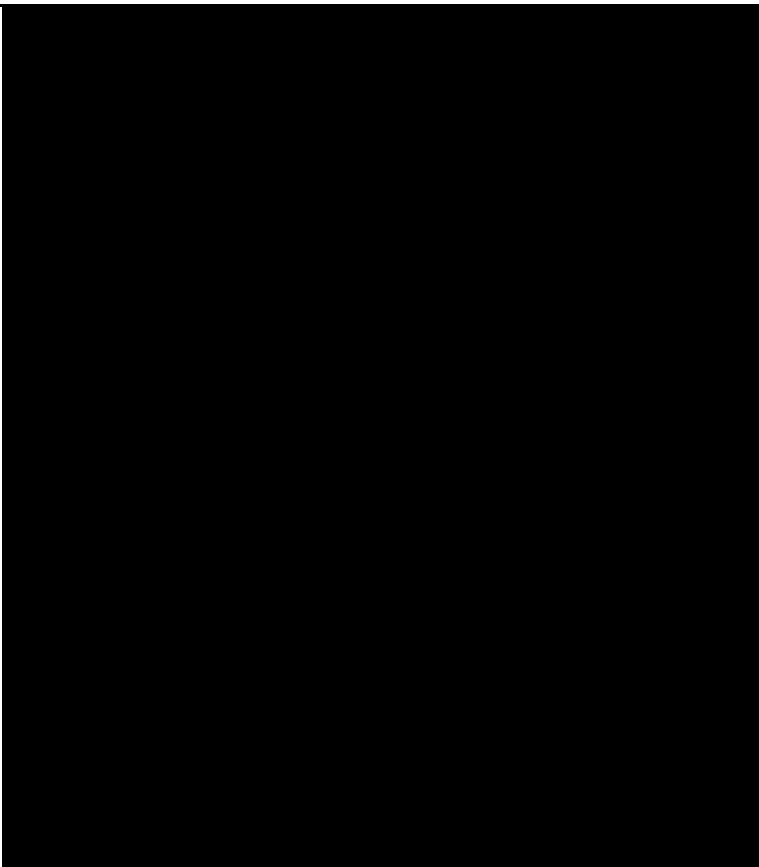


A Report on the Profile and Economic Assessment of Grazing in
State Forests:
Upper and Lower North East CRA Regions

A project undertaken as part of the NSW Comprehensive Regional
Assessments



**A REPORT ON THE
PROFILE AND ECONOMIC
ASSESSMENT OF
GRAZING IN STATE
FORESTS: UPPER NORTH
EAST AND LOWER
NORTH EAST NSW RFA
REGIONS**

FINAL REPORT

HASSALL & ASSOCIATES PTY LTD

**A project undertaken as part of the
NSW Comprehensive Regional Assessments
Project number NA64/ES**

October 1998

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TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	6
1. INTRODUCTION.....	8
1.1 PURPOSE OF THIS STUDY	8
1.2 BACKGROUND.....	8
1.3 METHODOLOGY	8
2. UPPER NORTH EAST CRA REGION GRAZING PROFILE.....	10
2.1 DEFINITION OF THE UPPER NORTH EAST CRA REGION.....	10
2.2 LOCATION OF GRAZING INDUSTRY.....	10
2.3 NATURE OF THE UPPER NORTH EAST FOREST GRAZING INDUSTRY.....	10
2.3.1 <i>Permit and Lease Entitlements.....</i>	<i>10</i>
2.3.2 <i>Commercial Species Grazed.....</i>	<i>12</i>
2.3.3 <i>Carrying Capacities Realised.....</i>	<i>12</i>
2.3.4 <i>Reasons for State Forest Grazing.....</i>	<i>13</i>
2.3.5 <i>Infrastructure Investments.....</i>	<i>14</i>
2.3.6 <i>Contribution of Forest Based Grazing to Farm Business Performance.....</i>	<i>15</i>
2.3.7 <i>Benefits and Costs Generated</i>	<i>15</i>
2.4 SIZE OF THE INDUSTRY	16
2.5 SOCIO-ECONOMIC CHARACTERISTICS OF UPPER NORTH EAST GRAZIERS	16
2.6 PRODUCTS GENERATED BY THE GRAZING INDUSTRY	17
3. ECONOMIC VALUE OF GRAZING, UPPER NORTH EAST CRA REGION.....	19
3.1 VALUES GENERATED FROM STATE FOREST GRAZING	19
3.1.1 <i>Annual Average Grazing Units.....</i>	<i>19</i>
3.1.2 <i>Value of Grazing Production (Gross).....</i>	<i>19</i>
3.1.3 <i>Value of Production (Net).....</i>	<i>20</i>
3.1.4 <i>Industry Employment</i>	<i>21</i>
3.2 STATE FOREST GRAZING CONTRIBUTION TO THE WIDER INDUSTRY	21
3.3 VALUE TO THE REGIONAL ECONOMY (MULTIPLIERS)	22
4. CONCLUDING COMMENTS FOR THE UPPER NORTH EAST REGION	23
5. A PROFILE OF GRAZING IN THE LOWER NORTH EAST CRA REGION	24
5.1 DEFINITION OF THE LOWER NORTH EAST CRA REGION.....	24
5.2 LOCATION OF GRAZING INDUSTRY.....	24
5.3 NATURE OF THE LOWER NORTH EAST FOREST GRAZING INDUSTRY	24
5.3.1 <i>Permit and Lease Entitlements.....</i>	<i>24</i>
5.3.2 <i>Commercial Species Grazed.....</i>	<i>26</i>
5.3.3 <i>Carrying Capacities Realised.....</i>	<i>26</i>
5.3.4 <i>Reasons for State Forest Grazing.....</i>	<i>27</i>
5.3.5 <i>Infrastructure Investments.....</i>	<i>28</i>
5.3.6 <i>Contribution Of State Forest Based Grazing to Farm Business Performance.....</i>	<i>28</i>
5.3.7 <i>Benefits and Costs Generated</i>	<i>29</i>
5.4 SIZE OF THE INDUSTRY	30
5.5 SOCIO-ECONOMIC CHARACTERISTICS OF LOWER NORTH EAST GRAZIERS	30
5.6 PRODUCTS GENERATED BY THE GRAZING INDUSTRY	31
6. ECONOMIC VALUE OF GRAZING, LOWER NORTH EAST CRA REGION.....	32
6.1 VALUES GENERATED FROM STATE FOREST GRAZING	32
6.1.1 <i>Annual Average Grazing Units.....</i>	<i>32</i>
6.1.2 <i>Value of Grazing Production (Gross).....</i>	<i>32</i>
6.1.3 <i>Value of Production (Net).....</i>	<i>33</i>

6.1.4	<i>Industry Employment</i>	34
6.2	STATE FOREST GRAZING CONTRIBUTION TO THE WIDER INDUSTRY	34
6.3	VALUE TO THE REGIONAL ECONOMY (MULTIPLIERS)	35
7.	CONCLUDING COMMENTS FOR LOWER NORTH EAST CRA REGION	36
8.	REFERENCES	37
9.	PERSONS CONTACTED AS PART OF THE STUDY	39
10.	ABBREVIATIONS USED IN THIS REPORT	40
	APPENDICES	41
	APPENDIX ONE UPPER NORTH EAST CRA REGION MAP	41
	APPENDIX TWO LEASE AND PERMIT HOLDERS IN THE UNE REGION	42
	APPENDIX THREE LOWER NORTH EAST CRA REGION MAP	48
	APPENDIX FOUR LEASE AND PERMIT HOLDERS IN THE LNE REGION	49

EXECUTIVE SUMMARY

This study forms part of a suite of economic and social assessments being undertaken to provide information to the NSW Comprehensive Regional Assessment (CRA) process. This report was commissioned by the Resource and Conservation Division of the NSW Department of Urban Affairs and Planning in order to establish Regional Forest Agreements in NSW.

This report focuses upon the State Forest based grazing industry in the Upper North East (UNE) and Lower North East (LNE) CRA regions. Key aspects of the profile of this industry include;

- graziers hold permit and lease entitlements to State Forest land in excess of 385,000 hectares in the UNE and 141,000 hectares in the LNE;
- forest lease and permit areas are used almost solely for beef cattle grazing given the characteristics of the resource base (heavily timbered, steep terrain, limited infrastructure and infrequent watering points);
- average carrying capacities of State Forest land utilised for grazing is one dry beast per twenty hectares (1:20), with land area utilised for 6 months annually;
- reasons for utilising State Forest areas for grazing purposes range from seeking short-term relief feed to using such areas as an integrated part of established farming systems; and
- the contribution of forest based grazing to total farm business performance ranges from 0% to 50%, reflecting the wide variation in dependence upon this resource amongst graziers who hold lease and permit entitlements.

Several comments can be made based on the economic evaluation of the State Forest based grazing industry in the UNE and LNE;

- based on the area of permit and lease entitlement in each region and an assumed carrying capacity of 1:20 for six months per year, an estimated 19,200 cattle could be grazed in the UNE and 7,050 in the LNE;
- this represents approximately 3% and 1% of the total meat cattle population in the UNE and LNE respectively;
- gross value of production from State Forest based grazing in the UNE is \$1.26 million and in the LNE is \$462,000;
- in value added (net) terms, this equates to \$613,000 in the UNE and \$213,000 in the LNE;
- grazing generates 7 full time job equivalents in the UNE and 2.5 in the LNE;
- in comparative terms, the contribution of State Forest based grazing to the wider grazing industry is not large. Based on 1995-96 Australian Bureau of Statistics data, State Forest based grazing represents 1.2% of the gross value of cattle and calf production in the UNE CRA region and 0.4% in the LNE CRA region; and
- despite this small contribution to the wider industry, the importance of the industry, measured in both economic and social terms, to those graziers who are stakeholders in

forest based grazing enterprises is significant. This is reflected in the wide variation exhibited amongst graziers by the contribution forest based grazing makes to total farm business performance in both CRA regions.

1. INTRODUCTION

1.1 Purpose of this Study

The Resource and Conservation Division (RACD) of the NSW Department of Urban Affairs and Planning has been established to review forestry issues in New South Wales and provide advice to the NSW Government for the development of its forestry and conservation policies and reforms. A key activity of RACD is the co-ordination of Comprehensive Regional Assessments (CRA) of forested land, to facilitate the establishment of Regional Forest Agreements (RFA).

The CRA process involves assessing the commercial values (such as timber, grazing, beekeeping) as well as the conservation values (such as species diversity) derived from State Forests and evaluating the socio-economic and long term ecological impact of the alternative uses of these resources. The Regional Forest Agreements will determine the future of these forests, providing a balance between conservation and ecologically sustainable use of the forests resources.

The aim of this project is to provide a profile and economic evaluation of the State Forests based grazing industry in the Upper and Lower North East CRA Regions. The issues to be addressed include the location, nature, and size of the industries, the socio-economic characteristics of graziers involved, the products generated within the industries and the value created by the industry, measured both directly in terms of value to regional graziers and indirectly in terms of value to local regions via flow-on effects within regional communities.

1.2 Background

State forest areas in the North East of New South Wales have a long history of grazing. Such grazing has occurred, and continues to occur under various authorities, including lease, occupation permit and grazing permit. Often these authorities have been held by grazing families for many years and have become integrated into the total farming system. In many cases, leased areas contain capital improvements (fences, yards and watering points) which graziers have provided in order to maintain levels of productive activity.

1.3 Methodology

The grazing profile component of this study was prepared in accordance with a table of contents agreed with RACD and State Forests. Economic evaluations were completed in a manner consistent with the NSW Government Guidelines for Economic Appraisal (1990) and in line with updates to this document (1997) which incorporate guidelines for valuation of environmental costs and benefits.

The project was divided into the following major tasks:

- **Project Familiarisation;** including a final project briefing from RACD and State Forests, collection and review of relevant data such as the spatial layer being developed by the Data Management Group and review of forest EIS documents and various other relevant reports. A complete list of study references is included in Section 8.
- **Quantification of the Extent of Grazing within State Forest Regions;** information on permit type, location and area grazed was collected for each relevant State Forest management area; carrying capacity data was sourced from State Forest records, NSW Agriculture and a sample of State Forest graziers. The spatial distribution was discussed and cross checked with State Forest EIS documents.
- **Development of a Profile Report on Grazing in State Forests;** existing information and primary data was combined to provide information on commercial species grazed, reasons for State Forest grazing, the contribution of such grazing to farm business performance, infrastructure investments, the size of the industry, the socio-economic characteristics of the industry and products generated.
- **Economic Impact of Grazing;** the economic contribution made by grazing activities in State Forests was evaluated using confirmed carrying capacity estimates, time periods grazed and gross and net income estimates derived from NSW Agriculture and Hassall & Associates farm budgets. Estimates of the economic value of grazing in State Forests were compared to regional, NSW and Australian production estimates. Data was submitted to CARE Pty Ltd for input-output analysis and determination of regional economic values (gross output, value added, labour, income and employment).

This report is the output of the above process. Separate investigations are provided for both Upper and Lower North Eastern CRA Regions and each CRA investigation is presented as a stand alone report.

2. UPPER NORTH EAST CRA REGION GRAZING PROFILE

2.1 Definition of the Upper North East CRA Region

The Upper North East (UNE) Region covers an area south from the Queensland border, along the north coast as far south as Sawtell and then west encompassing Guyra and land south of Inverell. The western boundary runs west of Glen Innes and Tenterfield. The two main land classes present in the region are coastal and tablelands. State Forest in the UNE covers 602,000 hectares. Total UNE CRA area is 3.9 million hectares (State Forests, 1998a).

The Upper North East Region constitutes all or part of ten State Forest Management Areas. They are:

- the whole of Murwillumbah, Urbenville, Casino, Tenterfield, Grafton, Glen Innes and Coffs Harbour Management Areas;
- a large part of all but the southern portion of Dorrigo Management Area (80% of total); and
- parts of the Styx River (30%) and Urunga (5%) Management Areas.

The defined boundaries of the Upper North East (UNE) region are shown in a map of the area provided as Appendix One.

2.2 Location of Grazing Industry

Attachment A also details the location of licensed State Forest grazing areas in the UNE by permit type (occupation permits, grazing permits and leases). It is evident from the map that the major location of grazing in the UNE is;

- in the south east of the CRA Region between Glenreagh, Hernani, Glen Innes and Jackadgery;
- east of Grafton;
- to the north of Whiporie; and
- east and north east of Tenterfield.

Grazing in these areas is administered by State Forests Northern Rivers and Mid North Coast Regional Offices.

2.3 Nature of the Upper North East Forest Grazing Industry

2.3.1 *Permit and Lease Entitlements*

The UNE grazing industry utilises some 385,300 hectares of State Forest land (State Forests, 1998a) and includes occupation permits, grazing permits and leases, of which the latter consists of a variety of perpetual and term leases that have been devoted to State forest. The relevant features of each of these forms of tenure granted under the Forestry or

Crown Land Tenures Act are summarised below. Relevant information was supplied by State Forest Regional Office Representatives.

Occupation Permits and Forest Leases

- account for the majority (ie 62% in 1998) of State Forest permits issued;
- occupation permits are renewable annually while forest leases are issued for a fixed term;
- occupation permits can be terminated by State Forests with 1 months notice;
- are normally retained by the lessee for a number of years, some as long as 30 years;
- in most cases the holder of grazing rights for a parcel of State Forest land is the adjoining freehold landholder;
- rent is negotiated with the lessee on the basis of agreed productive capacity or by seeking tenders;
- in addition to State Forest rent the land is subject to council rates; and
- rent payment is usually indexed to CPI.

Grazing Permits

- are typically granted for 10-13 week periods with limited rollover renewal;
- after repeat renewal, the lessee is encouraged to convert to an occupation permit;
- are used mainly to provide drought relief/winter grazing;
- as a result, applications for Grazing Permits increase dramatically during dry periods;
- rent is charged on a livestock per head per week basis; and
- rent payment is not subject to council rates.

Leases under the Crown Lands Tenures Act

- includes land held under Crown Leases, Settlement Leases, Conditional Leases, Special Leases and Perpetual Leases that have been dedicated to State Forests;
- leases are granted either in perpetuity or for a specified term;
- leases are granted under the Crown Lands Tenures Act but administered by State Forests once dedicated;
- rental is low and a lease agreement provides control over tenure;
- council rates are applicable to leased areas and rental payment is reviewed periodically as specified in the lease agreement; and
- Dedication acts as a bar to the conversion of the lease to a purchase tenure however the leasehold may continue to be used to the degree of utilisation prior to dedication (subject to the conditions of the lease).

Lease numbers and relevant area (hectares) for each permit/lease type in the UNE are summarised in Table 2.1.

Table 2.1 Grazing Permit and Lease Entitlements, Upper North East CRA Region, 1998

Permit/Lease Type	No. of Permits	Area (ha)	Range (ha)	
			Max	Min
Occupation Permits	270	266,261	0.1	10,239
Grazing Permits	9	7,784	1.8	5,802
Leases	155	111,255	4.07	2,800

Total	434	385,300		
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Source: State Forests Database: DATA/PROJ/CRA/UNE, 1998

The largest lease holding in the UNE region is in excess of 10,000 hectares, whilst the minimum holding is 0.1 hectares. The contrast in these statistics illustrates the broad range in size of holdings across different lease and permit holders.

Appendix Two contains a listing of each of the lease and permit holders in the UNE region, and the corresponding area (measured in hectares) which each lease/permit covers.

Environmental Impact Studies have been performed for a number of the management areas located in the UNE. These studies recommended that there be no increase in the area grazed in State Forests. Several lease/permit areas that have been relinquished since the EIS's and have not been relet by State Forests.

2.3.2 Commercial Species Grazed

Grazing has been occurring in the UNE State Forests for more than 100 years. Grazing activities in the forests are limited by the presence of heavy timber, steep terrain, an unimproved native grazing under-story, limited infrastructure (such as fences), infrequent watering points and the difficulties associated with mustering under these conditions. The resources available are best suited to beef cattle grazing and forest lease and permit areas are used by graziers almost solely for this purpose (pers. comm. State Forest Regional Officers 1998).

Sheep are generally not grazed in the forests as fodder types are unsuitable, fencing is inadequate, climatic conditions are too moist for wool production and dingo predation is problematic. A limited number of horses may supplement cattle numbers in the CRA Region, however, in total, horse numbers are insignificant.

2.3.3 Carrying Capacities Realised

Carrying capacities on State Forest lease or permit land are generally low. The often heavily timbered nature of the land affects the proportion of total land area that can be effectively grazed and subsequently impacts upon the quantity and quality of feed available.

Beef cattle grazing intensity in UNE State Forests varies depending upon the period of the year in which grazing occurs, seasonal conditions and market forces (Murwillumbah Management Area EIS, 1995). Notwithstanding these factors, average stocking rates were sourced from State Forests via published EIS's and, where possible, confirmed with relevant grazing interests and NSW Agriculture. Average carrying capacities by management area and duration are summarised in the Table 2.2.

Table 2.2 Carrying Capacities by Management Area for Grazing in UNE State Forests

Management Area	Carrying Capacity (dry beasts/ha)	Duration (months)
Tenterfield	1:15 - 1:40	6-9
Urbenville	1:20	6
Coffs Harbour	1:8 - 1:20	6
Dorrigo	1:10 - 1:25	6-9
Casino	1:20	6
Glenn Innes	1:15 - 1:20	6

Source: State Forest EISs and pers comm NSW Agriculture and relevant graziers.

From analysis of this data and with additional input from the various representative groups, it has been assumed, for valuation purposes, that one dry beast to 20 hectares (1:20) for 6 months a year is a reasonable assessment, on average, of the carrying capacity of the State Forest lands under grazing¹.

The stocking rate in State forests is relatively low in comparison to other open grazing farmland. This is attributable to the heavily timbered nature of State forest grazing areas and so the lack of quality feed able to develop under the forest canopy. In order to draw a comparison, the average carrying capacity for natural pasture with no seed or fertiliser in the UNE is approximately 1 dry beast to 4 hectares (NSW Agriculture, 1997).

2.3.4 Reasons for State Forest Grazing

The reasons for utilising State Forest grazing opportunities are varied. Short term grazing permits are sought for the purpose of providing feed relief during periods of both drought and flood and to take advantage of opportunistic grazing (i.e. a “flush” of feed in favourable seasons). This is in contrast to the majority of Lease or occupation permit holders who utilise the areas annually as an integrated part of their farms’ grazing program. In this case, the State Forest lands are considered as supplementary to freehold areas and are incorporated in management and enterprise design systems, often being crucial to maintaining the viability of farm enterprises.

In the Northern tablelands there is a significant ‘feed gap’ in the winter months during which pasture growth is nominal. In anticipation of this shortfall in feed, graziers utilise adjoining forestry blocks to carry stock through this period as opposed to purchasing feed or selling stock. Removing stock from open pastures during this dormant growth period avoids overgrazing of pastures and promotes re-growth ready for calving season in early spring. Heavy timber also provides shelter for stock during the winter months.

¹ In the process of taking on a lease or permit the carrying capacity of the area is assessed on site by a State Forest Representative and the prospective lessee. Personal Communications with Greg Walters, Hunter Regional Office revealed that on average, for all permits, 1:20 ratio was accepted as a reasonable assessment. This was confirmed by the survey conducted of a sample of graziers utilising State forest areas in the UNE CRA’s.

Revocation of swampy coastal areas formerly utilised for grazing purposes to National Parks, is resulting in increased demand for State Forest areas in order to offset those lost grazing opportunities. Dry seasonal conditions exacerbate this demand for State Forest areas (Grafton Management Area EIS). Together, these factors indicate that State Forest grazing resources will continue to increase in importance for short term relief purposes.

2.3.5 Infrastructure Investments

The general approach adopted by graziers with annual (occupation) and short-term (grazing) permits is to minimise expenditure on capital works on State Forest land due to the uncertainties associated with tenure. Maintenance of boundary fences is performed for stock management purposes, but very little internal fencing is constructed or maintained. Capital improvements are carried out by graziers more frequently on country that has perpetual and long-term lease status (Hassall & Associates survey results). However, as legislative reform associated with public lands occurs, including State Forests, and the subsequent perception by lease holders that a reduction of tenancy security accompanies these reforms, graziers have and will continue to become less willing to invest in capital works on leased lands that are devoted to State Forests.

A minimalist approach to capital improvements is made possible by the fact that State Forest holdings often adjoin freehold land. Yards and other stock management facilities are built and maintained on this freehold land and stock is brought to these facilities from the State Forest areas for handling.

Some capital improvements do occur. Fencing, holding yards, huts, dams and watering points are the main type of improvements undertaken. Such capital improvements on State Forest lands are subject to approval by local State Forest Offices and as a more stringent management approach has developed with regards State Forest lands, capital improvement programs are being more rigorously assessed than in the past.

Mutually beneficial situations do, however, arise. State Forest requirements for water catchment areas for fire fighting purposes often coincide with graziers' requirements for water sources for stock. Lack of water in State Forests is one of the main constraints to grazing and by creating watering points with the assistance of State Forests, prolonged tenancy of blocks can be achieved.

2.3.6 Contribution of Forest Based Grazing to Farm Business Performance

The farm business performance of grazing enterprises in the UNE region is dependent upon the area of land utilised, the grazing enterprise undertaken (different enterprises will have different costs and returns) and market and climatic conditions. Estimating the average farm business performance of grazing enterprises within this region is difficult due to there being limited official data. Despite the constraints presented by these data limitations, indicative estimates of the contribution made to grazing enterprises in the UNE region by State Forest based grazing were made based upon surveys of local permit and lease holders.

Important issues to consider when estimating the contribution of forest based grazing activity to the total grazing activities of a farming enterprise include the;

- range of different grazing permits and leases utilised;
- differing costs and length of utilisation associated with each of these permits;
- number of permits utilised in any given year;
- differing total areas that each permit covers;
- quality of land and therefore feed available that each permit provides; and
- differing levels of expenditure on and usage of capital improvements.

Assessing the contribution which forest based grazing makes to farm business income allows the relative importance of such grazing to individual graziers to be measured. Based on the survey of local permit and lease holders, an understanding of the varying degree to which different landholders depend on State Forests can be ascertained. Permit holders surveyed estimated a range of contribution to income by State Forest grazing of 0% to 50%. This range of contribution indicates the variance in dependence on State Forest holdings of graziers within the UNE region.

A 0% contribution indicates instances where permits were held to supplement existing freehold land, usually where the State Forest land bounded the freehold land. Reasons for holding the permit included for recreational purposes, aesthetic value, or as a natural boundary or buffer zone between landholders. Reasons may also include restricting the potential of another grazier to utilise the site where it is perceived stock may cause damage to, or breach, boundary fences and other improvements.

A 50% contribution indicated that State Forest grazing is an integral part of that graziers operation. A typical scenario is where State Forest land is stocked with breeding herds for six months of the year to allow freehold lands to be rested to facilitate pasture renewal in time for calving. Another scenario is where such land is utilised twelve months of the year for the growing out of steers and bullocks.

2.3.7 Benefits and Costs Generated

The following benefits and costs of grazing in State Forests have been identified as a result of reviewing the Environmental Impact Studies of the Management Areas in the UNE and

via personal conversations with graziers and representatives from State Forest Regional Offices.

Benefits

- trampling and reduced grass component of fine fuel due to grazing and controlled burning reduces wild fire likelihood and intensity;
- lessee's are responsible for control of noxious weeds and animals;
- lessee's are responsible for boundary fence maintenance;
- financial benefits to farmers accrued from grazing state forests;
- revenue collection by State Forests for grazing permits; and
- an increase in rateable lands for local councils.

Costs

- inhibiting timber regeneration and trampling of native flora and fauna;
- frequent/uncontrolled burning by graziers; and
- competition with natural flora and fauna.

Neither data or study resources provided for a detailed assessment of the net benefits or costs.

2.4 Size of the Industry

Grazing in the State Forests of the UNE covers an area of 385,300 ha. This represents almost 10% of the entire CRA Region of 3.9 million hectares (ABS 1998) and 64% of the 602,000 hectares of State Forest in the UNE (State Forests, 1998a).

Currently there are 434 permits and leases for grazing in State Forests in the UNE. Due to graziers holding multiple authorities in some cases, there are an estimated 300 permit holders involved with grazing in State Forests in the UNE (State Forests, 1998b). These graziers represent 7.9% of a total of approximately 3,800 establishments running meat cattle in the UNE of NSW (ABS, 1998b).

Based on the 385,300 hectares covered by permits, and assuming a stocking rate of 1 dry beast in 20 ha, an estimated 19,200 cattle could be grazed in the State Forests of the UNE. This total represents less than 3% of the meat cattle population in the UNE as measured in the 1995-96 Agricultural Census (ABS, 1998b).

2.5 Socio-economic Characteristics of Upper North East Graziers

Socio-economic data pertaining to graziers in the UNE State Forests is currently being collected by the DPIE Social Assessment Unit. At the time of writing, this information was not available for incorporation in this report. Limited socio-economic data was collected first hand from grazer surveys and in discussion with NSW agency representatives (NSW Agriculture and State Forests). The socio-economic characteristics of UNE graziers, based upon surveys and discussions, along with relevant published data for north coast beef cattle grazing, are summarised below.

Family Business

All grazing enterprises interviewed were family owned and run businesses. There are, however, examples of corporately owned but privately managed properties in the region that utilise State Forest lands for grazing purposes. Their total number and occupied area is thought to be a relatively small proportion of the total area grazed.

Age

It is not uncommon for three generations of a family to be involved in grazing activities in the UNE. The business is family oriented and typical of agriculture in NSW.

Skills/Training

Graziers utilising State Forest land rely on practically learned skills, rather than formal education. 'Bush' knowledge, including knowledge of water courses and resources, feed locations and tendencies of cattle to congregate in certain areas, is essential for management of grazing in State Forest blocks. Horse skills are also essential as the terrain is unsuitable for mustering by any other means.

Importance of Grazing Income

For most landholders surveyed, grazing income was the primary source of household income and the contribution made by State Forest lease and/or permit holdings to total income ranged between 0 – 50%.

Disposable Income

Estimates of total household disposable income were sourced from ABARE farm survey data for the financial year 1996/97. For specialist NSW beef cattle graziers the average per farm estimates of cash receipts and cash costs were \$83,760 and \$78,230 respectively. This produces an estimate of farm cash income of \$5,530. When operator and family labour and an allowance for depreciation are deducted, farm business loss is estimated at \$22,380. This is consistent with estimates of farm business loss of \$31,638 in 1995/96 and preliminary estimates of loss for 1997/87 of \$17,900 (ABARE, 1998). Thus, assuming graziers who are reliant upon some forest based grazing are similar to average NSW beef specialists, it can be concluded that northern forest graziers are not currently in a strong financial position.

Attitudes of Graziers

Increased emphasis on conservation of natural resources within NSW, and subsequent legislation concerning public lands, is viewed by graziers to be restrictive to grazing activities in State Forests. This view is held most strongly by holders of leases which were issued under the Crown Lands Act but have been dedicated to State Forests. A perception exists amongst graziers that the title and rights associated with such leases have been depleted.

2.6 Products Generated by the Grazing Industry

Based on the survey of local permit and lease holders, conversations with relevant authorities and a review of documentation, the main enterprises utilising State Forest areas for grazing were;

1. Dry cattle or cows in calf are put out onto State Forest blocks for 3-6 months over winter to spell freehold country in preparation for increased demands for feed after calving; and
2. Growing out of steers. These cattle are “bushed” as weaners and graze on State Forest land for 18-24 months. They are then relocated to tablelands for fattening or finishing or sold on as store cattle to fatteners or feedlots. This use of State Forest land represents a small proportion of the total cattle run.

3. ECONOMIC VALUE OF GRAZING, UPPER NORTH EAST CRA REGION

3.1 Values Generated from State Forest Grazing

Within RACAC (1996), acknowledgement is made of the fact that the identification of agricultural commodity values from State Forests is hampered by the absence of a specific data collection process. Therefore, values presented in computing the economic value of grazing in the UNE are intended as indicative estimates rather than identification of actual values.

3.1.1 Annual Average Grazing Units

From the preceding analysis it can be seen that for the UNE State Forests;

- total area let for grazing is 385,300 ha (Table 2.1); and
- average carrying capacity is one dry beast equivalent to 20 hectares for a period of 6 months (Table 2.2)

From these figures it can be deduced that total annual UNE State Forest grazing units are 19,200 dry beast equivalents.

3.1.2 Value of Grazing Production (Gross)

In determining the gross value of grazing production, it has been necessary to proportion which forest-based grazing contributes to the aggregate production of grazing enterprises. The simplest method of quantifying this is by analysing the growth (recorded as weight gain) of cattle during the period which they are grazed in forest areas. Taking into account the variety of reasons as to why graziers utilise State Forest areas, the age of cattle grazed and the conditions under which grazing occurs, (including feed availability), it is possible to estimate an average weight gain per head figure.

State Forests are utilised for grazing cattle as a feed or drought reserve, under which conditions the objective would be to maintain weight or facilitate slight weight gains. Cattle can also be grazed as part of an annual production system whereby young stock are grown out to yearlings (from 12-14 months), or older stock are grown out to two and a half years and sold at 400 plus kilograms. With these enterprises, daily weight gains may be considerable however these high gains would only be achieved on a very small proportion of State Forest grazed areas as feed quality and quantity to facilitate these gains is rarely available.

To assess the value of forest areas to grazing and in order to account for the range of enterprises being run on State forest areas, ranging from no weight gain to medium weight gain, the following assumptions have been made;

- cattle would be expected to have weight gains in the order of 0.3 kg a day (2.1 kg per week), due to the medium to low quality pasture generally available throughout the forest;
- 19,200 stock could be supported in the UNE CRA Region, given a stocking rate of 1 in 20; and
- weight gain is calculated over a six month period (26 weeks).

Therefore, the potential production from State Forest areas in the UNE is for 19,200 cattle to gain an average of 2.1 kg/week over a 26 week period. The value of this grazing can be calculated as the value of the weight gained in the forest multiplied by the cents per kilo liveweight price at which the cattle are finally sold. Based on current prices in UNE sale centres, it would be reasonable to expect an average price of \$1.20/kg liveweight. At \$1.20/kg, the weight gain from 19,200 stock over a six month period would be valued at \$1.26 million.

Table 3.1 provides a sensitivity analysis of the impact of variations in daily weight gain and cattle prices upon the value of gross production derived from State Forest areas in the UNE. Given that different types of grazing enterprises are run in State Forests and the potential growth rates of cattle grazed will depend on external conditions (eg seasonal), the gross value of grazing production in State Forests in the UNE is estimated to be between \$1 million and \$1.5 million per annum.

Table 3.1: Sensitivity Analysis for Value of Grazing Production

\$/kg liveweight	kg/day weight gain		
	0.25	0.3	0.35
1.15	1,004,640	1,205,568	1,406,496
1.20	1,048,320	1,257,984	1,467,648
1.25	1,092,000	1,310,400	1,528,800

3.1.3 Value of Production (Net)

Table 3.1 provides a measure of the gross value derived from conducting grazing activities within State Forests. In order to determine the net value of production derived from these enterprises, expenditure upon relevant production inputs must be attributed to the grazing enterprise. Table 3.2 provides estimates of input expenditure for cattle grazed within State Forest areas. Estimates are provided per dry beast and were derived from NSW Agriculture budgets, discussions with graziers and estimates made by Hassall & Associates.

Table 3.2 Input Expenditure Per Head of Cattle Grazed

Cost Item	Cost (\$/head)
Animal Health (fluke, tick control, buffalo fly, etc) ¹	3.22
Livestock Selling ¹	10.00
Mustering Expenses	7.29
Lease and Rate Payments	13.20
Total	33.71

Source: NSW Agriculture Beef Enterprise Budgets and Discussions with relevant graziers

1. Costs are derived from NSW Agriculture Beef Enterprise Budgets. Costs are attributed to grazing for 6 months in State Forest and are assumed to be half of the annual costs

The total annual cost of production in the UNE State Forests is \$647,000 (19,200 dry beast units by \$33 per beast). Assuming a gross value of \$1.26 million, net profit, or value added, derived from forest based grazing is therefore \$613,000. Based on the sensitivity analysis in Section 3.1.2, the range of estimates for value added is from \$358,000 to \$881,000.

3.1.4 Industry Employment

Typically, the industry does not employ labour in association with forest grazing due to the low labour requirements attributable to a herd while grazing on State forest land. However, owner labour is required for;

- mustering cattle into and out of the State Forest lease, say a total of three days for the average sized holding of 900 ha (3 days); and
- checking of fences, water points and stock, say once every 2 months for 2.5 hours over 6 months (1 day).

The cost of mustering and checking labour is quantified at the station hand equivalent award rate, the rate that would be paid for such services should they be purchased in the market place. The rate is \$80 per day (\$21,000 per annum) as stipulated in the 1998 Farm Costs Guide (The Land, 1998). Total annual cost is therefore \$320 (\$80/day by 4 days) for the average size lease/permit area

Given that there are 434 leases/permits in the UNE (Table 2.1) total owner labour can be estimated at \$140,000 (434 lease/permits by \$320) or 7 full time job equivalents (\$140,000 divide \$21,000) per annum.

3.2 State Forest Grazing Contribution to the Wider Industry

It is important to gain an understanding of the scale of contribution made by State Forests based grazing relative to the wider beef industry. A comparison of the value of State Forest grazing in the UNE in relation to the wider NSW beef cattle grazing industry can be provided by examining other indicators. Estimates of the gross value of cattle and calf production in 1995-96 are provided by ABS (1998b);

- \$106 million in the UNE CRA Region; and

- \$861 million for NSW.

From the above statistics it can be seen that the gross value of State Forest based grazing production (\$1.26 million) in the UNE accounts for approximately 1.2% of annual beef cattle production in the CRA Region and less than 0.2% of NSW values.

3.3 Value to the Regional Economy (Multipliers)

In Table 3.1, the total value of State Forest grazing in the UNE is estimated. It is shown that the direct impact represents \$1.26 million in gross output which comprises \$613,000 in value added effects. Value added effects are an equivalent measure of Gross Domestic Product (GDP) that does not double count the cost of inputs and represents the returns to labour, capital, land and management. Estimated value added effects include payments of \$140,000 to 7 full time equivalent employees.

Through the application of regional input-output multipliers, the aggregate (direct and indirect) economic contribution of State Forest based grazing in the UNE can be measured. At the time of writing this analysis was not completed.

Table 3.3 Value of State Forest Based Grazing to the Upper North East Regional Economy

Value Item	Direct Impact	Type II Multiplier ¹	Flow -on Impact	Total Impact
Gross Output (\$)	1,260,000	n/a	n/a	n/a
Value Added (\$)	613,000	n/a	n/a	n/a
Labour Income (\$)	140,000	n/a	n/a	n/a
Employment (no.)	7	n/a	n/a	n/a

NB. At the time of document submission this analysis had not been completed.

4. CONCLUDING COMMENTS FOR THE UPPER NORTH EAST REGION

The profile and economic evaluation of grazing in State Forests in the UNE region can be summarised as follows;

- grazing permits and lease entitlements cover 385,300 hectares of State Forest, with occupation permits being the most common form of authority;
- the average carrying capacity of State Forest lands under grazing is estimated at one dry beast to 20 hectares, for 6 months of the year;
- the contribution which State Forest based grazing makes to the overall grazing enterprise of graziers in this region ranges from 0% to 50% of total grazing income;
- this reflects the variation in dependence on State Forests areas amongst different graziers, and is strongly influenced by factors such as the nature of the grazing system, the type of permit or lease held by landholders, the total area which this authority relates to and the level and reliance upon capital improvements on forest lands;
- permit and lease holders represent an estimated 7.9% of total establishments running meat cattle in the UNE;
- an estimated 19,200 cattle could be grazed in the State Forests of the UNE, representing approximately 3% of the total meat cattle population in the UNE;
- graziers who utilise State Forest areas are traditionally family run farms which draw their primary income source from grazing activities. In recent years, the underlying financial position of such specialist beef farms in NSW has not been strong;
- the gross value of production of State Forest based grazing in the UNE is estimated at \$1.26 million, with the value added component estimated at \$613,000 and generating 7 full time job equivalents.

5. A PROFILE OF GRAZING IN THE LOWER NORTH EAST CRA REGION

5.1 Definition of the Lower North East CRA Region

The Lower North East (LNE) Region constitutes all or part of nineteen State Forests of NSW management areas. They are;

- The whole of the Kempsey, Wauchope, Marsh, Kendall, Wingham, Coopernook, Gloucester, Taree, Mt Royal, Chichester, Bulahdelah, Wallaroo and Wyong areas; and
- Part of the Styx River, Dorrigo, Urunga, Walcha-Nundle, Cessnock and Mudgee areas.

The Lower North East region covers a large area that includes the lower North Coast and the New England tablelands. It runs south from Dorrigo, onto the North Coast near Urunga and down the coast to just south of Stickland State Forest, where it meets the Central CRA Region. It runs west encompassing the Wollemi National Park and Muswellbrook and north covering as far west as Nundle, Walcha and Armidale.

The land classes covered by the Lower North East Region are diverse in topography, climate and native vegetation. The two main land classes present in the region are coastal and inland. The defined boundaries of the LNE region are shown in a map of the area provided as Appendix Three.

5.2 Location of Grazing Industry

The attached map also details the location of licensed State Forest grazing areas in the LNE by permit type (occupation permits, grazing permits and leases). It is evident from the map that the major location of grazing in the LNE is:

- north and east of Armidale and west of Bellingen in the north of the CRA Region;
- between Nundle, Comboyne and Raymond Terrace in the middle of the CRA Region; and
- east of Wollombi in the south of the CRA Region.

Grazing in these areas is administered by the Mid North Coast, Macleay/Hastings, Manning and Hunter State Forest Regional Offices.

5.3 Nature of the Lower North East Forest Grazing Industry

5.3.1 *Permit and Lease Entitlements*

The LNE grazing industry utilises some 141,000 hectares of State Forest land (State Forests, 1998a) and includes occupation permits, grazing permits and leases, of which the latter consists of a variety of perpetual and term leases (Special, Settlement, Crown, Perpetual and Conditional Leases). The relevant features of each of these forms of tenure granted under the Forestry or Crown Land Tenures Act are

summarised below. Relevant information was supplied by State Forest Regional Office Representatives.

Occupation Permits and Forest Leases

- account for the majority (ie 59% in 1998) of State Forest permits issued;
- occupation permits are renewable annually while forest leases are issued for a fixed term;
- occupation permits can be terminated by State Forests with 1 months notice;
- are normally retained by the lessee for a number of years, some as long as 30 years;
- in most cases the holder of grazing rights for a parcel of State Forest land is the adjoining freehold landholder;
- rent is negotiated with the lessee on the basis of agreed productive capacity or by seeking tenders;
- in addition to State Forest rent the land is subject to council rates; and
- rent payment is usually indexed to CPI.

Grazing Permits

- are typically granted for 10-13 week periods with limited rollover renewal;
- after repeat renewal, the lessee is encouraged to convert to an occupation permit;
- are used mainly to provide drought relief/winter grazing;
- as a result, applications for Grazing Permits increase dramatically during dry periods;
- rent is charged on a livestock per head per week basis; and
- rent payment is not subject to council rates.

Leases under the Crown Lands Tenures Act

- includes land held under Crown Leases, Settlement Leases, Conditional Leases, Special Leases and Perpetual Leases that have been dedicated to State Forests;
- leases are granted either in perpetuity or for a specified term;
- leases are granted under the Crown Lands Tenures Act but administered by State Forests once dedicated;
- rental is low and a lease agreement provides control over tenure;
- council rates are applicable to leased areas and rental payment is reviewed periodically as specified in the lease agreement; and
- Dedication acts as a bar to the conversion of the lease to a purchase tenure however the leasehold may continue to be used to the degree of utilisation prior to dedication (subject to the conditions of the lease).

Lease numbers and relevant area (hectares) for each permit/lease type in the LNE are summarised in Table 5.1.

Table 5.1 Grazing Permit and Lease Entitlements, Lower North East CRA Region, 1998

Permit/Lease Type	No. of Permits	Area (ha)	Range (ha)	
			Max	Min
Occupation Permits	180	95,712	7,864	0.1
Forest Lease	1	61	61	61
Crown Leases	80	35,594	2,143	2.57
Settlement Leases	6	3,988	3,048	17
Conditional Leases	33	4,718	488	0.8
Special Leases	3	119	52	32
Perpetual Leases	1	478	478	478
Total	304	140,670		

Source: State Forest Database: DATA/PROJ/CRA/LNE, 1998

The largest lease holding in the LNE region is in excess of 7,800 hectares, whilst the minimum holding is 0.1 hectares. The contrast in these statistics illustrates the broad range in size of holdings across different lease and permit holders.

Appendix Four contains a listing of each of the lease and permit holders in the LNE region, and the corresponding area (measured in hectares) which each lease/permit covers.

Environmental Impact Studies have been performed for a number of the management areas located in the UNE. These studies recommended that there be no increase in the area grazed in State Forests. Several lease/permit areas that have been relinquished since these EIS's have not been relet by State Forests.

5.3.2 *Commercial Species Grazed*

Grazing has been occurring in the LNE State Forests for more than 100 years. Grazing activities in the forests are limited by the presence of heavy timber, steep terrain, an unimproved native grazing under-story, limited infrastructure (such as fences), infrequent watering points and the difficulties associated with mustering under these conditions. The resources available are best suited to beef cattle grazing and forest lease and permit areas are used by graziers almost solely for this purpose (pers. comm. State Forest Regional Officers 1998).

Sheep are generally not grazed in the forests as fodder types are unsuitable, fencing is inadequate, climate conditions are too moist for wool production and dingo predation is problematic. A limited number of horses may supplement cattle numbers in the CRA Region however, in total, horse numbers are insignificant.

5.3.3 *Carrying Capacities Realised*

Carrying capacities on State Forest lease or permit land are generally low. The often heavily timbered nature of the land affects the proportion of total land area that can be effectively grazed and subsequently impacts upon the quantity and quality of feed available.

Beef cattle grazing intensity in LNE State Forests varies depending upon the period of the year in which grazing occurs, seasonal conditions, the nature of commodity markets and the stock management programs of permit holders which alter from year to year. Notwithstanding these factors, average stocking rates were sourced from State Forests via published EISs and, where possible, confirmed with relevant grazing interests and NSW Agriculture. Average carrying capacities by management area and duration are summarised in the Table 5.2.

Table 5.2 Carrying Capacities by Management Area for Grazing in LNE State Forests

Management Area	Carrying Capacity (dry beasts/ha)	Duration (months)
Gloucester/Chichester	1:20	6
Walcha-Nundle/Styx River	1:20 - 1:40	6
Wingham	1:4 - 1:20	3 - 6
Kempsey/Wauchope	1:4 - 1:20	6-9
Mt. Royal	1:10	n/a

Source: State Forest EISs and pers comm NSW Agriculture and relevant graziers.

From analysis of this data and with additional input from the various representative groups, it has been assumed, for valuation purposes, that one dry beast to 20 hectares (1:20) for 6 months a year is a reasonable assessment, on average, of the carrying capacity of the State Forest lands under grazing².

The stocking rate in State forests is relatively low in comparison to other open grazing farmland. This is attributable to the heavily timbered nature of State forest grazing areas and so the lack of quality feed able to develop under the forest canopy. In order to facilitate a comparison, the average carrying capacity for natural pasture with no seed or fertiliser in the LNE is approximately 1 dry beast to 4 hectares (NSW Agriculture, 1997).

5.3.4 Reasons for State Forest Grazing

The reasons for utilising State Forest grazing opportunities are varied. Short term grazing permits are sought for the purpose of providing feed relief during periods of both drought and flood and to take advantage of opportunistic grazing (i.e. a “flush” of feed in favourable seasons. This is in contrast to the majority of Lease or occupation permit holders who utilise the areas annually as an integrated part of their farms’ grazing program. In this case, the State Forest lands are considered as supplementary to freehold area and incorporated in management and enterprise design systems, often being crucial to maintaining the viability of farm enterprises.

² In the process of taking on a lease or permit the carrying capacity of the area is assessed on site by a State Forest Representative and the prospective lessee. Personal Communications with Greg Walters, Hunter Regional Office revealed that on average, for all permits, 1:20 ratio was accepted as a reasonable assessment. This was confirmed by the survey conducted of a sample of graziers utilising State forest areas in the UNE CRA’s.

In the Northern tablelands there is a significant 'feed gap' in the winter months during which pasture growth is nominal. In anticipation of this shortfall in feed, graziers utilise adjoining forestry blocks to carry stock through this period as opposed to purchasing feed or selling stock. Removing stock from open pastures during this dormant growth period avoids overgrazing of pastures and promotes re-growth ready either for calving season in early Spring or for finishing cattle for sale. Heavy timber also provides shelter for stock during the winter months.

5.3.5 Infrastructure Investments

The general approach adopted by graziers with annual (occupation) and short-term (grazing) permits is to minimise expenditure on capital works on State Forest land due to the uncertainties associated with tenure. Maintenance of boundary fences is performed for stock management purposes, but very little internal fencing is constructed or maintained. Capital improvements are carried out by graziers more frequently on country that has perpetual and long-term lease status (Hassall & Associates survey results). However, as legislative reform associated with public lands occurs, including State Forests, and the subsequent perception by lease holders that a reduction of tenancy security is accompanies these reforms, graziers have and will continue to become less willing to invest in capital works on leased lands that are devoted to State Forests.

This minimalist approach to capital improvements is made possible due to the fact that State Forest holdings often adjoin freehold land. Yards and other stock management facilities are built and maintained on this freehold land and stock are brought to these facilities from the State Forest areas for handling.

Some capital improvements do occur. Fencing, holding yards, huts, dams and watering points are the main type of improvements undertaken. Such capital improvements on State Forest lands are subject to approval by local State Forest Offices and as a more stringent management approach has developed with regards State Forest lands, capital improvement programs are being more rigorously assessed than in the past.

Mutually beneficial situations do, however, arise. State Forest requirements for water catchment areas for fire fighting purposes often coincide with graziers' requirements for water sources for stock. Lack of water in State Forests is one of the main constraints to grazing and by creating watering points with the assistance of State Forests, prolonged tenancy of blocks can be achieved.

5.3.6 Contribution Of State Forest Based Grazing to Farm Business Performance

The farm business performance of grazing enterprises in the LNE region is dependent upon the area of land utilised, the grazing enterprise undertaken (different enterprises will have different costs and returns) and market and climatic conditions. Estimating the average farm business performance of grazing enterprises within this region is difficult due to there being limited official data. Despite the constraints presented by these data limitations, indicative estimates of the contribution made to grazing enterprises in the LNE region by State Forest based grazing were made based upon surveys of local permit and lease holders.

Important issues to consider when estimating the contribution of forest based grazing activity to the total grazing activities of a farming enterprise include the;

- range of different grazing permits and leases utilised;
- differing costs and length of utilisation associated with each of these permits;
- number of permits utilised in any given year;
- differing total areas that each permit covers;
- quality of land and therefore feed available that each permit provides; and
- differing levels of expenditure on and usage of capital improvements.

Assessing the contribution which forest based grazing makes to farm business income allows the relative importance of such grazing to individual graziers to be measured. Based on the survey of local permit and lease holders, an understanding of the varying degree to which different landholders depend on State Forests can be ascertained. Permit holders surveyed estimated a range of contribution to income by State Forest grazing of 0% to 50%. This range of contribution indicates the variance in dependence on State Forest holdings of graziers within the LNE region.

A 0% contribution indicates instances where permits were held to supplement existing freehold land, usually where the State Forest land bounded the freehold land. Reasons for holding the permit included for recreational purposes, aesthetic value, or as a natural boundary or buffer zone between landholders. Reasons may also include restricting the potential of another grazier to utilise the site where it is perceived stock may cause damage to, or breach, boundary fences and other improvements.

A 50% contribution indicated that State Forest grazing is an integral part of that graziers operation. A typical scenario is where State Forest land is stocked with breeding herds for six months of the year to allow freehold lands to be rested to facilitate pasture renewal in time for calving. Another scenario is where such land is utilised twelve months of the year for the growing out of steers and bullocks.

5.3.7 Benefits and Costs Generated

The following benefits and costs of grazing in State Forests have been identified as a result of reviewing the Environmental Impact Studies of the Management Areas in the LNE and via personal conversations with graziers and representatives from State Forest Regional Offices.

Benefits

- trampling and reduced grass component of fine fuel due to grazing and controlled burning reduces wild fire likelihood and intensity;
- lessee's are responsible for control of noxious weeds and animals;
- lessee's are responsible for boundary fence maintenance;
- financial benefits to farmers accrued from grazing state forests;
- revenue collection by State Forests for grazing permits; and
- an increase in rateable lands for local councils.

Costs

- inhibiting timber regeneration and trampling of native flora and fauna;
- frequent/uncontrolled burning by graziers; and
- competition with natural flora and fauna.

Neither data or study resources provided for a detailed assessment of net benefit or costs.

5.4 Size of the Industry

Grazing in the State Forests of the LNE covers an area of 140,670 hectares. This represents almost 3% of the entire CRA Region of 5.4 million hectares (ABS, 1998a) and 17% of the 811,600 hectares of State Forest in the LNE (State Forest, 1998a).

Currently there are 304 permits and leases for grazing in State Forests in the LNE. Due to graziers holding multiple authorities in some instances, there are an estimated 220 permit holders involved with grazing in State Forests in the LNE (State Forests, 1998b). These graziers represent 5% of a total of approximately 4,300 establishments running meat cattle in the LNE of NSW (ABS, 1998b).

Based on the 141,000 hectares covered by permits, and assuming a stocking rate of 1 dry beast in 20 ha, an estimated 7,050 cattle could be grazed in the State Forests of the LNE. This total represents less than 1% of the meat cattle population in the LNE as measured in the 1995/96 Agricultural Census (ABS, 1998b).

5.5 Socio-economic Characteristics of Lower North East Graziers

Socio-economic data pertaining to graziers in the LNE State Forests is currently being collected by the DPIE Social Assessment Unit. At the time of writing, this information was not available for incorporation in this report. Limited socio-economic data was collected first hand from grazer surveys and in discussion with NSW agency representatives (NSW Agriculture and State Forests). The socio-economic characteristics of LNE graziers, based upon surveys and discussions, along with relevant published data for north coast beef cattle grazing, are summarised below.

Family Business

All grazing enterprises interviewed were family owned and run businesses. There are, however, examples of corporately owned but privately managed properties in the region that utilise State Forest lands for grazing purposes. Their total number and occupied area is thought to be a small proportion of the total area grazed in State Forests.

Age

It is not uncommon for three generations of a family to be involved in grazing activities in the UNE. The business is family-oriented and typical of agriculture in NSW.

Skills/Training

Graziers utilising State Forest land rely on practically learned skills, rather than formal education. 'Bush' knowledge, including knowledge of water courses and resources, feed

locations and tendencies of cattle to congregate in certain areas, is essential for management of grazing in State Forest blocks. Horse skills are also essential as the terrain is unsuitable for mustering by any other means.

Importance of Grazing Income

The majority of graziers surveyed in the north of the LNE CRA Region were dependant almost solely on income derived from grazing activities on State forest and freehold land. However, moving south and east where smaller lease and permits exist, the reliance on income from grazing enterprises fell as income from other activities such as viticulture, dairying, deer farming and other activities constituted a larger proportion of total income. The contribution made by State Forest lease/permit grazing to income ranged between 0% – 50%.

Disposable Income

Estimates of total household disposable income were sourced from ABARE farm survey data for the financial year 1996/97. For specialist NSW beef cattle graziers the average per farm estimates of cash receipts and cash costs were \$83,760 and \$78,230 respectively. This produces an estimate of farm cash income of \$5,530. When operator and family labour and an allowance for depreciation are deducted, farm business loss is estimated at \$22,380. This is consistent with estimates of farm business loss of \$31,638 in 1995/96 and preliminary estimates of loss for 1997/87 of \$17,900 (ABARE, 1998). Thus, assuming graziers who are reliant upon some forest based grazing are similar to average NSW beef specialists, it can be concluded that northern forest graziers are not currently in a strong financial position.

Attitudes of Graziers

Increased emphasis on conservation of natural resources within NSW, and subsequent legislation concerning public lands, is viewed by graziers to be restrictive to grazing activities in State Forests. This view is held most strongly by holders of leases which were issued under the Crown Lands Act but have been dedicated to State Forests. A perception exists amongst graziers that the title and rights associated with such leases have been depleted.

5.6 Products Generated by the Grazing Industry

Beef production, dairying and sheep grazing in the north west are the dominant grazing activities throughout the LNE CRA Region. Based on the survey of local permit and lease holders, conversations with relevant authorities and a review of documentation, the main enterprises utilising State Forest areas for grazing were;

1. Dry cattle or cows in calf are put out onto State Forest blocks for 3-6 months over winter to spell freehold country in preparation for increased demands for feed after calving; and
2. Growing out of steers. These cattle are “bushed” as weaners and graze on State Forest land for 18-24 months. They are then relocated to tablelands for fattening or finishing or sold on as store cattle to fatteners or feedlots. This use of State Forest land represents a small proportion of the total cattle run.

6. ECONOMIC VALUE OF GRAZING, LOWER NORTH EAST CRA REGION

6.1 Values Generated from State Forest Grazing

Within RACAC (1996), acknowledgement is made of the fact that the identification of agricultural commodity values from State Forests is hampered by the absence of a specific data collection process. Therefore, values presented in computing the economic value of grazing in the LNE are intended as indicative estimates rather than identification of actual values.

6.1.1 Annual Average Grazing Units

From the preceding analysis it can be seen that for the LNE State Forests;

- total area let for grazing is 140,670 ha (Table 5.1); and
- average carrying capacity is one dry beast equivalent to 20 ha for a period of 6 months (Table 5.2)

From these figures it can be deduced that total annual LNE State Forest grazing units are 7,050 dry beast equivalents.

6.1.2 Value of Grazing Production (Gross)

In determining the gross value of grazing production, it has been necessary to consider the proportion which forest-based grazing contributes to the aggregate production of grazing enterprises. The simplest method of quantifying this is by analysing the growth (recorded as weight gain) of cattle during the period which they are grazed in forest areas. Taking into account the variety of reasons as to why graziers utilise State Forest areas, the age of cattle grazed and the conditions under which grazing occurs, (including feed availability), it is possible to estimate an average weight gain per head figure.

State Forests are utilised for grazing cattle as a feed or drought reserve, under which conditions the objective would be to maintain weight or facilitate slight weight gains. Cattle can also be grazed as part of an annual production system whereby young stock are grown out to yearlings (from 12-14 months), or older stock are grown out to two and a half years and sold at 400 plus kilograms. With these enterprises, daily weight gains may be considerable, however these high gains would only be achieved on a very small proportion of State Forest grazing areas as feed quality and quantity to facilitate these gains is rarely available.

To assess the value of forest areas to grazing and in order to account for the range of enterprises being run on State forest areas ranging from no weight gain to medium weight gain, the following assumptions have been made;

- cattle would be expected to have weight gains in the order of 0.3 kg a day (2.1 kg per week), due to the medium to low quality pasture generally available throughout the forest;
- 7,050 stock could be supported in the LNE CRA Region, given a stocking rate of 1 in 20; and
- weight gain is calculated over a six month period (26 weeks).

Therefore, the potential production from State Forest areas in the LNE is for 7,050 cattle to gain an average of 2.1 kg/week over a 26 week period. The value of this grazing can be calculated as the value of the weight gained in the forest multiplied by the cents per kilo liveweight price at which the cattle are finally sold. Based on current prices in LNE sale centres, it would be reasonable to expect an average price of \$1.20/kg liveweight. At \$1.20/kg, the weight gain from LNE stock over a six month period would be valued at \$462,000.

Table 6.1 provides a sensitivity analysis of the impact of variations in daily weight gain and cattle prices upon the value of gross production derived from State Forest areas in the LNE. Given that different types of grazing enterprises are run in State Forests and the potential growth rates of cattle grazed will depend on external conditions (eg seasonal), the gross value of grazing production in State Forests in the LNE is estimated to be between \$370,000 and \$561,000 per annum.

Table 6.1 Sensitivity Analysis for Value of Grazing Production

\$/kg liveweight	kg/day weight gain		
	0.25	0.3	0.35
1.15	368,891	442,670	516,448
1.20	384,930	461,916	538,902
1.25	400,969	481,163	561,356

6.1.3 Value of Production (Net)

Table 6.1 provides a measure of the gross value derived from conducting grazing activities within State Forests. In order to determine the net value of production derived from these enterprises, expenditure upon relevant production inputs must be attributed to the grazing enterprise. Table 6.2 provides estimates of input expenditure for cattle grazed within State Forest areas. Estimates are provided per dry beast and were derived from NSW Agriculture budgets, discussions with graziers and estimates made by Hassall & Associates.

Table 6.2 Input Expenditure Per Head of Cattle Grazed

Cost Item	Cost (\$/head)
Animal Health (fluke, tick control, buffalo fly, etc) ¹	3.22
Livestock Selling ¹	10
Mustering Expenses	7.5
Lease and Rate Payments	14.6
Total	35.32

Source: NSW Agriculture Beef Enterprise Budgets and Discussions with relevant graziers.

1. Costs are derived from NSW Agriculture Beef Enterprise Budgets. Costs are attributed to grazing for 6 months in State Forest and are assumed to be half of the annual costs

The total annual cost of production in the LNE State Forests is \$249,000 (7,050 dry beast units by \$35.32 per beast). Assuming a gross value of \$462,000, net profit, or value added, derived from forest based grazing is therefore \$213,000. Based on the sensitivity analysis in Section 6.1.2, the range of estimates for value added is from \$120,000 to \$312,000.

6.1.4 Industry Employment

Typically, the industry does not employ labour in association with forest grazing due to the low labour requirements attributable to a herd while grazing on State forest land. However, owner labour is required for;

- mustering cattle into and out of the State Forest lease, say a total of 10 hours for the average sized holding of 465 ha (1.2 days); and
- checking of fences, water points and stock, say once every 2 months for 2.5 hours over 6 months (1 Day).

The cost of mustering and checking labour is quantified at the station hand equivalent award rate, the rate that would be paid for such services should they be purchased in the market place. The rate is \$80 per day (\$21,000 per annum) as stipulated in the 1998 Farm Costs Guide (The Land, 1998). Total annual cost is therefore \$176 (\$80/day by 2.2 days) per average lease/permit area.

Given that there are 304 leases/permits in the LNE (Table 5.1) total owner labour can be estimated at \$53,500 (304 lease/permits by \$176) or 2.5 full time job equivalents (\$53,500 divide \$21 000) per annum.

6.2 State Forest Grazing Contribution to the Wider Industry

It is important to gain an understanding of the scale of contribution made by State Forests based grazing relative to the wider beef industry. A comparison of the value of State Forest grazing in the LNE in relation to the wider NSW beef cattle grazing industry can be provided by examining other indicators. Estimates of the gross value of cattle and calf production in 1995-96 are provided by ABS (1998b);

- \$115 million in the LNE CRA Region; and

- \$860 million for NSW.

From the above statistics it can be seen that the gross value of State Forest based grazing production (\$462,000) in the LNE accounts for approximately 0.4% of annual beef cattle production in the CRA Region and less than 0.05% of NSW values.

6.3 Value to the Regional Economy (Multipliers)

In Table 6.1, the total value of State Forest grazing in the LNE is estimated. It is shown that the direct impact represents \$462,000 in gross output which comprises \$213,000 in value added effects. Value added effects are an equivalent measure of Gross Domestic Product (GDP) that does not double count the cost of inputs and represents the returns to labour, capital, land and management. Estimated value added effects include payments of \$53,500 to 2.5 full time equivalent employees.

Through the application of regional input-output multipliers, the aggregate (direct and indirect) economic contribution of State Forest based grazing in the LNE can be measured. At the time of writing, this analysis was not completed.

Table 6.3 Value of State Forest Grazing to the Upper North East Regional Economy

Value Item	Direct Impact	Type II Multiplier	Flow -on Impact	Total Impact
Gross Output (\$)	462,000	n/a	n/a	n/a
Value Added (\$)	213,000	n/a	n/a	n/a
Labour Income (\$)	53,500	n/a	n/a	n/a
Employment (no.)	2.5	n/a	n/a	n/a

NB. At the time of document submission this analysis had not been completed.

7. CONCLUDING COMMENTS FOR LOWER NORTH EAST CRA REGION

The profile and economic evaluation of grazing in State Forests in the LNE region can be summarised as follows;

- grazing permits and lease entitlements cover 140,670 hectares of State Forest, with occupation permits being the most common form of authority;
- the average carrying capacity of State Forest lands under grazing is estimated at one dry beast to 20 hectares, for 6 months of the year;
- the contribution which State Forest based grazing makes to the overall grazing enterprise of graziers in this region ranges from 0% to 50% of total grazing income;
- this reflects the variation in dependence on State Forests areas amongst different graziers, and is strongly influenced by factors such as the nature of the grazing system, the type of permit or lease held by landholders, the total area which this authority relates to and the level and reliance upon capital improvements on forest lands;
- permit and lease holders represent an estimated 5% of total establishments running meat cattle in the LNE;
- an estimated 7,050 cattle could be grazed in the State Forests of the LNE, representing approximately 1% of the total meat cattle population in the LNE;
- graziers who utilise State Forest areas are traditionally family run farms which, in the northern section of the LNE draw their income primarily from grazing activities, but in the southern section of the LNE also rely upon other industries including viticulture and dairying. In recent years, the underlying financial position of beef specialist farms in NSW has not been strong;
- the gross value of production of State Forest based grazing in the LNE is estimated at \$462,000, with the value added component estimated at \$213,000 and generating 2.5 full time job equivalents.

8. REFERENCES

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9. PERSONS CONTACTED AS PART OF THE STUDY

<i>Association</i>	<i>Position</i>	<i>Contact</i>
Resource and Conservation Division		
Sydney Office	Environmental Planning Officer	Steve Hartley
State Forest Regional Offices		
Northern Rivers	Sales Manager	Ross Sigley
Mid North Coast	Resources Officer	Rob Kirwood
Macleay/Hastings	Planning Manager	John Fulton
Manning	CRA Coordinator for the LNE	John Murray
Hunter	Regional Administration Manager	Greg Walters
State Forest Head Office Sydney		
Marketing Division	Project Manager	Peter Crichton
GIS	Production and Analysis Manager	Wayne Mackey
Farmer Representatives		
Uralla, LNE	Owner Manager	Mr. J Weston
Kempsey, LNE	“	Mr. HE McMaugh
Wauchope, LNE	“	Mr. J Clayworth
Armidale, LNE	“	Mr. CN DeHugard
Casino, UNE	“	Mr. JR Burke
Cessnock, LNE	“	Mr. N Lavender
Paxton, LNE	“	Mr. E Davies
Ourimbah, LNE	“	Mr. T Norman
Glenn Innes, UNE	“	Mr. Errol Watters
Glenn Innes, UNE	“	Mr. Eric Miller
Kyogle, UNE	“	Mr. O'Reilly
Grafton, UNE	“	Mr. R Dyason
Paxton, LNE	“	Mr. D Heslopp
Gloucester, LNE	“	Mrs. Sonia Bishop
LNE	“	Mr. P Kontellis
Nabiac, LNE	“	Mr. R Durran
Yarrowitch, LNE	“	Mr. J Williamson
Nymbodia, UNE	“	Mr. G Cartmill
Grafton, UNE	“	Mr. B Adams
Local Government		
Walcha Shire Council	Rates Division	
Severn Shire Council	Rates Division	
Dumaresq Shire Council	Rates Division	
Gloucester Shire Council	Rates Division	
NSW Agriculture		
Glen Innes	Beef Cattle Officer	Alister Raynor
Orange	Technical Specialist, Pasture Grazing Beef Products	Bill McEnan
Casino	Beef Cattle Officer	Bill Hoffmans
Taree	Beef Cattle Officer	Michael Beer
Other Organisations		
PIBA, Tamworth	Rural Lending Officer	Sam Newsome
Australian Bureau of Statistics	Statistic Consultant	Ross Duker
National Farmers Federation Rep	NSW CRA/RFA Steering Committee Representative	Glin Tosh
Valuer Generals Office - Grafton		Joe Feeney

10. ABBREVIATIONS USED IN THIS REPORT

CRA	Comprehensive Regional Assessment
DUAP	Department of Urban Affairs and Planning
LNE	Lower North East
RACD	Resource and Conservation Division
RFA	Regional Forest Agreement
SF	State Forests
SF NSW	State Forests of New South Wales
UNE	Upper North East
CARE	Centre for Agricultural and Resource Economics
CPI	Consumer Price Index
EIS	Environmental Impact Statement
DUAP	Department of Urban Affairs and Planning

APPENDICES

Appendix One Upper North East CRA Region Map

Appendix Two Lease and Permit Holders in the UNE Region

NUMBER	OCC_PERM	LEASE	GRAZ_PERM	KEY	USE	AREA (HA)
2	'13738'	"	0	2	'GRAZING'	1109.00
3	'1128'	"	0	2	'GRAZING/COTTAGE'	1.36
4	'13927'	"	0	2	'GRAZING'	683.97
5	'12754'	"	0	2	'GRAZING'	6.16
6	'4319'	"	0	2	'GRAZING'	214.11
7	'13289'	"	0	2	'GRAZING'	32.64
8	'12479'	"	0	2	'GRAZING'	97.26
9	'4319'	"	0	2	'GRAZING'	0.23
10	'4781'	"	0	2	'GRAZING'	160.40
11	'4781'	"	0	2	'GRAZING'	2.11
12	'15007'	"	0	2	'GRAZING'	92.74
13	'6430'	"	0	2	'GRAZING'	318.05
14	'12733'	"	0	2	'GRAZING'	83.76
15	'10582'	"	0	2	'GRAZING'	58.84
16	'12026'	"	0	2	'GRAZING'	622.39
17	'12317'	"	0	2	'GRAZING'	185.05
18	"	"	10006	3	'GRAZING'	1.80
19	'6815'	"	0	2	'GRAZING'	202.16
20	'3320'	"	0	2	'GRAZING'	345.90
21	'2618'	"	0	2	'GRAZING'	86.90
22	'4379'	"	0	2	'GRAZING'	139.69
23	'13300'	"	0	2	'GRAZING'	311.97
24	'2620'	"	0	2	'GRAZING'	6.26
25	'2620'	"	0	2	'GRAZING'	14.42
26	'6174'	"	0	2	'GRAZING'	1.67
27	'13734'	"	0	2	'GRAZING'	29.59
28	'2609'	"	0	2	'GRAZING'	648.00
29	'5151'	"	0	2	'GRAZING'	43.93
30	'1441'	"	0	2	'GRAZING'	891.43
31	'5988'	"	0	2	'GRAZING'	12.24
32	'5988'	"	0	2	'GRAZING'	249.50
33	'2982'	"	0	2	'GRAZING'	274.08
34	'10314'	"	0	2	'GRAZING'	168.67
35	"	"	10001	3	'GRAZING'	39.94
36	"	"	10003	3	'GRAZING'	160.08
37	"	"	10008	3	'GRAZING'	802.92
38	"	"	10002	3	'GRAZING'	114.16
39	"	"	10000	3	'GRAZING'	212.30
40	'12055'	"	0	2	'GRAZING'	77.55
42	'7765'	"	0	2	'GRAZING'	600.70
43	"	"	10007	3	'GRAZING'	35.44
44	'13729'	"	0	2	'GRAZING'	93.82
45	'13735'	"	0	2	'GRAZING'	2.37
46	'2389'	"	0	2	'GRAZING'	169.63
47	"	"	10009	3	'GRAZING'	615.04
48	'4996'	"	0	2	'GRAZING'	1048.31
49	'14045'	"	0	2	'GRAZING'	4.46
50	'13574'	"	0	2	'GRAZING'	56.82
51	'4266'	"	0	2	'GRAZING'	162.82
52	'13164'	"	0	2	'GRAZING'	391.94
53	'13290'	"	0	2	'GRAZING'	1018.50
54	"	'Cn. L. 1918/6'	0	1	'GRAZING'	174.46
55	'11826'	"	0	2	'GRAZING'	49.44
56	'12712'	"	0	2	'GRAZING'	2092.92
57	'15023'	"	0	2	'GRAZING'	1876.83
58	'12995'	"	0	2	'GRAZING'	46.34
59	"	'Cn. L. 1925/8'	0	1	'GRAZING'	46.18
60	"	'Cn. L. 1919/12'	0	1	'GRAZING'	129.39
61	'2624'	"	0	2	'GRAZING'	521.19
62	'13626'	"	0	2	'GRAZING'	41.83
63	"	'Pt. Cn. L. 1914/21'	0	1	'GRAZING'	136.23
64	"	'Cn. L. 1974/2'	0	1	'GRAZING'	257.54
65	'13378'	"	0	2	'GRAZING'	757.72
66	'13626'	"	0	2	'GRAZING'	5.41
68	"	'Cn. L. 1914/34'	0	1	'GRAZING'	213.19
72	'2386'	"	0	2	'GRAZING'	189.62
73	'14037'	"	0	2	'GRAZING'	135.12
74	'2382'	"	0	2	'GRAZING'	16.46
75	"	'Cn. L. 1916/3'	0	1	'GRAZING'	278.76
76	'14871'	"	0	2	'GRAZING'	275.97
77	'14857'	"	0	2	'GRAZING'	39.11
78	'13741'	"	0	2	'GRAZING'	731.34
79	'12417'	"	0	2	'GRAZING'	375.52
80	'13942'	"	0	2	'GRAZING'	48.18
81	"	'Cn. L. 1934/03'	0	1	'GRAZING'	1520.78
82	'13155'	"	0	2	'GRAZING'	0.67

83	'2157'	"	0	2	'GRAZING'	377.22
84	'5061'	"	0	2	'GRAZING'	29.55
85	"	'Cn. L. 1919/13'	0	1	'GRAZING'	1026.13
86	"	'Cn. L. 1916/01'	0	1	'GRAZING'	446.71
87	"	'Cn. L. 1931/03'	0	1	'GRAZING'	807.35
NUMBER	OCC_PERM	LEASE	GRAZ_PERM	KEY	USE	AREA (HA)
88	'4681'	"	0	2	'GRAZING'	4.02
89	'13937'	"	0	2	'GRAZING'	57.27
90	"	'C. L. 1921/02'	0	1	'GRAZING'	259.84
91	'11014'	"	0	2	'GRAZING'	37.61
92	"	'Cn. L. 1915/07'	0	1	'GRAZING'	541.39
93	"	'Cn. L. 1948/03'	0	1	'GRAZING'	480.21
94	'CX0005'	"	0	2	'GRAZING'	234.82
95	"	'Cn. L. 1916/24'	0	1	'GRAZING'	416.67
96	'385'	"	0	2	'GRAZING'	243.33
97	'14318'	"	0	2	'GRAZING'	1034.66
99	"	'Cn. L. 1939/02'	0	1	'GRAZING'	547.73
100	"	'Cn. L. 1916/30'	0	1	'GRAZING'	1121.24
101	'10763'	"	0	2	'GRAZING'	1176.34
102	"	'Cn. L. 1918/07'	0	1	'GRAZING'	908.24
103	'14312'	"	0	2	'GRAZING'	308.51
104	"	'C. L. 1917/01'	0	1	'GRAZING'	166.63
107	"	'Cn. L. 1931/09'	0	1	'GRAZING'	826.10
110	'02606'	"	0	2	'GRAZING'	975.56
111	'640'	"	0	2	'GRAZING'	633.53
112	"	'Cn. L. 1941/03'	0	1	'GRAZING'	72.62
113	"	'Cn. L. 1941/04'	0	1	'GRAZING'	721.91
114	"	'Cn. L. 1919/21'	0	1	'GRAZING'	992.24
115	'14858'	"	0	2	'GRAZING'	2066.46
116	'11524'	"	0	2	'GRAZING'	982.50
117	"	'Cn. L. 1923/22'	0	1	'GRAZING'	702.29
118	"	'Pt. Cn. L. 1917/06'	0	1	'GRAZING'	483.65
119	'12374'	"	0	2	'GRAZING'	627.59
120	'14084'	"	0	2	'GRAZING'	585.37
121	'12386'	"	0	2	'GRAZING'	443.43
122	'2404'	"	0	2	'GRAZING'	1264.74
123	"	'Cn. L. 1930/09'	0	1	'GRAZING'	217.98
124	'02605'	"	0	2	'GRAZING'	120.35
125	"	'Cn. L. 1931/06'	0	1	'GRAZING'	183.14
126	'10448'	"	0	2	'GRAZING'	3604.46
127	'13282'	"	0	2	'GRAZING'	494.04
128	'02401'	"	0	2	'GRAZING'	192.90
129	'11820'	"	0	2	'GRAZING'	1382.00
130	'02405'	"	0	2	'GRAZING'	848.09
131	'12739'	"	0	2	'GRAZING'	41.35
132	'02421'	"	0	2	'GRAZING'	277.04
133	"	'Cn. L. 1919/08'	0	1	'GRAZING'	1004.63
134	'1021'	"	0	2	'GRAZING'	277.52
135	"	'Cn. L. 1929/02'	0	1	'GRAZING'	398.08
136	"	'Cn. L. 1919/59'	0	1	'GRAZING'	874.08
137	"	'Cn. L. 1919/42'	0	1	'GRAZING'	539.88
141	"	'Pt. Cn. L. 1931/02'	0	1	'GRAZING'	267.52
142	'243'	"	0	2	'GRAZING'	231.59
143	'5032'	"	0	2	'GRAZING'	634.56
148	'11820'	"	0	2	'GRAZING'	15.06
149	"	'Cn. L. 1917/04'	0	1	'GRAZING'	1034.48
150	"	'Cn. L. 1921/03'	0	1	'GRAZING'	349.63
151	'3105'	"	0	2	'GRAZING'	245.60
152	"	'Cn. L. 1919/11'	0	1	'GRAZING'	942.64
156	'13092'	"	0	2	'GRAZING'	242.25
157	"	'Pt. Cn. L. 1920/16'	0	1	'GRAZING'	545.15
159	"	'Cn. L. 1934/05'	0	1	'GRAZING'	183.06
160	'6160'	"	0	2	'GRAZING'	375.99
161	"	'Cn. L. 1920/31'	0	1	'GRAZING'	250.27
162	"	'Cn. L. 1918/09'	0	1	'GRAZING'	1770.55
163	'15003'	"	0	2	'GRAZING'	743.80
167	'12012'	"	0	2	'GRAZING'	513.86
169	"	'Cn. L. 1936/03'	0	1	'GRAZING'	1762.95
171	'13746'	"	0	2	'GRAZING'	1385.20
172	'14392'	"	0	2	'GRAZING'	67.84
173	'2406'	"	0	2	'GRAZING'	698.35
174	'13949'	"	0	2	'GRAZING'	5.29
175	'13949'	"	0	2	'GRAZING'	51.72
176	'12004'	"	0	2	'GRAZING'	600.75
177	'4386'	"	0	2	'GRAZING'	244.03
178	'14297'	"	0	2	'GRAZING'	1344.48
180	'12012'	"	0	2	'GRAZING'	398.89
181	"	'Cn. L. 1914/13'	0	1	'GRAZING'	1344.49
182	'14300'	"	0	2	'GRAZING'	782.34
183	"	'Cn. L. 1932/6'	0	1	'GRAZING'	1109.20

184	'13737'	"	0	2	'GRAZING'	263.64
185	"	'C. L. 1912/2'	0	1	'GRAZING'	120.83
186	'CX0010'	"	0	2	'GRAZING'	2277.18
187	'CX0009'	"	0	2	'GRAZING'	873.15
188	"	'C. L. 1914/13'	0	1	'GRAZING'	112.71
189	"	'Cn. L. 1919/49'	0	1	'GRAZING'	972.86
190	"	'C. L. 1919/29'	0	1	'GRAZING'	123.88
191	"	'Cn. L. 1989/1'	0	1	'GRAZING'	46.46
192	'15018'	"	0	2	'GRAZING'	6087.53
193	'14311'	"	0	2	'GRAZING'	1689.52
194	'CX0012'	"	0	2	'GRAZING'	1489.84
NUMBER	OCC_PERM	LEASE	GRAZ_PERM	KEY	USE	AREA (HA)
195	"	'Pt. Cn. L. 1922/15'	0	1	'GRAZING'	856.68
196	'14283'	"	0	2	'GRAZING'	331.06
197	"	'Pt. Cn. L. 1913/10'	0	1	'GRAZING'	292.04
199	'4722'	"	0	2	'GRAZING'	183.16
201	"	'Cn. L. 1913/9'	0	1	'GRAZING'	669.88
202	"	'Cn. L. 1919/3'	0	1	'GRAZING'	254.33
203	'CX0011'	"	0	2	'GRAZING'	4300.44
204	"	'C. L. 1926/05'	0	1	'GRAZING'	25.25
207	'10504'	"	0	2	'GRAZING'	7409.92
208	'CX0021'	"	0	2	'GRAZING'	186.29
209	"	'C. L. 1913/4'	0	1	'GRAZING'	390.15
210	"	'C. L. 1926/05'	0	1	'GRAZING'	358.15
211	'2623'	"	0	2	'GRAZING'	1962.16
212	"	'Sp. L. 1958/50'	0	1	'GRAZING'	162.41
213	"	'C. L. 1926/05'	0	1	'GRAZING'	46.94
215	'2410'	"	0	2	'GRAZING'	239.67
216	"	'C. L. 1918/08'	0	1	'GRAZING'	141.79
218	"	'Cn. L. 1914/26'	0	1	'GRAZING'	966.13
219	"	'Cn. L. 1925/08'	0	1	'GRAZING'	265.24
220	'14384'	"	0	2	'GRAZING'	2268.98
223	'2409'	"	0	2	'GRAZING'	2221.91
224	'14284'	"	0	2	'GRAZING'	118.39
226	'14287'	"	0	2	'GRAZING'	1.07
227	'14287'	"	0	2	'GRAZING'	1240.62
228	'14289'	"	0	2	'GRAZING'	679.66
229	'13287'	"	0	2	'GRAZING'	2591.77
230	"	'Cn. L. 1920/02'	0	1	'GRAZING'	2018.53
231	"	'Cn. L. 1952/04'	0	1	'GRAZING'	360.24
232	'15006'	"	0	2	'GRAZING'	1650.35
233	'5052'	"	0	2	'GRAZING'	884.67
234	"	'Pt. Cn. L. 1914/21'	0	1	'GRAZING'	249.58
235	"	'Cn. L. 1919/39'	0	1	'GRAZING'	887.43
236	"	'Cn. L. 1921/17'	0	1	'GRAZING'	489.01
237	"	'Cn. L. 1920/35'	0	1	'GRAZING'	509.02
238	"	'Cn. L. 1932/17'	0	1	'GRAZING'	771.54
239	'14385'	"	0	2	'GRAZING'	2843.38
240	'CX0001'	"	0	2	'GRAZING'	537.62
241	"	'Cn. L. 1919/83'	0	1	'GRAZING'	1457.43
242	"	'Cn. L. 1919/83'	0	1	'GRAZING'	21.49
243	'13045'	"	0	2	'GRAZING'	856.43
244	"	'Cn. L. 1929/03'	0	1	'GRAZING'	688.22
246	"	'Cn. L. 1919/35'	0	1	'GRAZING'	458.26
247	"	'Cn. L. 1919/70'	0	1	'GRAZING'	1154.75
248	"	'Cn. L. 1919/68'	0	1	'GRAZING'	1097.01
249	'5910'	"	0	2	'GRAZING'	1287.57
251	"	'Cn. L. 1919/75'	0	1	'GRAZING'	1035.28
252	"	'C. L. 1923/01'	0	1	'GRAZING'	162.14
253	'14292'	"	0	2	'GRAZING'	67.95
254	"	'Cn. L. 1919/52'	0	1	'GRAZING'	1196.38
255	'5052'	"	0	2	'GRAZING'	694.75
256	"	'C. L. 1910/85'	0	1	'GRAZING'	104.72
257	'1728'	"	0	2	'GRAZING'	833.05
258	'11290'	"	0	2	'GRAZING'	827.91
259	'CX0016'	"	0	2	'GRAZING'	2067.95
260	'14388'	"	0	2	'GRAZING'	66.49
261	'10892'	"	0	2	'GRAZING'	529.40
262	'14086'	"	0	2	'GRAZING'	1896.78
263	'13105'	"	0	2	'GRAZING'	441.17
264	'13285'	"	0	2	'GRAZING'	324.75
265	'15015'	"	0	2	'GRAZING'	880.91
266	'13293'	"	0	2	'GRAZING'	150.80
267	'13285'	"	0	2	'GRAZING'	488.60
268	"	'Cn. L. 1944/6'	0	1	'GRAZING'	375.58
269	'14029'	"	0	2	'GRAZING'	1579.67
270	"	'Cn. L. 1944/6'	0	1	'GRAZING'	4.07
271	'8725'	"	0	2	'GRAZING'	3.73
272	'11506'	"	0	2	'GRAZING'	523.79
273	"	'SL. 1919/01'	0	1	'GRAZING'	673.49

274	'2381'	"	0	2	'GRAZING'	1583.93
275	'8725'	"	0	2	'GRAZING'	22.39
277	'11290'	"	0	2	'GRAZING'	503.18
278	'8725'	"	0	2	'GRAZING'	0.71
279	"	'C. L. 1918/06'	0	1	'GRAZING'	85.16
280	"	'C. L. 1914/11'	0	1	'GRAZING'	154.59
281	'14085'	"	0	2	'GRAZING'	3646.01
282	'14866'	"	0	2	'GRAZING'	53.73
283	'13950'	"	0	2	'GRAZING'	40.31
284	"	'Cn. L. 1946/02'	0	1	'GRAZING'	1050.47
285	"	'Pt. Cn. L. 1912/23'	0	1	'GRAZING'	83.76
286	"	'Cn. L. 1915/17'	0	1	'GRAZING'	810.71
287	"	'Cn. L. 1919/47'	0	1	'GRAZING'	267.71
288	"	'Cn. L. 1952/3'	0	1	'GRAZING'	208.86
289	"	'Cn. L. 1922/15'	0	1	'GRAZING'	104.60
290	"	'C. L. 1910/102'	0	1	'GRAZING'	81.25
291	"	'Cn. L. 1934/18'	0	1	'GRAZING'	630.36
NUMBER	OCC_PERM	LEASE	GRAZ_PERM	KEY	USE	AREA (HA)
292	'14099'	"	0	2	'GRAZING'	294.69
293	'2379'	"	0	2	'GRAZING'	518.70
294	'12464'	"	0	2	'GRAZING'	197.99
295	'13556'	"	0	2	'GRAZING'	5039.04
298	'11086'	"	0	2	'GRAZING'	394.07
299	'14383'	"	0	2	'GRAZING'	49.03
300	'14277'	"	0	2	'GRAZING'	266.58
301	'14088'	"	0	2	'GRAZING'	414.01
302	'14087'	"	0	2	'GRAZING'	5458.20
303	'2651'	"	0	2	'GRAZING'	258.07
304	'2314'	"	0	2	'GRAZING'	176.54
305	'14325'	"	0	2	'GRAZING'	1191.62
306	'2380'	"	0	2	'GRAZING'	1.53
307	'10807'	"	0	2	'GRAZING'	825.06
308	'11131'	"	0	2	'GRAZING'	459.82
309	'2397'	"	0	2	'GRAZING'	495.24
310	'13068'	"	0	2	'GRAZING'	703.32
311	'14381'	"	0	2	'GRAZING'	775.63
312	'13539'	"	0	2	'GRAZING'	1429.41
313	'NR0001'	"	0	2	'GRAZING'	3680.96
314	'2617'	"	0	2	'GRAZING'	3429.53
315	'13068'	"	0	2	'GRAZING'	5142.05
317	'7669'	"	0	2	'GRAZING'	15.26
318	'13562'	"	0	2	'GRAZING'	1276.46
319	'13541'	"	0	2	'GRAZING'	421.35
320	'14861'	"	0	2	'GRAZING'	428.38
321	'3587'	"	0	2	'GRAZING'	1298.88
322	'13632'	"	0	2	'GRAZING'	2717.00
324	"	'Cn. L. 1931/3'	0	1	'GRAZING'	1809.84
325	"	'Sp. L. 1973/03'	0	1	'GRAZING'	1657.90
326	'13546'	"	0	2	'GRAZING'	3767.69
327	'13557'	"	0	2	'GRAZING'	948.88
328	"	'Cn. L. 1939/1'	0	1	'GRAZING'	1596.65
329	"	"	10008	3	'GRAZING'	5802.50
330	"	'Cn. L. 1937/2'	0	1	'GRAZING'	536.05
331	'13315'	"	0	2	'GRAZING'	184.13
332	"	'Cn. L. 1956/1'	0	1	'GRAZING'	404.37
333	"	'Cn. L. 1938/13'	0	1	'GRAZING'	1350.85
334	"	'Pt. Cn. L. 1938/17'	0	1	'GRAZING'	197.76
335	"	'Cn. L. 1935/13'	0	1	'GRAZING'	1107.21
337	'13318'	"	0	2	'GRAZING'	77.56
339	'13315'	"	0	2	'GRAZING'	710.67
340	"	'Cn. L. 1938/20'	0	1	'GRAZING'	1890.31
344	"	'Cn. L. 1938/18'	0	1	'GRAZING'	1026.89
346	"	'Cn. L. 1939/2'	0	1	'GRAZING'	893.71
350	'14880'	"	0	2	'GRAZING'	442.88
351	'13567'	"	0	2	'GRAZING'	11.10
352	"	'Cn. L. 1938/14'	0	1	'GRAZING'	781.84
354	'13567'	"	0	2	'GRAZING'	380.81
355	'13316'	"	0	2	'GRAZING'	10239.97
356	'14286'	"	0	2	'GRAZING'	151.61
357	'11955'	"	0	2	'GRAZING'	2355.66
358	'2422'	"	0	2	'GRAZING'	24.68
359	'13312'	"	0	2	'GRAZING'	1086.13
360	'13555'	"	0	2	'GRAZING'	1342.45
361	'14870'	"	0	2	'GRAZING'	6847.96
362	"	'Cn. L. 1926/1'	0	1	'GRAZING'	522.70
363	'13569'	"	0	2	'GRAZING'	492.13
364	'13567'	"	0	2	'GRAZING'	355.05
365	"	'Cn. L. 1929/15'	0	1	'GRAZING'	374.30
366	"	'Pt. Cn. L. 1922/16'	0	1	'GRAZING'	468.21
367	"	'Cn. L. 1928/6'	0	1	'GRAZING'	759.94

369	'13315'	"	0	2	'GRAZING'	1.42
372	'13315'	"	0	2	'GRAZING'	3.03
375	"	'Cn. L. 1930/5'	0	1	'GRAZING'	789.90
376	"	'Cn. L. 1936/15'	0	1	'GRAZING'	74.95
377	"	'Cn. L. 1918/15'	0	1	'GRAZING'	549.69
378	"	'Pt. Cn. L. 1936/9'	0	1	'GRAZING'	122.29
379	"	'C. L. 1944/1'	0	1	'GRAZING'	1002.53
380	"	'Cn. L. 1984/1'	0	1	'GRAZING'	610.84
381	"	'Cn. L. 1938/21'	0	1	'GRAZING'	2238.51
382	"	'Cn. L. 1936/2'	0	1	'GRAZING'	799.96
383	"	'Cn. L. 1932/3'	0	1	'GRAZING'	1167.51
384	'9409'	"	0	2	'GRAZING'	128.04
385	"	'C. L. 1914/2'	0	1	'GRAZING'	273.21
386	'2400'	"	0	2	'GRAZING'	93.09
387	'2398'	"	0	2	'GRAZING'	60.24
388	'11206'	"	0	2	'GRAZING'	346.87
389	'2400'	"	0	2	'GRAZING'	1407.26
390	'2400'	"	0	2	'GRAZING'	54.33
391	'2385'	"	0	2	'GRAZING'	1774.26
392	"	'Pt. Cn. L. 1938/15'	0	1	'GRAZING'	438.46
393	'3190'	"	0	2	'GRAZING'	1163.50
396	"	'C. L. 1912/17'	0	1	'GRAZING'	180.96
397	'13552'	"	0	2	'GRAZING'	1193.93
NUMBER	OCC_PERM	LEASE	GRAZ_PERM	KEY	USE	AREA (HA)
398	"	'Cn. L. 1919/14'	0	1	'GRAZING'	694.05
399	"	'Cn. L. 1938/19'	0	1	'GRAZING'	2784.67
400	'2399'	"	0	2	'GRAZING'	778.93
401	'13552'	"	0	2	'GRAZING'	0.10
402	'13313'	"	0	2	'GRAZING'	718.71
403	"	'Cn. L. 1922/13'	0	1	'GRAZING'	721.09
404	'14279'	"	0	2	'GRAZING'	381.91
405	"	'C. L. 1920/28'	0	1	'GRAZING'	231.62
406	'4109'	"	0	2	'GRAZING'	883.24
407	"	'Cn. L. 1922/18'	0	1	'GRAZING'	1411.58
408	'2615'	"	0	2	'GRAZING'	2342.07
409	"	'Pt. Cn. L. 1926/5'	0	1	'GRAZING'	480.02
410	"	'Cn. L. 1929/09'	0	1	'GRAZING'	2314.78
411	"	'C. L. 1918/03'	0	1	'GRAZING'	118.79
412	'930'	"	0	2	'GRAZING'	2930.82
413	"	'Pt. Cn. L. 1929/16'	0	1	'GRAZING'	666.55
414	'14279'	"	0	2	'GRAZING'	449.24
415	"	'Cn. L. 1946/1'	0	1	'GRAZING'	332.55
417	'13648'	"	0	2	'GRAZING'	4263.60
418	"	'Cn. L. 1941/03'	0	1	'GRAZING'	1762.33
419	'2402'	"	0	2	'GRAZING'	924.78
420	'15014'	"	0	2	'GRAZING'	819.06
421	'13946'	"	0	2	'GRAZING'	1170.62
422	"	'Pt. C. L. 1912/05'	0	1	'GRAZING'	261.20
423	'2418'	"	0	2	'GRAZING'	454.34
424	'2420'	"	0	2	'GRAZING'	1745.72
425	"	'Pt. Cn. L. 1917/4'	0	1	'GRAZING'	574.15
426	'13529'	"	0	2	'GRAZING'	1885.37
427	'2402'	"	0	2	'GRAZING'	4689.85
428	'2601'	"	0	2	'GRAZING'	265.60
429	"	'Pt. Cn. L. 1917/8'	0	1	'GRAZING'	694.99
430	"	'Cn. L. 1918/07'	0	1	'GRAZING'	931.78
431	'13543'	"	0	2	'GRAZING'	731.60
432	"	'Cn. L. 1940/17'	0	1	'GRAZING'	1833.84
433	'13948'	"	0	2	'GRAZING'	1242.08
434	'14376'	"	0	2	'GRAZING'	468.09
435	'14865'	"	0	2	'GRAZING'	266.48
436	"	'Cn. L. 1940/18'	0	1	'GRAZING'	2596.13
437	'2411'	"	0	2	'GRAZING'	28.32
438	'14027'	"	0	2	'GRAZING'	23.44
439	'14027'	"	0	2	'GRAZING'	0.70
440	'2416'	"	0	2	'GRAZING'	2591.98
441	"	'Cn. L. 1940/07'	0	1	'GRAZING'	1019.31
442	'14043'	"	0	2	'GRAZING'	58.55
443	'14396'	"	0	2	'GRAZING'	40.32
444	"	'Pt. Cn. L. 1912/02'	0	1	'GRAZING'	886.76
445	'CX0013'	"	0	2	'GRAZING'	566.80
446	"	'Cn. L. 1940/14'	0	1	'GRAZING'	2800.59
447	"	'Cn. L. 1940/04'	0	1	'GRAZING'	1761.86
448	"	'Cn. L. 1940/02'	0	1	'GRAZING'	1769.70
449	"	'Cn. L. 1940/03'	0	1	'GRAZING'	2231.51
450	'1202'	"	0	2	'GRAZING'	598.57
451	'14400'	"	0	2	'GRAZING'	46.73
452	"	'Cn. L. 1940/15'	0	1	'GRAZING'	1341.16
453	'2402'	"	0	2	'GRAZING'	5.60
454	'13559'	"	0	2	'GRAZING'	6707.78

455	'13559'	"	0	2	'GRAZING'	10104.46
456	"	'Cn. L. 1940/05'	0	1	'GRAZING'	1655.98
457	'13548'	"	0	2	'GRAZING'	6105.25
459	"	'Cn. L. 1940/13'	0	1	'GRAZING'	2073.52
460	'12963'	"	0	2	'GRAZING'	3557.17
461	'2396'	"	0	2	'GRAZING'	7529.36
462	'2394'	"	0	2	'GRAZING'	3553.13
463	'13310'	"	0	2	'GRAZING'	3055.21
464	"	'Pt. Cn. L. 1938/8'	0	1	'GRAZING'	101.48
465	"	'Cn. L. 1938/9'	0	1	'GRAZING'	96.13
468	"	'Cn. L. 1938/10'	0	1	'GRAZING'	216.28
469	"	'Cn. L. 1940/23'	0	1	'GRAZING'	1080.28
470	"	'Cn. L. 1940/24'	0	1	'GRAZING'	920.63
471	'13559'	"	0	2	'GRAZING'	11.13
472	'12670'	"	0	2	'RESTING Paddock'	9.09
473	'3937'	"	0	2	'GRAZING'	4597.01
474	'2411'	"	0	2	'GRAZING'	1754.03
475	"	'Cn. L. 1914/09'	0	1	'GRAZING'	219.71
476	"	'Cn. L. 1928/11'	0	1	'GRAZING'	925.21
477	'13309'	"	0	2	'GRAZING'	565.55
478	'5206'	"	0	2	'GRAZING'	228.46
479	'519'	"	0	2	'GRAZING'	1102.36
480	'8061'	"	0	2	'GRAZING'	482.65
481	'13566'	"	0	2	'GRAZING'	951.37
482	'9868'	"	0	2	'GRAZING'	479.61
483	'13302'	"	0	2	'GRAZING'	483.08
484	'12492'	"	0	2	'GRAZING'	199.75
485	'6471'	"	0	2	'GRAZING'	22.17
486	'14042'	"	0	2	'GRAZING'	746.60
NUMBER	OCC_PERM	LEASE	GRAZ_PERM	KEY	USE	AREA (HA)
487	'13939'	"	0	2	'GRAZING'	1589.14
488	'14395'	"	0	2	'GRAZING'	1205.94
490	'12492'	"	0	2	'GRAZING'	42.25
491	"	'Cn. L. 1917/10'	0	1	'GRAZING'	288.85
492	"	'Cn. L. 1917/09'	0	1	'GRAZING'	335.78
493	'2388'	"	0	2	'GRAZING'	0.95
494	'2388'	"	0	2	'GRAZING'	4.19
495	'2616'	"	0	2	'GRAZING'	4.67
496	"	'pt. Cn. L. 1953/01'	0	1	'GRAZING'	173.76
497	'14656'	"	0	2	'GRAZING'	159.33
498	'2622'	"	0	2	'GRAZING'	101.14

Appendix Three Lower North East CRA Region Map

Appendix Four Lease and Permit Holders in the LNE Region

No.	LEASE TYPE	KEY	USE	AREA (HA)	No.	LEASE TYPE	KEY	USE	AREA (HA)
2	'Cn.L.No.1939/1'	1	'GRAZING'	516.19	80	'O.P.No.14458'	2	'GRAZING'	88.56
3	'O.P.No.14398'	2	'GRAZING'	145.69	81	'O.P.No.14628'	2	'GRAZING'	0.10
4	'O.P.No.2407'	2	'GRAZING'	99.58	82	'O.P.No.14628'	2	'GRAZING'	3.62
5	'O.P.No.12394'	2	'GRAZING'	865.17	83	'O.P.No.14628'	2	'GRAZING'	70.27
6	'O.P.No.12489'	2	'GRAZING'	9.23	84	'O.P.No.14688'	2	'GRAZING'	691.59
7	'O.P.No.12489'	2	'GRAZING'	17.40	85	'O.P.No.14633'	2	'GRAZING'	278.08
8	'Cn.L.No.1935/1'	1	'GRAZING'	462.21	86	'O.P.No.14659'	2	'GRAZING'	18.22
9	'O.P.No.13394'	2	'GRAZING'	166.40	87	'Cn.L.No.1943/5'	1	'GRAZING'	251.00
10	'Cn.L.No.1935/4'	1	'GRAZING'	324.96	88	'Cn.L.No.1920/27'	1	'GRAZING'	122.98
11	'Cn.L.No.1935/3'	1	'GRAZING'	614.00	89	'Cn.L.No.1949/1'	1	'GRAZING'	214.52
12	'Cn.L.No.1935/6'	1	'GRAZING'	399.47	90	'Cn.L.No.1926/1'	1	'GRAZING'	3.31
13	'O.P.No.14873'	2	'GRAZING'	528.10	91	'Cn.L.No.1926/1'	1	'GRAZING'	18.65
14	'Cn.L.No.1936/5'	1	'GRAZING'	1420.64	92	'C.L.No.1918/9'	1	'GRAZING'	192.89
15	'O.P.No.14672'	2	'GRAZING'	30.99	93	'Cn.L.No.1926/1'	1	'GRAZING'	7.41
16	'Cn.L.No.1984/1'	1	'GRAZING'	291.93	94	'C.L.No.1933/5'	1	'GRAZING'	65.90
17	'O.P.No.13396'	2	'GRAZING'	103.65	95	'Cn.L.No.1940/3'	1	'GRAZING'	339.77
18	'O.P.No.14466'	2	'GRAZING'	236.81	96	'Cn.L.No.1939/3'	1	'GRAZING'	273.49
19	'O.P.No.13633'	2	'GRAZING'	69.14	97	'O.P.No.14684'	2	'GRAZING'	74.46
20	'O.P.No.13379'	2	'GRAZING'	67.35	98	'O.P.No.14671'	2	'GRAZING'	554.64
21	'O.P.No.2664'	2	'GRAZING'	1499.65	99	'O.P.No.2651'	2	'GRAZING'	242.73
22	'Cn.L.No.1916/26'	1	'GRAZING'	341.89	100	'Cn.L.No.1961/1'	1	'GRAZING'	1475.07
23	'O.P.No.305'	2	'GRAZING'	2268.59	101	'O.P.No.14862'	2	'GRAZING'	50.98
24	'Cn.L.No.1929/4'	1	'GRAZING'	54.58	102	'O.P.No.14306'	2	'GRAZING'	2949.64
25	'O.P.No.14315'	2	'GRAZING'	2067.71	103	'O.P.No.14639'	2	'GRAZING'	774.42
26	'O.P.No.14457'	2	'GRAZING'	296.52	104	'O.P.No.14639'	2	'GRAZING'	280.92
27	'O.P.No.14881'	2	'GRAZING'	1098.21	105	'Cn.L.No.1911/21'	1	'GRAZING'	74.11
28	'O.P.No.11639'	2	'GRAZING'	171.27	106	'O.P.No.14471'	2	'GRAZING'	1227.60
29	'O.P.No.14881'	2	'GRAZING'	91.13	107	'O.P.No.8446'	2	'GRAZING'	61.37
30	'O.P.No.4713'	2	'GRAZING'	4580.02	108	'O.P.No.2758'	2	'GRAZING'	2244.73
31	'O.P.No.14651'	2	'GRAZING'	396.94	109	'O.P.No.14309'	2	'GRAZING'	15.63
32	'O.P.No.3892'	2	'GRAZING'	368.88	110	'O.P.No.3331'	2	'GRAZING'	112.81
33	'O.P.No.9478'	2	'GRAZING'	1067.08	111	'O.P.No.11198'	2	'GRAZING'	667.46
34	'C.L.No.1931/13'	1	'GRAZING'	434.06	112	'O.P.No.14853'	2	'GRAZING'	330.77
35	'C.L.No.1920/11'	1	'GRAZING'	237.94	113	'O.P.No.13649'	2	'GRAZING'	874.61
36	'O.P.No.13906'	2	'GRAZING'	114.82	114	'O.P.No.10505'	2	'GRAZING'	293.85
37	'O.P.No.8822'	2	'GRAZING'	3247.80	115	'O.P.No.14472'	2	'GRAZING'	943.44
38	'C.L.No.1931/12'	1	'GRAZING'	488.41	116	'O.P.No.14321'	2	'GRAZING'	658.80
39	'Cn.L.No.1932/6'	1	'GRAZING'	193.69	117	'O.P.No.14453'	2	'GRAZING'	61.94
40	'O.P.No.5377'	2	'GRAZING'	446.96	118	'O.P.No.14467'	2	'GRAZING'	315.00
42	'O.P.No.13186'	2	'GRAZING'	7864.39	120	'Cn.L.No.1927/5'	1	'GRAZING'	1806.79
43	'Cn.L.No.1939/6'	1	'GRAZING'	55.15	121	'Cn.L.No.1945/2'	1	'GRAZING'	87.65
44	'C.L.No.1923/5'	1	'GRAZING'	174.72	122	'Cn.L.No.1945/1'	1	'GRAZING'	99.44
45	'C.L.No.1923/5'	1	'GRAZING'	57.02	123	'Cn.L.No.1950/1'	1	'GRAZING'	126.87
46	'Cn.L.No.1926/3'	1	'GRAZING'	379.69	124	'O.P.No.14667'	2	'GRAZING'	314.91
47	'O.P.No.13517'	2	'GRAZING'	40.69	125	'O.P.No.14868'	2	'GRAZING'	212.60
48	'C.L.No.1937/4'	1	'GRAZING'	57.54	126	'Cn.L.No.1945/3'	1	'GRAZING'	86.13
49	'C.L.No.1910/21'	1	'GRAZING'	143.42	127	'O.P.No.13634'	1	'GRAZING'	5202.82
50	'C.L.No.1932/2'	1	'GRAZING'	187.20	128	'Cn.L.No.1927/5'	1	'GRAZING'	60.62
51	'C.L.No.1933/1'	1	'GRAZING'	49.83	129	'Cn.L.No.1937/5'	1	'GRAZING'	1524.24
52	'Cn.L.No.1931/1'	1	'GRAZING'	189.31	130	'Cn.L.No.1934/6'	1	'GRAZING'	173.85
53	'F.L.No.367'	1	'GRAZING'	60.75	131	'O.P.No.14852'	2	'GRAZING'	420.24
54	'C.L.No.1938/10'	1	'GRAZING'	56.40	132	'O.P.No.14461'	2	'GRAZING'	1305.31
55	'C.L.No.1929/11'	1	'GRAZING'	38.12	133	'O.P.No.13904'	2	'GRAZING'	436.33
56	'O.P.No.3289'	2	'GRAZING'	759.05	134	'Cn.L.No.1913/5'	1	'GRAZING'	10.98
57	'C.L.No.1912/12'	1	'GRAZING'	97.70	135	'Cn.L.No.1913/5'	1	'GRAZING'	511.50
58	'C.L.1938.1'	1	'GRAZING'	141.25	136	'Cn.L.No.1913/5'	1	'GRAZING'	9.68
59	'C.L.No.1917/4'	1	'GRAZING'	52.32	137	'Cn.L.No.1929/5'	1	'GRAZING'	146.79
60	'Cn.L.No.1931/2'	1	'GRAZING'	299.07	138	'O.P.No.12315'	2	'GRAZING'	289.23
61	'O.P.No.2303'	2	'GRAZING'	2.41	139	'Cn.L.No.1913/5'	1	'GRAZING'	2.57
62	'Cn.L.No.1986/1'	1	'GRAZING'	169.29	140	'O.P.No.13162'	2	'GRAZING'	3038.80
63	'O.P.No.9987'	2	'GRAZING'	1348.25	141	'C.L.No.1910/30'	1	'GRAZING'	83.88
64	'C.L.No.1915/5'	1	'GRAZING'	61.86	142	'Cn.L.No.1937/1'	1	'GRAZING'	895.33
65	'Cn.L.No.1946/2'	1	'GRAZING'	2143.13	143	'O.P.No.13169'	2	'GRAZING'	834.27
66	'O.P.No.14686'	2	'GRAZING'	154.92	144	'Cn.L.No.1915/8'	1	'GRAZING'	295.71
67	'O.P.No.13917'	2	'GRAZING'	1856.19	145	'O.P.No.14301'	2	'GRAZING'	107.33
68	'O.P.No.2863'	2	'GRAZING'	145.15	146	'O.P.No.13628'	2	'GRAZING'	294.86
69	'O.P.No.10006'	2	'GRAZING'	55.63	147	'O.P.No.13393'	2	'GRAZING'	619.22
70	'O.P.No.13917'	2	'GRAZING'	1557.30	148	'Cn.L.No.1925/2'	1	'GRAZING'	54.47
71	'C.L.No.1923/4'	1	'GRAZING'	174.83	149	'O.P.No.11099'	2	'GRAZING'	164.26
73	'C.L.No.1910/31'	1	'GRAZING'	60.10	150	'Cn.L.No.1938/3'	1	'GRAZING'	1607.21
74	'O.P.No.2762'	2	'GRAZING'	266.18	151	'O.P.No.14473'	2	'GRAZING'	2879.42
75	'O.P.No.13514'	2	'GRAZING'	2406.23	152	'O.P.No.14859'	2	'GRAZING'	654.59
76	'O.P.No.10709'	2	'GRAZING'	18.39	153	'Cn.L.No.57/1'	1	'GRAZING'	184.72
77	'C.L.No.1940/1'	1	'GRAZING'	62.78	154	'O.P.No.14475'	2	'GRAZING'	444.13
78	'C.L.No.1912/6'	1	'GRAZING'	16.11	155	'O.P.No.14874'	2	'GRAZING'	10.19
79	'C.L.No.1913/1'	1	'GRAZING'	28.61	156	'O.P.No.14876'	2	'GRAZING'	3.13

No.	LEASE TYPE	KEY	USE	AREA (HA)	No.	LEASE TYPE	KEY	USE	AREA (HA)
157	'O.P.No.13128'	2	'GRAZING'	189.46	237	'O.P.No.14699'	2	'GRAZING'	123.34
158	'O.P.No.13398'	2	'GRAZING'	10.25	238	'O.P.No.14700'	2	'GRAZING'	758.18
159	'O.P.No.14474'	2	'GRAZING'	527.39	239	'O.P.No.14421'	2	'GRAZING'	14.44
160	'O.P.No.2403'	2	'GRAZING'	91.19	240	'O.P.No.12738'	2	'GRAZING'	291.15
161	'O.P.No.14323'	2	'GRAZING'	134.58	241	'O.P.No.12383'	2	'GRAZING'	49.94
162	'Cn.L.No.1911/5'	1	'GRAZING'	153.15	242	'O.P.No.14232'	2	'GRAZING'	222.20
163	'O.P.No.10639'	2	'GRAZING'	28.54	243	'O.P.No.14232'	2	'GRAZING'	11.85
164	'O.P.No.13168'	2	'GRAZING'	283.42	244	'O.P.No.14697'	2	'GRAZING'	30.57
165	'Cn.L.No.1981/1'	1	'GRAZING'	766.43	245	'O.P.No.14636'	2	'GRAZING'	122.99
166	'O.P.No.14304'	2	'GRAZING'	73.18	246	'O.P.No.14637'	2	'GRAZING'	1155.08
167	'Cn.L.No.1941/3'	1	'GRAZING'	515.69	247	'O.P.No.14052'	2	'GRAZING'	118.76
168	'C.L.No.1912/29'	1	'GRAZING'	93.62	248	'O.P.No.14417'	2	'GRAZING'	171.50
169	'Cn.L.No.1916/11'	1	'GRAZING'	192.51	249	'O.P.No.14643'	2	'GRAZING'	44.49
170	'Cn.L.No.1927/5'	1	'GRAZING'	1456.86	250	'O.P.No.2789'	2	'GRAZING'	4657.12
171	'C.L.No.1914/7'	1	'GRAZING'	383.58	251	'O.P.No.14647'	2	'GRAZING'	588.56
172	'S.L.No.1968/1'	1	'GRAZING'	3048.02	252	'O.P.No.14248'	2	'GRAZING'	357.47
173	'Cn.L.No.1925/12'	1	'GRAZING'	503.23	253	'O.P.No.11776'	2	'GRAZING'	116.70
174	'Cn.L.No.1955/1'	1	'GRAZING'	261.35	254	'O.P.No.14248'	2	'GRAZING'	672.01
175	'Cn.L.No.1919/28'	1	'GRAZING'	425.80	255	'O.P.No.14647'	2	'GRAZING'	38.58
176	'C.L.No.1921/2'	1	'GRAZING'	351.38	256	'Cn.L.No.26/1'	1	'GRAZING'	222.90
177	'S.L.No.1942/1'	1	'GRAZING'	204.60	257	'O.P.No.14647'	2	'GRAZING'	50.33
178	'Cn.L.No.1912/57'	1	'GRAZING'	192.49	258	'O.P.No.14235'	2	'GRAZING'	11.10
179	'S.L.No.1942/1'	1	'GRAZING'	250.73	259	'O.P.No.14644'	2	'GRAZING'	13.42
180	'Cn.L.No.1980/1'	1	'GRAZING'	230.39	260	'O.P.No.14419'	2	'GRAZING'	31.99
181	'O.P.No.6039'	2	'GRAZING'	5.03	261	'O.P.No.14647'	2	'GRAZING'	15.49
182	'C.L.No.1911/9'	1	'GRAZING'	265.89	262	'Sp.L.No.1953/11'	1	'GRAZING'	52.57
183	'Cn.L.No.1955/2'	1	'GRAZING'	128.50	263	'O.P.No.14366'	2	'GRAZING'	29.75
184	'C.L.1910/26'	1	'GRAZING'	0.80	264	'O.P.No.14370'	2	'GRAZING'	148.63
185	'O.P.No.14237'	2	'GRAZING'	35.30	265	'Sp.L.No.1950/4'	1	'GRAZING'	32.71
186	'Cn.L.No.1917/12'	1	'GRAZING'	601.69	266	'Sp.L.No.1950/10'	1	'GRAZING'	33.98
187	'C.L.No.1955/2'	1	'GRAZING'	123.25	267	'O.P.No.14353'	2	'GRAZING'	147.43
188	'O.P.No.14359'	2	'GRAZING'	826.26	268	'Cn.L.No.1935/1'	1	'GRAZING'	346.27
189	'Cn.L.No.1940/1'	1	'GRAZING'	438.09	269	'O.P.No.14356'	2	'GRAZING'	99.18
190	'A.S.L.No.1937/2'	1	'GRAZING'	27.56	270	'O.P.No.14354'	2	'GRAZING'	146.67
191	'S.L.No.1990/1'	1	'GRAZING'	17.13	271	'Cn.L.No.1937/3'	1	'GRAZING'	293.12
192	'Cn.L.No.1919/16'	1	'GRAZING'	1692.80	272	'O.P.No.14631'	2	'GRAZING'	55.49
193	'O.P.No.14650'	2	'GRAZING'	1.42	273	'O.P.No.14230'	2	'GRAZING'	6.97
195	'Cn.L.No.1919/16'	1	'GRAZING'	44.43	274	'O.P.No.14371'	2	'GRAZING'	163.32
196	'O.P.No.14231'	2	'GRAZING'	226.10	275	'O.P.No.14418'	2	'GRAZING'	20.67
197	'Cn.L.No.1919/8'	1	'GRAZING'	713.17	276	'O.P.No.14356'	2	'GRAZING'	20.72
198	'Cn.L.No.1917/34'	1	'GRAZING'	890.44	277	'O.P.No.14058'	2	'GRAZING'	181.33
199	'Cn.L.No.1919/11'	1	'GRAZING'	525.46	278	'O.P.No.14367'	2	'GRAZING'	92.24
200	'O.P.No.1919/9'	1	'GRAZING'	646.23	279	'O.P.No.14230'	2	'GRAZING'	3.36
201	'Cn.L.No.1919/9'	1	'GRAZING'	523.15	280	'O.P.No.14411'	2	'GRAZING'	24.61
202	'O.P.No.14465'	2	'GRAZING'	23.51	281	'O.P.No.14055'	2	'GRAZING'	93.83
203	'Cn.L.No.1953/1'	1	'GRAZING'	78.83	282	'O.P.No.13029'	2	'GRAZING'	74.82
204	'Cn.L.No.1915/5'	1	'GRAZING'	399.40	283	'P.L.No.128856'	1	'GRAZING'	478.02
205	'Cn.L.No.1919/1'	1	'GRAZING'	1956.14	284	'O.P.No.11915'	2	'GRAZING'	141.68
206	'Cn.L.No.1928/5'	1	'GRAZING'	456.56	285	'Cn.L.No.1937/1'	1	'GRAZING'	179.08
207	'Cn.L.No.1915/4'	1	'GRAZING'	403.29	286	'O.P.No.2752'	2	'GRAZING'	49.32
208	'Cn.L.No.1928/5'	1	'GRAZING'	854.89	287	'O.P.No.14415'	2	'GRAZING'	43.90
210	'Cn.L.No.1951/1'	1	'GRAZING'	80.04	288	'O.P.No.14364'	2	'GRAZING'	58.60
211	'S.L.No.1911/4'	1	'GRAZING'	440.03	289	'Cn.L.No.1937/1'	1	'GRAZING'	318.33
213	'O.P.No.14362'	2	'GRAZING'	195.61	290	'O.P.No.14063'	2	'GRAZING'	201.96
215	'Cn.L.No.1960/1'	1	'GRAZING'	615.40	291	'O.P.No.14238'	2	'GRAZING'	132.55
216	'C.L.No.1918/23'	1	'GRAZING'	57.50	292	'O.P.No.12535'	2	'GRAZING'	57.58
217	'C.L.No.1920/13'	1	'GRAZING'	152.89	293	'O.P.No.13189'	2	'GRAZING'	14.07
218	'C.L.No.1911/3'	1	'GRAZING'	153.54	294	'O.P.No.14247'	2	'GRAZING'	4.50
219	'Cn.L.No.1916/8'	1	'GRAZING'	112.72	295	'O.P.No.2751'	2	'GRAZING'	19.46
220	'Cn.L.No.1959/1'	1	'GRAZING'	199.27	296	'O.P.No.2781'	2	'GRAZING'	4.70
221	'O.P.No.14228'	2	'GRAZING'	100.96	297	'O.P.No.14642'	2	'GRAZING'	90.97
222	'Cn.L.No.1917/9'	1	'GRAZING'	246.80	298	'O.P.No.7249'	2	'GRAZING'	12.77
223	'Cn.L.No.1918/31'	1	'GRAZING'	255.30	299	'O.P.No.13107'	2	'GRAZING'	40.20
224	'O.P.No.14685'	2	'GRAZING'	753.16	300	'O.P.No.14245'	2	'GRAZING'	192.07
225	'O.P.No.13878'	2	'GRAZING'	63.03	301	'O.P.No.14245'	2	'GRAZING'	110.82
226	'O.P.No.14351'	2	'GRAZING'	1843.86	302	'O.P.No.14241'	2	'GRAZING'	262.25
227	'O.P.No.14368'	2	'GRAZING'	8.16	303	'O.P.No.14240'	2	'GRAZING'	231.11
228	'O.P.No.13884'	2	'GRAZING'	3.47	304	'O.P.No.14369'	2	'GRAZING'	39.89
229	'O.P.No.2784'	2	'GRAZING'	995.82	305	'O.P.No.13429'	2	'GRAZING'	3.70
230	'O.P.No.14698'	2	'GRAZING'	152.79	306	'O.P.No.13435'	2	'GRAZING'	121.42
231	'O.P.No.14422'	2	'GRAZING'	158.31	307	'O.P.No.13075'	2	'GRAZING'	400.90
232	'C.L.No.1920/37'	1	'GRAZING'	172.03	308	'O.P.No.13075'	2	'GRAZING'	536.76
233	'O.P.No.14696'	2	'GRAZING'	8.44	309	'O.P.No.13075'	2	'GRAZING'	0.56
234	'O.P.No.14157'	2	'GRAZING'	0.96	310	'O.P.No.14629'	2	'GRAZING'	1.10
235	'O.P.No.14157'	2	'GRAZING'	3.80	311	'O.P.No.14629'	2	'GRAZING'	1.24
236	'O.P.No.2786'	2	'GRAZING'	6925.58	312	'O.P.No.14629'	2	'GRAZING'	1.45