirement.

Cape York Peninsula Land Use Strategy

Pastoral project - "Study of the Pastoral Industry of Cape York Peninsula" by Gary Cotter, Dept of Lands.

Comments by Dr G. Harrington of CSIRO, Division of Wildlife and Ecology

Typed verbatim from a poor copy.

Comments

The report constitutes advocacy for the pastoral industry rather than an objective assessment of the options in land use. This is revealed on page one, where the steps in "a land use program" do not include anything concerned with defining or comparing land use options with reference to the State and National interest.

This might be acceptable if this is merely evidence submitted from a particular constituency for objective assessment by a committee charged with formulating an optimal land use plan but if this study is to be promoted by the Dept of Lands, then it assumes authority that threatens the whole CYPLUS process.

Even an advocacy I find it quite deficient. It presents no economic analysis of the expensive "developments" which it champions. It is implied but not stated that pasture improvement is not economically justified unless live cattle export facilities are developed at Weipa and Karumba. My limited knowledge of the costs of moving cattle to Mareeba for slaughter suggest that the costs of developing improved pastures on Cape York cannot be economically justified under present arrangements. But what are the costs of new facilities at Weipa and Karumba and who would bear those costs? And then where is the economic assessment of the pasture improvement to the individual pastoral property?

There are some statements in the report regarding pasture improvement which I would not accept without documentary evidence that is neither presented nor referenced in this report (in particular section 4.3.2). Introduced legumes and grasses are said to be capable of natural spread: it is implied that that is without fertiliser or cultivation, which I find surprising. It is also the first time I have ever heard of grasses being more demanding of phosphorous fertiliser than legumes. The allegation that improved pastures will persist in the abscence of regular fertiliser treatments stimulates the question: "for how long ?"

On page 21 there is reference to the fact that Eucalyptus regrowth after clearing "can be difficult to control". The preparation methods to prevent such regrowth would be costly and these costs, which are known, should be revealed in this report.

The section 4.3.3 "case study of an improved pasture paddock" provides costs of development but no economic assessment of the factors mentioned in the final paragraph and no mention of the maintenance costs.

The superficial value of improving pastures on Cape York are not impressive if my reading of Table 1 is correct. Potential carrying capacities of a beast to 40ha and worse, suggest very marginal operations with all that implies for the people involved and the environment.

On Page 15 Section 3.7.4. it is stated that it is the Department's ideal to design leases that are approximately one "Living Area" - for a family concern. This is an outdated concept which has lead to much land degradation in the past elsewhere in Australia. Different families put different demands on the land. The Living Area concept has an aura of maximising production from the land rather than conservative stocking, which can ride out the vicissitudes of drought and put land stewardship first. Properties need to be large enough to ensure that landholders can pay their way in all circumstances and do not get caught in the restock when prices are low and restock at high prices syndrome.

This report leads me to conclude that the current pastoral industry is not genuinely viable but persists because people believe in the lifestyle or are companies who see advantage in being resident on Cape York in the hope of windfall profits that may accrue from land speculation from developments such as a Space station or tourism.

I have personal experience in Australia of a pastoral industry in marginal habitat, which is economically dicey and I have watched extension agencies continue to pretend that there are technical solutions to the problems. Successive waves of young extension officers are sent out to grapple with the problems; research is endlessly repeated with dubious outcomes. This report repeats this trend.

In the "plant a billion trees" era it is farcical that people are advocating the clearing of the most fertile bits of what is an extremely infertile area. It is likely that wildlife is dependent upon the very bits that pastoralism seeks to transform. It can probably be calculated that Cape York is more valuable to Australia as wilderness than marginal grazing land but that is only peripheral to this report. I hope the overall CYPLUS process will make such assessments.

Comments on CYPLUS pastoral industry project
G Cotter - Dept of Lands
By Cairns and Far North Environment Centre

Typed verbatim from a poor copy.

Introduction

This paper does not consider land use allocation in a proper manner and assumes that, apart from leases north of the Wenlock River, pastoralism is automatically the preferred land use. This disregards alternative uses such as conservation, cultural uses, recreation and tourism.

No analysis of the comparative advantage of Cape York for grazing over other regions e.g Darling Downs etc is discussed.

A preferred management regime and direction for the industry is presented which essentially is the industry position and this is admitted in the paper. This direction will be devastating for the rangelands and river catchments of Cape York Peninsula. The paper fails to recognise this.
For example, the paper says page 9, "substantial increase (in carrying capacity) can only occur with improved pastures or clearing".

The paper also fails to provide any guidance on how the preferred direction for the industry is to be funded. It recognises the significant cost involved but provides no guidance on capital raising, investment, subsidies etc.

The present uneconomic situation of the industry is recognised in the paper.

One of the conclusions is that "Currently large areas of Cape York held within pastoral tenure are unsuitable for grazing. Either they are too poor to make grazing economic or they are environmentally sensitive. Consequently many areas can be removed from grazing tenure without any ill effect on the industry."

However, it goes on to say that should only be done if it does not interfere with the effective management of grazing leases. This attitude of "cows are good" and therefore are first priority is a bizarre position to take.

Zones

Five zones are presented. It suggests that four of these have significant potential for the industry, the northern zone is virtually written off unless live export from Weipa is established.

Carrying capacity page 14

The paper says "ongoing work following this study is likely to see a significant increase in the assessed carrying capacities". We have to ask on what basis? There is no recognition or discussion of the enormous impacts that inappropriate carrying capacity has caused to vast areas of this continent, essentially in a crisis situation.

The justification seems to be based on supposed increases in technology, no regard is paid to the environmental consequences or the lands capacity to support increases without seriously and ir-reversibly damaging the environment.

Living areas page 15

This section recognises the poor economic state of the industry in the Cape and says "88 leases are below standard and 14 are above standard".

Improved pasture

The paper says: "improved pastures are seen by many as the key to the long term future of the grazing industry of Cape York".

The environmental effects mentioned in the paper are: impacts on native grasses, disturbed soil is required, weed invasion, phosphorus application required is in the order of 60 kg per hectare at sowing for Pasture King equivalent to 120 kg per hectare of superphosphate.

Four intensities are then given. The three highest require: burning or heavy grazing to deplete native grasses, clearing and burning and finally in the highest category all of the above and intensive ploughing.

Surely on environmental grounds this is not an option for future directions.

On economic grounds it also seems very unconvincing. The paper calculates the cost of these improvements for a 2400 H block to be $166,750 or $69.47 per hectare.

For a 30,000 HA property it needs $ 2 M !