Annual Report to the Pastoral Lands Board of Western Australia

2004/2005 Financial Year

A report prepared for the Pastoral Lands Board of Western Australia by the Department of Agriculture

November 2005

Compiled by Rod Williams and Philip Thomas
with contributions from rangelands staff.

Department of Agriculture
Government of Western Australia

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Preface

The Department of Agriculture Western Australia has prepared this Annual Report for the financial year 2004 – 2005. The format is consistent with the previous two years, and now encapsulates enhanced detail and a broader range of headings within the report.

The Department of Agriculture's services to the Board are outlined and environmental indicators are presented at the regional and property scales. New information being presented to the Board in this report includes Pastoral Lease property transfers, an explanation of the emerging Natural Resource Management program in the rangelands, the Australian Collaborative Rangeland Information System (ACRIS), an introduction to Carnarvon 2020, and key biosecurity issues and developments throughout the rangelands.

The reporting processes to the Board are continually being monitored and this year was no exception. Considerable planning for a pastoral lease inspectors' workshop was undertaken during the period which will result in suggested amendments to inspection and reporting procedures and report templates.

Three primary issues significantly affected the Department's capability in service delivery to the Board which members should note. On going ad-hoc requests for inspections to allow pastoral lease transfers remained significant as the pastoral lease market remained strong, and these requests are now the highest on record.

The Department is also experiencing significant difficulty in filling vacancies in regional centres with suitably qualified staff to undertake service delivery responsibilities to the Board. This exacerbates an already existing tight resource allocation.

The Department of Agriculture will continue to work closely with the Board in the provision of required services provided to the Board. The Chairman has expressed a desire for the Department to investigate potential rangeland scale assessment processes utilizing new technologies that allows the identification of potential areas of risk to the Crown at property, district or regional scales.

Consequently, initial investigation into the future methods of obtaining and reporting the information required by the Board to administer the *Land Administration Act 1997* (LAA) has commenced. These investigations will include numerous data bases and potential uses of remote sensing. It is believed this investigation also has the potential of contributing to framework that will be required for the proposed "rolling lease" concept the Minister for Planning and Infrastructure has offered the pastoral industry.

Initial discussions with the Chairman and General Manager have been held and it is probable that trips to the Northern Territory and South Australia will be undertaken to investigate the operations of the Boards in those states.

I look forward to continuing to support the endeavours of the Board and trust members find this Annual Report a useful document.

Rod Williams
State Project Manager
Pastoral Board Services, Carnarvon
28 November 2005

Executive Summary

The total number of Pastoral Leases has declined slightly from the previous period (533 leases/483 stations) and now stands at 529 leases/481 stations which includes 15 leases in the south west. When compared to 1996-1997 when there were 564 leases/514 stations, these overall reductions become more meaningful. There are currently 466 pastoral stations in the rangelands.

Whilst the land use in the Kimberley and Pilbara has remained relatively constant (cattle), there has been a continuing expansion of cattle south through the Gascoyne and Murchison regions. These changes are the result of commodity prices and high wild dog numbers rendering sheep and wool production an unviable option. Whilst wool remains the major enterprise in the southern Gascoyne, Murchison and Goldfields areas, diversification to meat production from exotic breeds and goats continues.

WARMS analysis in the Kimberley indicates that the sites are generally improving and that there does not appear to have been a consistent increase in woody vegetation cover over the last nine years. There is evidence of decline in the Roebourne area over the last three to five years, particularly on the Roebourne Plains grass sites.

In the southern rangelands, grazing has had an adverse impact on some sites during the extended dry. While the dry did not result in widespread degradation, there are a number of sites where serious decline occurred. On a more favourable note, the widespread and extensive decline documented in previous droughts did not occur.

Over the last 15 years there has been considerable interest at State/NT and Commonwealth levels for combined reporting of change in rangelands across Australia. To begin reporting across the nation's rangelands the Australian Collaborative Rangeland Information System (ACRIS) was formed as a co-ordinating mechanism, with representatives from WA, NSW, SA, QLD, NT and the Commonwealth.

A total of 151 reports were prepared for the Board and overall reporting was affected by an increase in ad hoc reporting to allow lease transfer approvals, the inability of the Department to attract staff to regional offices to fill vacancies, and an already tight resource allocation. Of the total reports, 76 constituted scheduled or "sale" RCA's whilst an additional 23 desk top analyses were undertaken to allow lease transfer consideration. From the RCA reports prepared, 38 leases were identified with either land use or infrastructure issues in the southern rangelands, whist a corresponding 9 were identified in the northern rangelands. The results also indicated that 25 leases improved in range condition, 26 experienced no significant change, 17 experienced a decline in range condition, whilst in 8 cases change was unable to be assessed.

The survey team published two reports on the findings of the Pilbara survey in addition to the Broome coastal survey. The team also began preliminary work on the survey of the Western Nullarbor and several trips and a workshop with pastoralists have been undertaken.

A below average wet season in the Kimberley with late falls in the west Kimberley in May, June and August 2005 resulted in a lack of pasture growth over a large part of the east Kimberley and a reasonable cover over the west Kimberley. The Pilbara also experienced a poor wet season, particularly in the east with no broad systems to provide extensive rainfall.

The Gascoyne Murchison experienced exceptionally favourable summer rain along most of the coast with the remainder of the region remaining dry. In May 2005 the region benefited generally from better than average winter rainfall which eased a long term drought situation in the Murchison. The Meekatharra district remained dry until June 2005 where falls to the north were scattered. Good falls were experienced in the south while the good run of seasons in the Wiluna area came to an end.

In the Goldfields-Nullarbor summer rains did not result in any appreciable vegetative growth as storms were spasmodic and did not receive follow up. The Sandstone-Leinster area received useful falls in May 2005. Overall, the district received a below average winter season which follows on from the previous four to five seasons.

The southern rangelands was originally declared to be in Exceptional Circumstances (EC) on 2 July 2003 and covers areas from the Roebourne and Ashburton Shires to the Southern Goldfields. Earlier this year, the Australian Government extended the declaration for a third year to 1 July 2006. The EC Program is funded jointly by the Australian and State Government to assist owner operator farmers and pastoralists overcome the effects of extended drought, rare and severe enough to only occur once every 20 to 25 years.

In 2004 the Premier requested the development of the Carnarvon 2020 strategy with the intention of enhancing Carnarvon's capacity as a regional service hub. A number of regional scale development projects were recognised as the basis of the initiative including Mt Augustus Development Precinct (Tourism/Horticulture); Quobba Coast Tourism Precinct; Brickhouse Horticulture Precinct; Meedo Horticulture Precinct; Carnarvon Artesian Basin Rehabilitation Program; and the Carnarvon Artesian Irrigation Precinct.

Demand for Australian beef has been remarkably buoyant since early 2004, due to a combination of the lack of competition from the US in key markets, high US beef prices, and the revival of Australian and US consumer interest in beef. This situation could start to change from early 2006, with the expected gradual re-entry of US and Canadian beef into Japan, a more sudden return to Korea, easing US beef demand and the re-opening of the US-Canadian border triggering a moderate fall in export demand for Australian product.

The Australia-US free trade agreement came into force in January 2005 immediately eliminating the in quota tariff on Australian beef (4.4 US cents/kg). The agreement also increases Australia's quota for beef by 70,000 tonnes over the 18 years.

Numbers of Merino sheep are declining throughout the rangelands. Alternative meat sheep breeds such as the damara and dorper are on the rise and will help stabilize the overall decline in sheep numbers.

Industry focus in 2005/06 is likely to remain on the supply of sheep and lambs available for processing and live export. Processors have expressed concern over the low availability of sheep and lambs, and the effect on their operational efficiency.

The primary market for WA goat meat is Taiwan with export value of $7.8 million in 2004/05. Next is Trinidad and Tobago with $1.8 million followed by the USA with $0.6 million. In July 2005 the abattoir in Geraldton became USDA accredited and is now able to service the consistent and lucrative US market.

The constraints of inconsistent supply and variable quality continue to hamper industry development although slaughter numbers have increased in 2004/05 despite goats not being slaughtered at Carnarvon or Katanning abattoirs. In 2004/05, WA contributed 60% of total Australian live goat exports (26,100 head) with most of the product (males above 25 kg live weight) being consigned on regular shipments as slaughter goats.

Since the late 1990s Western Australia has been the largest exporter of any Australian state for goats, cattle and sheep and a high proportion of these livestock are sourced from pastoral businesses located throughout the rangelands. The majority of livestock exports from Western Australia's rangelands go through ports located in Fremantle, Geraldton, Port Hedland, Broome and Wyndham.

The exotic sheep industry in Western Australia has steadily grown in recent years and is made up primarily of damaras and dorpas. The Department of Agriculture estimates between 80-100,000 exotic sheep in the Southern Rangelands, on approximately 30 properties.

During the 2004/05 financial year, 51 lessees requested approval to transfer their pastoral leases. Of these requests, 23 pastoral leases were transferred with 2 sales occurring in the Kimberley, 1 in the Pilbara, and the balance in the southern rangelands. These figures indicate a continued and strengthening trend for pastoral lease transfers.

Demand for cattle leases remained strong while prices for viable sheep properties with a carrying capacity of 10,000 DSE or over levelled out. The largest market sector was the smaller non viable, lifestyle/grazing type properties, and reasons for sales include personal circumstances and the effects of drought and low commodity prices. There are signs that property prices are levelling out with a slow down in sales and increased number of listings.

Consistent with the whole of Australia, Western Australia has been divided into six natural resource regions with the rangelands being one of those six. The Rangelands NRM Coordinating Group (RCG) was established with a primary objective of overseeing the development of a Rangelands Strategy and Investment Plan consistent with the Bilateral Agreement signed by the Australian and State Governments.

A Rangelands Strategy and accompanying Investment Plan has been developed and presented to the Joint Steering Committee (joint membership of Australian and State Government representatives) which has recommended Ministerial approval to both.

Biosecurity in the rangelands is largely managed via the Zone Control Authorities which are funded by a rate imposed on all pastoral leases which is met dollar for dollar by treasury. These funds are administered by the Declared Pest and Animal Control Fund (DPACF). Feral donkeys, pigs, camels, wild dogs, mesquite, prickly acacia, salvinia, parkinsonian, prickly pear and rubber vine all constitute threats to the rangelands. A new outbreak of rubber vine comprising over 500 ha was detected on the Fitzroy River during the period.

The social indicators are the same as the previous period as the data available applies to the 2003-2004 period.

Introduction

The rangelands constitute 87% of Western Australia's landmass and include all but the south west of the State. Livestock grazing on pastoral leasehold land is the dominant commercial land use across 42% (910,000 km²) of the WA rangelands whilst unallocated Crown lands, and lands vested for conservation and indigenous purposes comprises the balance.

The rangelands:

- produce most of the State's mineral and energy wealth
- support important segments of the livestock industry
- are of special significance to the Aboriginal population
- offer major tourism potential
- contain essential elements of the State's biological diversity
- offer opportunities to produce horticultural and other products for niche markets

Pastoral leases

The number of pastoral stations in the state has declined over the last decade as identified in the table below. In 1996 there were 514 stations (564 leases) and in 2005 this number had reduced to 481 stations (529 leases) of which 466 stations are located in the rangelands. Part of the reduction in number has been due to the Department of Conservation and Land Management (CALM) purchasing stations and commencing administrative action to convert them into conservation status.

There is a large variation in the size of pastoral leases with a range between 3,000 and 500,000 hectares. In 2005, the control of pastoral stations is as follows:

- 57 pastoral stations are controlled by, or run on behalf of, aboriginal interests
- 44 pastoral stations and one sub-lease are controlled by, or run on behalf of, mining interests
- 5 pastoral stations have been purchased by private interests for conservation purposes
- the remainder are run by families and agricultural companies as pastoral businesses

Table 1: Number of leases and stations in Western Australia

Year	Leases	Stations
1996-97	564	514
1997-98	563	513
1998-99	557	507
1999-00	554	504
2000-01	547	497
2001-02	542	492
2002-03	537	487
2003-04	533	483
2004-05	529	481

The diversity of the rangelands

The rangelands region is comprised of a diverse range of climate (tropical to arid); topography (coastal plains, dunes, rocky ranges, and arid deserts); and rainfall (1,400 mm in the north Kimberley to less than 200 mm in the semi arid areas). This diversity has led to the demand for diversification of use for the rangelands that are not based on traditional pastoralism. This realisation was a consideration of the *Alternative Models of Land Tenure Working Group* which reported to the Minister for Planning and Infrastructure following The Gascoyne Muster II.

The Minister has responded to the pastoral industry's desire for security of tenure for pastoral lessees and has offered the pastoral industry a new pastoral tenure model based on a Rolling Lease concept. The concept is based on the principle of the term of the lease being rolled back up to the original term following a satisfactory performance assessment after a specific period (i.e. 10 years).

Further consideration is being given to the wider issue of multi uses on pastoral lands and the concept of a Rangelands Council is being considered by government.

The Kimberley, Pilbara and northern Gascoyne are predominately cattle producing areas, focused on live export out of the northern ports of Port Hedland, Broome and Wyndham. Store cattle are also produced in the southern Pilbara and Gascoyne areas, for finishing in agricultural areas. Over the past 20 years there has been a gradual expansion of the cattle industry (at the expense of the sheep industry) south through the Upper Gascoyne, and Murchison areas. As Figure 20 identifies this expansion has gathered momentum in the last 10 years.

In addition, there has been a growing trend for cattle producers to acquire farming properties in the wheat belt to allow for a better finished animal to enter the market.

Wool production remains the major enterprise in the southern Gascoyne, Murchison and Goldfields areas, however there is also an increasing focus on meat production from sheep, both merino and exotic breeds, and goats in these areas. Industry remains divided over exotic sheep breeds and is yet to fully embrace the changing market demands associated with the export of goats despite a number of the recommendations associated with the live export trade being introduced.

1. Environmental reporting

1.1 Western Australian Rangeland Monitoring System (WARMS)

Introduction

The Western Australian Rangeland Monitoring System (WARMS) provides an indication of change in pastoral rangelands at a regional scale. It does this through a set of representative, point based sites on which attributes of soil surface condition and perennial vegetation are recorded.

There are two types of sites. Grassland sites are used in the Kimberley, Pilbara and north-west Gascoyne. Shrubland sites are used from the southern Pilbara through to the Nullarbor. Currently, WARMS is made up of 1,629 sites, comprising 633 Grassland sites and 996 Shrubland sites. Grassland sites are reassessed on a three year cycle and Shrubland sites on a five year cycle. In any given year about 410 sites are scheduled to be reassessed.

WARMS is designed to report at the regional or district scale rather than on individual leases as the number of sites on an individual lease is insufficient to provide a comprehensive assessment at the property scale. WARMS data and photographs are stored in the WARMS database which also contains information on about 4,000 old WARMS and Pastoralist Monitoring Sites and 80 benchmark sites.

Three reports providing results from WARMS were tabled to the Board during 2004/2005.

Operational information

In 2004/05 reassessments of sites in the Kimberley were carried out by staff based in the Kununurra and Derby district offices. A member of staff based in Northam and a private contractor carried out the reassessment of Pilbara and southern rangeland sites. A total of 328 sites on 95 stations were assessed during the period.

Table2: Number of WARMS sites reassessed.

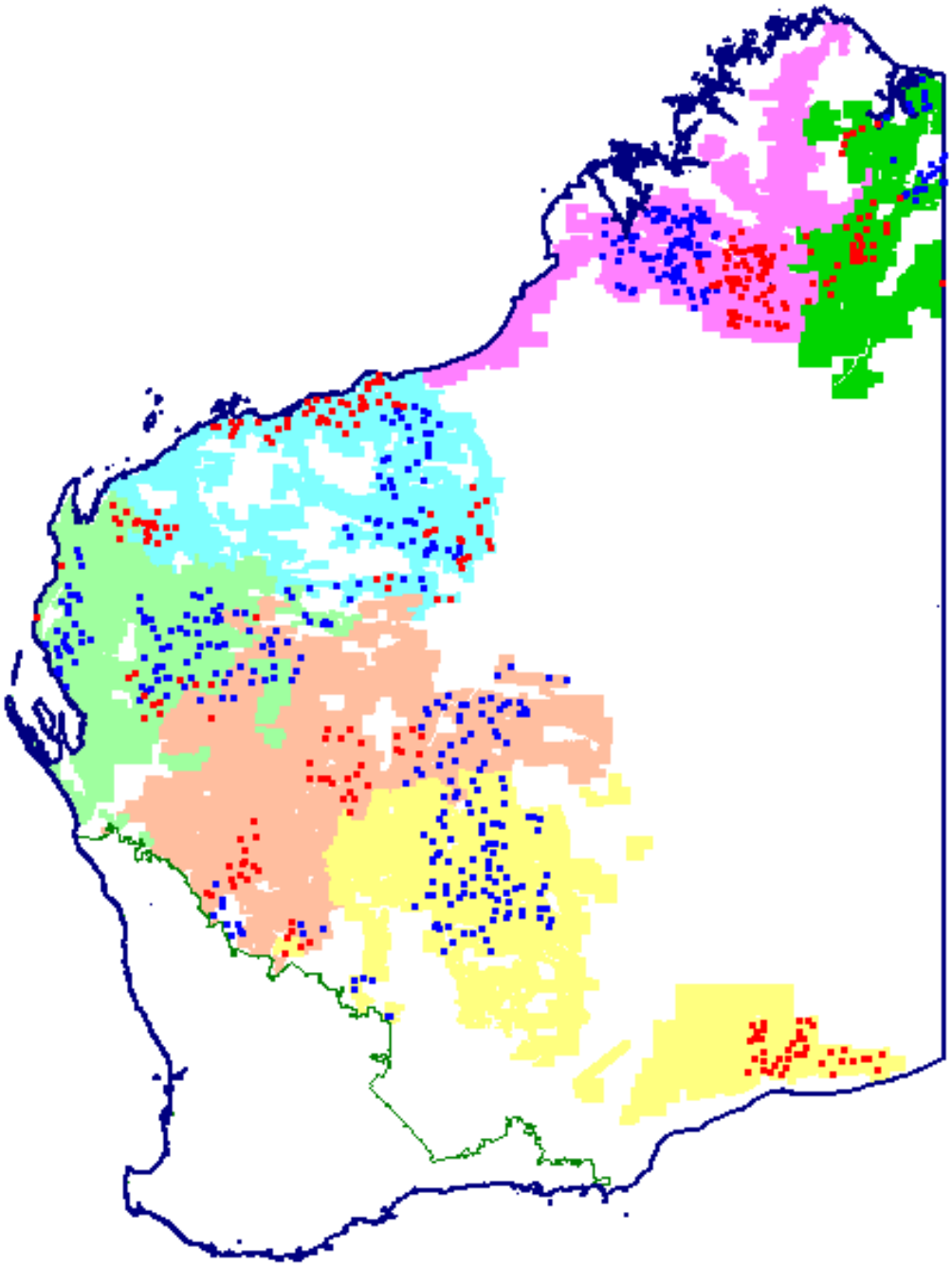
District	Number of sites	Number of stations
Carnarvon	30	14
Kalgoorlie	42	7
Meekatharra	44	21
Southern region	***116***	***42***
Derby	76	14
Kununurra	49	16
Karratha	87	23
Northern region	***212***	***53***
State total	**328**	**95**

*2 benchmark sites were also reassessed in the Carnarvon region.

Photo Sturt Desert Pea *Swainsona formosa*

Figure 1 WARMS sites reassessed by District Office

In the south and Pilbara, sites shown in red were reassessed in 2004/05 and the blue sites will be reassessed in 2005/06. Sites shown in red in the Kimberley were reassessed in 2004 and the blue sites will be reassessed in the 2005 field season. The coloured regions represent the regions served by each of the district offices of Kununurra, Derby, Karratha, Carnarvon, Meekatharra and Kalgoorlie.



Kimberley analysis

In the Kimberley, the vegetation groups represented by WARMS sites are generally improving and this improvement has been recorded at each assessment since the sites were installed in 1995. It suggests that the grazing pressure has not been so high as to over-ride the impact of the generally good seasonal conditions. It is worth noting that the 2004/05 wet season was significantly drier than in recent years and this may be reflected in the results of the 2005 field sampling. The Department of Agriculture has begun working with managers to identify management strategies to account for these changed climatic circumstances.

In the Kimberley, there does not appear to have been a consistent increase in woody vegetation cover over the last nine years. Woody cover has increased on a number of vegetation types over the last reassessment period (2000-01 to 2003-04). However, it has fluctuated both up and down during previous reassessment periods and there are no consistent trends evident. These results are in contrast with the widely held view that the tropical savannas of northern Australia have undergone widespread woody thickening.

Roebourne analysis

In the Roebourne area, there is evidence of decline over the last three to five years. This was particularly observed on Roebourne Plains Grass sites. While seasonal conditions from 2001 to 2003 were dry, particularly in the western areas and particularly in 2001/02, there is also evidence that excessive grazing pressure contributed to the decline on at least some of the sites. RCAs over the relevant period are consistent with this finding and recommendations to lower grazing pressure and to develop drought management plans on several leases in the area have been provided to the Board.

Southern Rangelands analysis

In the southern rangelands, grazing had an adverse impact on some sites during the extended dry period but there were also many favourable aspects to the results.

The extended dry period in the southern rangelands, which began with failure of the 2000 winter season, had an adverse impact on shrub populations. Grazing increased the severity of the impact, given that for some sites and some species the decline in density and cover was more than would be expected given the dry seasons alone. While the dry period did not result in widespread degradation, there are a number of sites where serious decline occurred. The adverse results mostly came from sites in the Murchison, Yalgoo and Sandstone Land Conservation Districts. This does not suggest that these three districts were any worse than others. Rather it is a reflection of the sampling schedule in that this is where many of the sites were recently assessed.

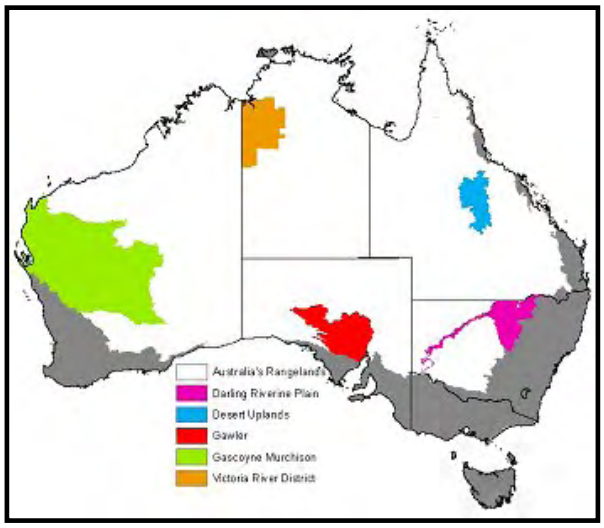
There were many favourable aspects to the results, suggesting that the widespread and extensive decline documented in previous droughts did not occur. Grazing management in the recovery phase will be particularly important, particularly resisting the temptation to build up livestock numbers quickly in response to rain.

1.2 The Australian Collaborative Rangeland Information System (ACRIS)

Over the last 15 years there has been considerable interest at State/NT and Commonwealth levels for combined reporting of change in rangelands across Australia. However progress has been slow, partly because each state and the Northern Territory collect data in different ways and for different purposes. To begin reporting across the nation's rangelands ACRIS was formed as a co-ordinating mechanism, with representatives from WA, NSW, SA, QLD, NT and the Commonwealth.

Rather than attempting to report on 'everything & everywhere' the steering committee chose to begin by producing reports on pilot regions in each jurisdiction (see map below). The aim of this was to explore how well information from disparate data sets could be combined into a single report that provided a national perspective on change in rangelands.

Figure 2 ACRIS Pilot Regions



The information presented below was summarised from the report *"Case study of status and change in the rangelands of the Gascoyne-Murchison region"* by Ian Watson, Jeff Richardson, Philip Thomas and Damian Shepherd. A synthesis of the pilot region reports can be found in "*Australian Collaborative Rangeland Information System: Reporting Change in the Rangelands - National Synthesis of Reports from pilot Regions"* by Gary Bastin and members of the ACRIS Management Committee. The full reports can be found at

http://www.deh.gov.au/land/management/rangelands/acris/index.html

The ACRIS pilot project in the Gascoyne Murchison showed that it was possible to use a range of indicators, from a number of disparate data sets, to address the ACRIS questions about change in the rangelands. Not surprisingly, because the indicators covered such a broad range of attributes and the area is so large (nearly 8% of Australia), the results were mixed. There was also a large range in the data for most indicators, providing both favourable and unfavourable results. This limits the number of generalisations that can be made and also suggests that a 'one size fits all' policy response will be insufficient.

The region experienced an increased capacity for change during the period of the pilot project. This was assessed in a number of ways including the perceptions of pastoral managers, their confidence in the future, the financial health of many pastoral businesses and a range of on-ground actions. These on-ground actions include better control of grazing animals, relatively rapid and comprehensive de-stocking during drought conditions and improved landscape and ecosystem management.

However, this increased capacity for change needs to be tempered by observations that show that the median age of 'farmers' is increasing, there are less people of working age supporting the old and the young, business management skills are generally poor, there is high turnover of leases, improvements remain in the adjustment of stocking rates to match environmental conditions and some pastoral enterprises remain unviable with poor financial prospects.

Perennial vegetation as assessed on WARMS sites generally showed improvement. Shrub density, cover and species richness remained the same or increased on the majority of sites. Recruitment of new plants was commonplace, being found on almost all sites and for almost all species. Much of this improvement occurred during both good seasonal conditions and poor seasonal conditions, suggesting that the negative impact of grazing was not large, except on a minority of sites. However, the results for perennial grass species and for indicators of landscape function did not show the same improvement. Landscape function indicators declined on many sites even though perennial vegetation indicators improved.

The potential for biodiversity conservation has also increased due to the recent acquisition of almost 4 M ha of pastoral land for inclusion in the conservation estate, an increased interest in off-reserve conservation and better control of grazing pressure. However, it is not known whether these measures will reverse the long term decline seen in many ecological communities and for many threatened or priority species.

At the risk of generalising, the ACRIS pilot project has shown that in the Gascoyne-Murchison region, many of the pastoral businesses remain profitable, much of the land (although historically degraded) is showing signs of improvement, the potential for biodiversity conservation has increased and pastoral managers remain confident in their own future.

1.3 Rangeland Condition Assessments

Maintenance of the scheduled Pastoral Lease inspection program for this financial year has been affected by three significant issues:

1. an increased and strong demand for ad hoc approvals to transfer pastoral leases.
2. an inability by the Department to attract suitably qualified staff to fill vacancies in district offices.
3. a real decrease in resources available to allocate to this project activity.

A total of 151 reports were prepared for the Board during the period. The tables below identify the total reports provided and more specific information relating to Rangeland Condition Assessments.

The 2003-2004 financial year identified the commencement of an increase in market transactions in the rangelands and this trend strengthened during the 2004-2005 financial year with 28 RCAs being prepared to allow consideration of lease transfers and a further 23 “Sale letters” being prepared for the same purpose.

Table 3 identifies the total number of reports prepared during the period. Of these, 51% constituted RCAs; 15.5% constituted “Sale letters”; 15.5% constituted Follow-Ups; 8% constituted Comments on Management Plans; and 10% constituted “Other” reports. Although 76 RCA’s were undertaken (78 are required to meet the schedule), 48 were scheduled reports whilst 28 RCAs were for non-scheduled sale purposes.

Table 4 illustrates the break up of the categories for each district, the number of RCAs required to maintain the schedule, and the number of RCAs undertaken per District office.

A Pastoral Inspector’s workshop was held in August 2005 and a number of suggestions to improve the RCA template will be recommended to the Board in the future.

Following discussions with the Chairman of the Board, the Department is investigating potential alternative approaches to methodologies involving monitoring procedures for pastoral leases in the State. A wealth of information that is now digitally stored can now be extrapolated across a number of scales including individual property, district and region.

It is intended to experiment with alternative interrogation methodologies to ascertain if this data can provide rigorous information in relation to range condition trend and the identification of high risk areas and leases. Investigation into new technologies and possible tours to investigate the operations of both the Northern Territory and South Australian Pastoral Boards are being considered.

District summary

Table 3: The following table provides a summary of all reports prepared for the Board in 2004/05

Office	RCAs	RCAs Sale	Sale letters	Follow-up Report	Management Plans	Subdivision	Other
Derby	8	1	2	-	2		-
Kununurra	3	-	3	-	1		4
Pilbara	7	2	2	3	-		3
Carnarvon	10	14	7	6	-		4
Meekatharra	20	9	2	8	4		-
Kalgoorlie	-	2	7	7	5	1	4
Total	**48**	**28**	**23**	**24**	**12**	**1**	**15**

Table 4: The following table provides a summary of Rangeland Condition Assessments undertaken in 2004/05

Office	No. of stations	Number of stations per Category				Required average RCAs/year	RCAs completed in 2004/05
		1	2	3	4		
Derby	56	27	20	9		9	9
Kununurra	39	26	13			6.5	3
Pilbara	56	39	10	7		9.5	9
Carnarvon	107	25	45	34	3	18	24
Meekatharra	114	56	41	13	4	19	29
Kalgoorlie	94	45	28	15	6	16	2
Total	**466**	**218 47%**	**157 33%**	**78 17%**	**13 3%**	**78**	**76**

Table 5: Number of stations with land management and/or infrastructure issues identified in Rangeland Condition Assessments during 2004/2005

Region	Number of stations	Number of stations with no issues	Number of stations with issues identified
Carnarvon	23	6	17
Kalgoorlie	3	1	2
Meekatharra	29	10	19
Southern region	**55**	**17**	**38**
Derby	9	8	1
Kununurra	3	1	2
Karratha	9	3	6
Northern region	**21**	**12**	**9**
State total	**76**	**29**	**47**

Table 6: Types of land management and/or infrastructure issues identified in Rangeland Condition Assessments during 2004/2005

Issue	Southern	Northern
Destock paddocks	-	2
Unmanaged goats	2	-
Historical degradation	6	-
Infrastructure	5	1
Photo monitoring sites recommended	5	1
Kangaroo management	-	1
Rangeland degradation	36	7
Areas of severe degradation and erosion	15	3
Soil erosion	2	1
Spelling over wet season	-	2
Excessive stocking rate	2	5
Total grazing management	2	-
Vegetation decline due to overstocking	4	-
Vegetation decline near water point	1	-

Baseline assessments of range condition on a pastoral lease are undertaken during the RCA. The assessments are compared to the previous assessments made during rangeland resource surveys or on previous lease inspections. Some leases have not previously been covered by rangeland surveys, and in some cases a direct comparison can not be made because methodology has changed (some surveys date back to 1969/1970) or the traverse route was significantly different.

Table 7: Trends in range condition from RCA reports

Office	Improved	No significant change	Declined	Unable to assess	RCAs done
Derby	3	3	2	1	9
Kununurra	-	2	1	-	3
Pilbara	-	9	-	-	9
Carnarvon	7	7	6	3	23
Meekatharra	13	5	7	4	29
Kalgoorlie	2	-	1	-	3
Total	**25**	**26**	**17**	**8**	**76**

Of the total RCA reports prepared, 72% were from the southern rangelands whilst 28% were from the northern rangelands. In comparison to 2003-2004, the following comments are relevant.

In 2003-2004, 67% (39 out of 58) of leases inspected were identified as having either an infrastructure or land management issues whilst this number reduced in 2004–2005 to 62% (47 out of 76) leases.

In 2003-2004 range condition trend indicated that 31% of leases showed an improvement; 43% revealed no significant change; 19% declined and 7% were not able to be assessed. The 2004-2005 trend indicated that 33% showed an improvement; 34% revealed no significant change; 22% declined whilst 11% were not able to be assessed.

When split between the northern and southern rangelands the figures reveal that in the northern rangelands 14% improved; 67% revealed no significant change; 14% declined whilst 5% were not able to be assessed. In the southern rangelands, 40% improved; 22% revealed no significant change; 25% declined whilst 13% were not able to be assessed.

1.4 Rangeland Resource Surveys

Regional resource inventory and condition surveys in Western Australia's rangelands are conducted by a combined team from the Department of Agriculture and the Department of Land Information. The surveys provide comprehensive descriptions and mapping of the landforms, soils and vegetation resources of the region, together with an evaluation of the condition of the soils and vegetation at the pastoral lease scale. Almost 87% (843 576 km^2) of the pastoral rangelands have been the subject of resource inventory (Figure 3). The resource information is used by many stakeholders including the pastoral industry, mining industry, government, and research and conservation groups.

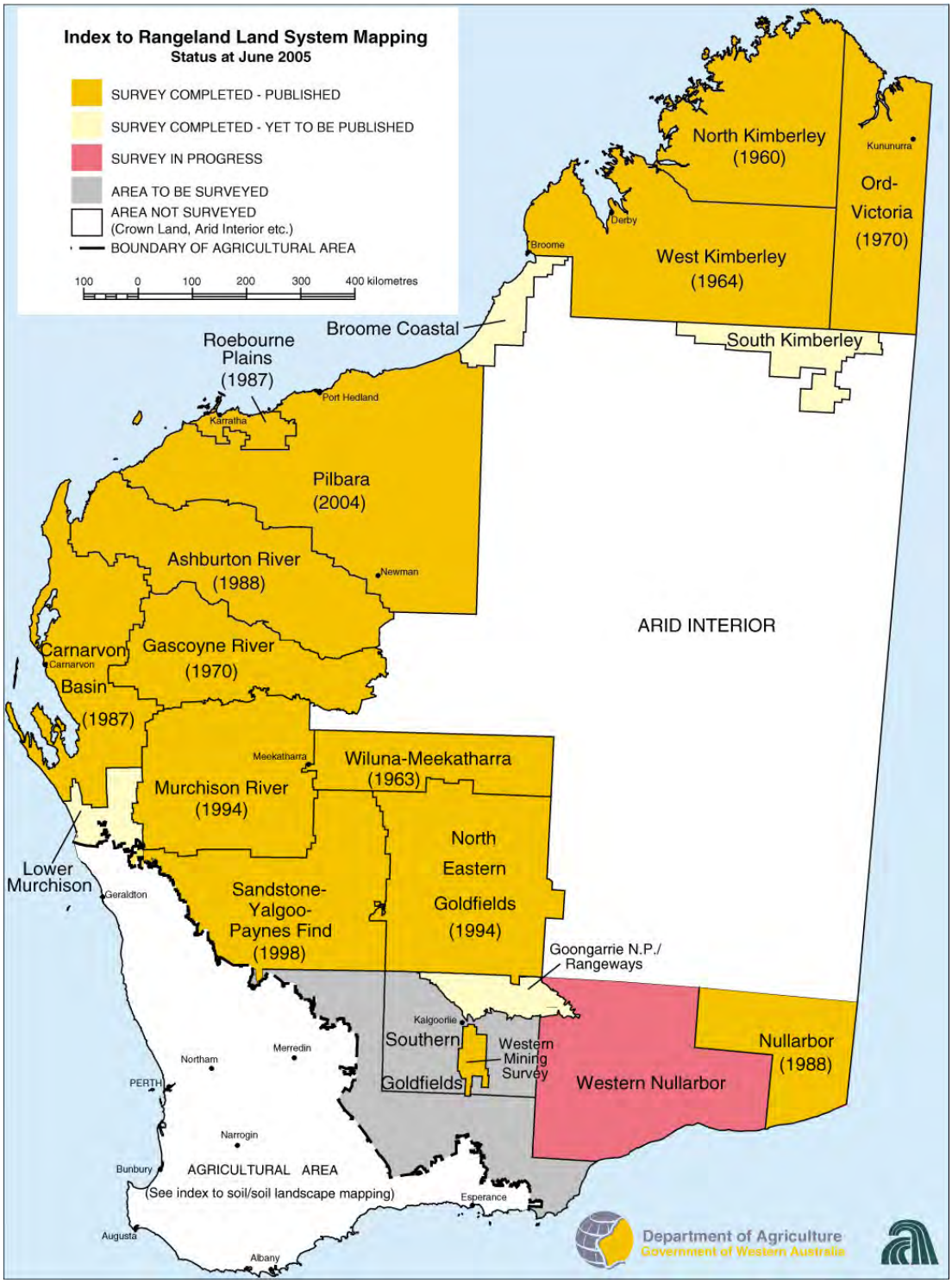
In 2004/05 the survey team published two reports on the findings of the Pilbara rangeland survey. One of these the 'Technical Bulletin No. 92: An inventory and condition survey of the Pilbara region, Western Australia,' is a detailed technical report that will be an enduring reference of use to all stakeholders concerned with sustainable and multiple use of the Pilbara rangelands. A regional resource map also accompanies the report. The second report 'Pastoral resources and their management in the Pilbara region of Western Australia,' is aimed particularly at the pastoral industry and the management of pastoral resources. Plans at 1:100,000 showing land resource information and infrastructure were prepared and distributed to pastoral stations in the Pilbara.

During 2004/05 the survey team also revised a report on the findings of the Broome coastal survey. The report was first written by Bill Cotching in 1990 and the author has since left the department and until now the report has not been published. The survey covered an area of 8,600 km^2 in the Canning Basin physiogeographic region and encompassed four stations; Thangoo, Shamrock, Frazier Downs and Nita Downs. Resource mapping for Anna Plains station is also included in the revised report as mapping of the area was reviewed during the Pilbara survey but not included in the Pilbara reports. The Broome report is to be published by the end of 2005.

The survey team has also begun preliminary work on the survey of the Western Nullarbor. Two reconnaissance trips were carried out in May and July of 2005 to allow the survey team to familiarise themselves with the plants, soils and landforms of the area. A considerable challenge for the team is that large tracts of the Nullarbor are considerably changed landscapes due to past influences of rabbits and fires.

A workshop was also held at Cocklebiddy to introduce Nullarbor pastoralists to the survey team and the purpose of the survey. The workshop was well attended and was also used to discuss what pastoralists perceived to be the carrying capacity for different land types and the layout of those land types on their properties. The survey of the Nullarbor was to begin in September 2005 pending the filling of vacancies in the Department of Agriculture. This has now occurred and the complete team will commence the task in collaboration with staff from the Department of Land Information.

Figure 3 Rangeland resource surveys in Western Australia (date of publication in brackets)



1.5 Seasonal conditions

Figure 4 Rainfall (in mm) for Western Australia for the period 1 July 2004 to 30 June 2005

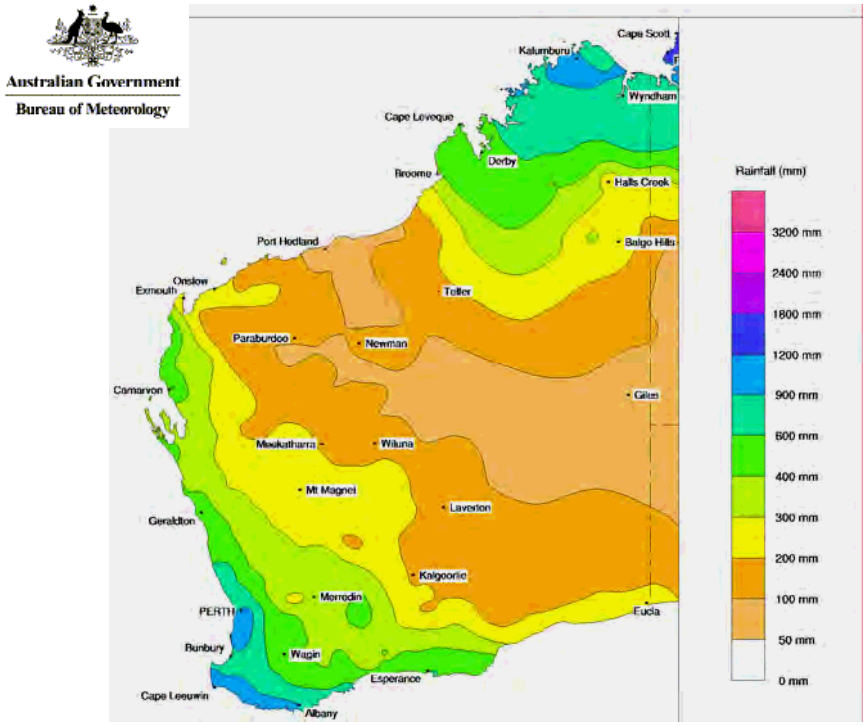
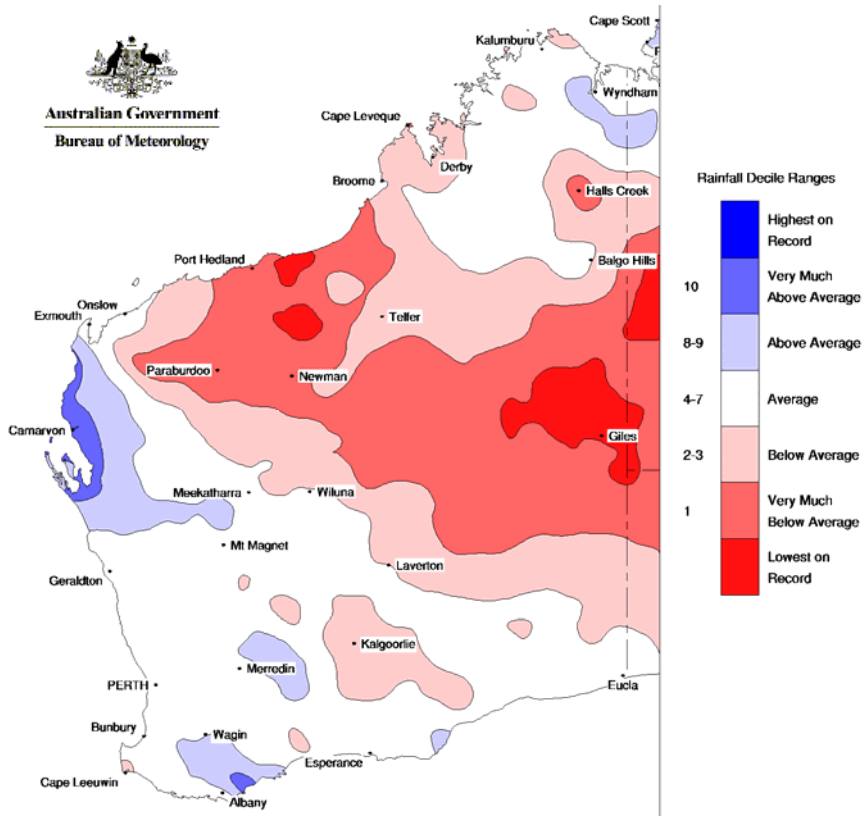


Figure 5 Rainfall deciles for Western Australia for the period 1 July 2004 to 30 June 2005.



East Kimberley overview:

The East Kimberley received a below average wet season in 2004/2005. However, conditions were not considered to be a 'drought' and the current season should be considered in the context of a decade of generally excellent seasonal conditions.

Total rainfall was well below average (lowest 20% of years) across much of the Shire of Halls Creek. For the remainder of the East Kimberley, total rainfall was mainly average (middle 60% of years, as defined by Bureau of Meteorology), with a small swathe of country affected in March by the path of Cyclone Ingrid receiving above average rain. This rain was concentrated in several heavy falls, and distribution over the season was not conducive to continuous grass growth.

The late onset of the wet season and a lack of February rainfall resulted in extremely low (estimated to be in lowest 10% of years) pasture growth over a large part of the east Kimberley. The lack of pasture growth was particularly obvious on country burnt in 2004, especially on the normally productive clay soils. Black soil pastures were particularly adversely affected by the dry conditions, and biomass production was minimal in these pasture types. In some cases properties responded by moving sale stock early or moving stock to other properties outside the district. A lack of runoff meant that some dams were not replenished and this again forced the relocation of stock within properties.

West Kimberley overview:

The West Kimberley experienced a below average wet season however significant rains occurred in May, June and August 2005. This resulted in reasonable grass cover throughout the district although there were some signs of overgrazing particularly near waters.

The season's lower rainfall resulted in significantly less natural surface water than in normal years, especially in the north. There has been a lower incidence of wild fires during the season which is possibly a direct result of lower fuel loads.

Pilbara overview:

The Pilbara as a whole had a poor wet season especially in the east. Scattered storms were recorded during the wet however no broad systems occurred to provide extensive rainfall. Following on from the wet a series of frontal systems produced a number of rainfall events on the coastal areas south of Karratha. These events resulted in a good germination and growth of annual and perennial plants in the area.

Livestock condition was only fair following the failed wet season and many pastoralists mustered very early, weaned and turned off any sale cattle. This reduced grazing pressure and reduced the risk of animal health issues.

Gascoyne Murchison overview:

2004 was a year of contrast for the Gascoyne Murchison region. Exceptionally favourable summer rainfall benefited most coastal areas, apart from areas adjacent to Exmouth Gulf. The July 2004 rainfall record was also excellent for the same coastal area, promoting excellent pasture growth; although the winter season came to an early close through lack of late winter falls. Elsewhere in the region continuing dry conditions prevailed.

Summer 2005 remained dry. However commencing in May and with a gradient that favoured the west, the Gascoyne Murchison region benefited generally from better than average opening winter seasonal conditions that continued through June.

At the end of June 2005, pastoral areas generally on the coast and for a distance to about 200 km inland (includes Gascoyne Junction but not Yanrey and Koordarrie on the West Pilbara coast) had the benefit of average and better than average pasture condition. Further to the east and in most parts of the Murchison region, early winter rainfall has temporarily eased a long term drought situation but pasture recovery is generally insufficient to support re-stocking.

Meekatharra overview:

The 2005 calendar year began with general dry conditions throughout the Meekatharra district. The district received isolated showers around Easter. A break to the prevailing dry conditions came with good falls of rain during June and July 2005 in the south of the district around Mt Magnet, Paynes Find and Yalgoo and as far north as the Cue area. Around Meekatharra and to the north the falls were scattered and varied greatly in intensity with the northern portion of the district receiving rain from the low that delivered good rain to the Pilbara in July. This resulted in pasture response and provided some hope that the prevailing dry conditions may be over. The positive impact would have been greater with higher falls in the north of district and adequate August follow up rain.

To the east of Meekatharra, around Wiluna, the run of good seasons ending during the period which resulted in a number of properties moving stock out of the district in response to the very dry conditions.

With the long run of dry seasons and the seasonal break provided by this year's rain there have been a number of leases put up for sale.

Again, this year few properties are fully stocked, in response to the earlier and continuing dry conditions.

Goldfields – Nullarbor overview:

Summer rainfall throughout the district did not result in any appreciable vegetative growth. Unfortunately the spasmodic summer storms did not receive the necessary follow-up rain and were insufficient to produce adequate soil moisture for pasture response. These storms were still considered useful as they allowed for the recharging dam storages in the southern Goldfields. The Sandstone-Leinster area received useful falls in early May 2005, as did Leonora to a lesser extent. These falls allowed this part of the district to get ongoing vegetative response from small follow-up falls in subsequent weeks. The district received very little rainfall in July 2005, which is generally the most reliable rainfall month. Kalgoorlie, Norseman and to a lesser extent Leonora and Forrest areas received useful falls in late August 2005, however the rainfall at Leonora terminated abruptly about ten kilometres east of the town. Additional small falls and cool temperatures in September have produced a "pulse" of herbage growth as well as stimulating growth and flowering of perennial shrubs. A considerable area of pastoral country from north east of Leonora, through Laverton and south east to the southern Nullarbor have largely received inconsequential winter rainfall.

For most of the district this "below-average" winter season follows others in the last four or five years. This has increasingly resulted in nutritional stress on livestock, (particularly during late spring and summer), with reproductive rates being a

significant casualty. Poor reproductive rates and enhanced mortality rates amongst adult breeders have impacted on the size and age structure of breeder flocks/herds. The paucity of surplus stock for sale is negatively impacting on enterprise incomes. Most producers have reduced stock numbers by consigning stock for sale, agistment or agistment/sale in the agricultural areas.

1.6 Exceptional Circumstances Declaration – Southern Rangelands

The southern rangelands was originally declared Exceptional Circumstances (EC) on 2 July 2003 and covers areas from the Roebourne and Ashburton Shires to the Southern Goldfields. Earlier this year, the Australian Government extended the declaration for a third year to 1 July 2006.

The EC Program is funded jointly by the Australian and State Government to assist owner operator farmers and pastoralists overcome the effects of extended drought, rare and severe enough to only occur once every 20 to 25 years. For an area to obtain declaration for EC there must be at least 2 consecutive years of drought contributing to a significant reduction in stock numbers across the defined area. A one year severe drought is not enough to obtain a declaration.

Benefits from Pastoral EC Declaration

- **EC Relief Payment** (ECRP) - This is available to families by applying directly to Centrelink and is available until 9 April 2006. The benefit is equivalent to the Newstart Allowance to help with family living expenses and also provides a Health Care Card.
- **EC Interest Rate Subsidy** (EC IRS) - This is available to pastoral businesses through the Department of Agriculture. Applications for Year 3 can be made until 1 July 2006, however there is now some latitude for those who have difficulty meeting that date. The benefit is for 80% subsidy payable on the interest on station business to be paid in the financial year ended 30 June 2006.

Businesses that have no debt and have not applied for either Year 1 or Year 2 and in the 2005/2006 year may be considering purchase of stock for re-stocking may apply for the EC IRS for borrowings incurred for re-stocking. The restocking decision must be considered good practice relative to rangeland condition and its recovery from drought.

Assessment Guidelines

Those who have received the Year 1 and 2 EC IRS need only demonstrate that their Business equity has not increased above the 30 June 2001 level.

Those who had not applied for Year 1 or Year 2 must demonstrate:

1. A reduction in livestock numbers on the station of greater than 30% from pre-drought numbers; and
2. Total equity (including off station assets) at 30 June 2005 are at least 5% down (in dollar terms) from 30 June 2001; and
3. Pastoral business costs were greater than 85% of income for two successive years over the financial year period to 30 June 2002, 2003, 2004 and 2005.

Means Test

For the EC IRS, the value of non-essential station assets and net off station assets must be less than $435,000. All assets of all partners/beneficiaries are considered in determining off station assets.

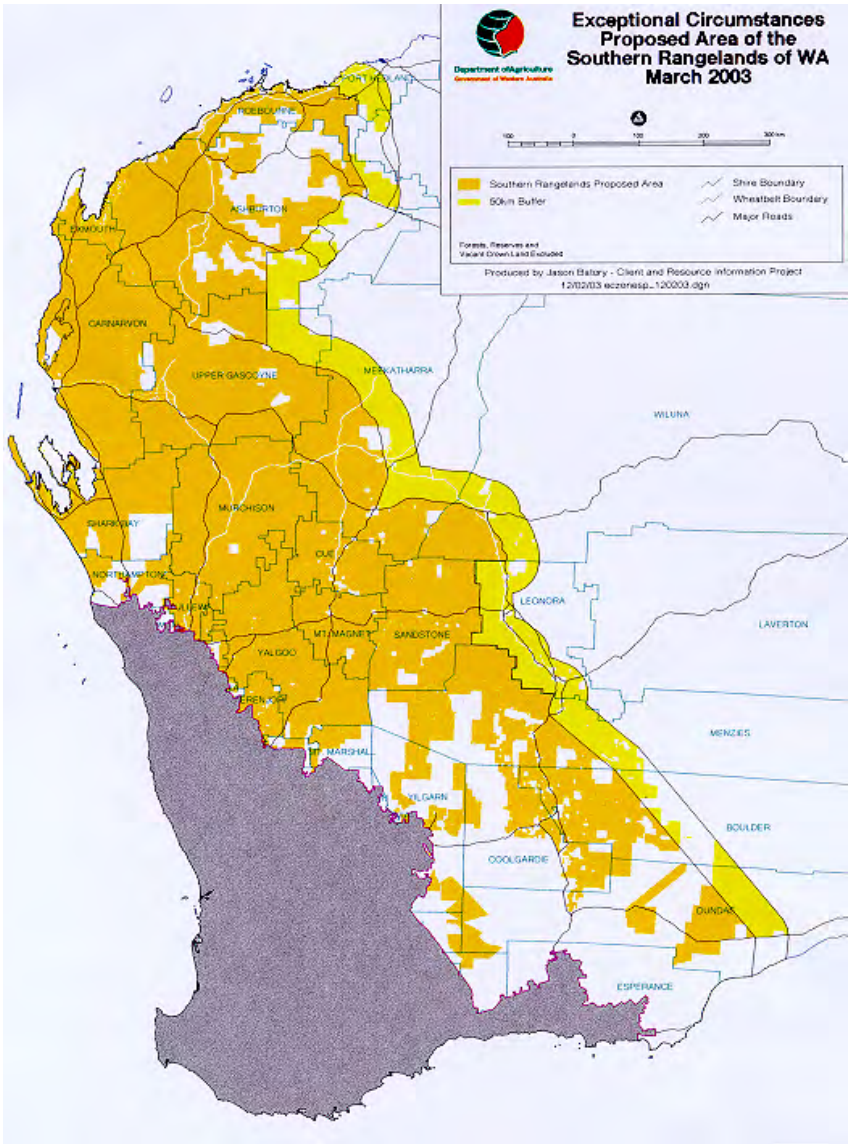
The ECRP, through Centrelink, has a different set of criteria for determining off station assets.

Uptake

The number of pastoralists who have accessed the ECRP from Centrelink is not available due to the privacy provisions within Centrelink.

There have been 59 Year 1 EC IRS approvals from 62 applications, 50 Year 2 approvals from 59 applications, and until the end of October 2005, 12 Year 3 approvals from 16 applications. With the EC IRS at the current 80%, the average payment in Year 3 is around $47,400.

Figure 6 Exceptional Circumstances Declared Area and Buffer Zone



2. Carnarvon 2020

Background

In 2004 the Premier requested the development of the Carnarvon 2020 strategy with the intention to enhance Carnarvon's capacity as a regional service hub.

The Gascoyne Murchison Strategy had been working on a number of regional scale development projects and it was recognised that these projects could form the basis of "Carnarvon 2020".

The Projects

The projects included in "Carnarvon 2020" are:

- Mt Augustus Development Precinct (Tourism/Horticulture)
- Quobba Coast Tourism Precinct
- Brickhouse Horticulture Precinct.
- Meedo Horticulture Precinct.
- Carnarvon Artesian Basin Rehabilitation Program; and
- Carnarvon Artesian Irrigation Precinct.

Impact

In summary, the assessed estimated impacts of these projects are:

<u>Economically</u>

- Gross Product of approximately $70 million per year
- Significant income, output and value adding multipliers

<u>Socially</u>

- 600 jobs per year directly attributable
- Significant related job development due to external multipliers

<u>Environmentally</u>

- Savings of a further 37 Gigalitres per year from Phase II of the Carnarvon Artesian Basin Rehabilitation Program bringing the total savings to approximately 90 Gigalitres
- Pilot the planned implementation of the Carnarvon–Ningaloo Coast Strategy

<u>Culturally</u>

- Direct commercial aboriginal involvement in projects, including:
  - Ingarda (Carnarvon) in the Brickhouse development to secure one of the farms including management and technical training and employment
  - Mulgana (Shark Bay) employment and training relationship in the Meedo development
  - Burringarrah community key partners in tourism development particularly with respect to guided tours to the Mt Augustus and surrounding features. Also employment and training opportunities with any horticulture expansion

Cost

The new resource allocation committed to these projects is approximately $8 million over 3 years and the project is to be managed by the Department of Agriculture.

3. Economic issues

3.1 Economic data

The rangelands are an area of low agricultural productivity in comparison to the rest of the State. However the large scale of the operations coupled with a low cost of production provides the potential for businesses to be run profitably. The large scale of the rangelands makes the potential benefits of improvements in productivity attractive as small change in productivity can lead to a significant impact on the business' bottom line and the aggregated impact on the regional economies could be significant. Climate is a major driver of profitability and maintaining a low cost of production is an important tool to manage climate variability.

Livestock industry statistics

Beef Cattle and Sheep

The two main livestock activities in the rangelands are wool production in temperate areas and live cattle exports in tropical areas. There are an increasing number of cattle in the temperate sub-regions and the Pilbara in response to strong export demand for live cattle.

Table 8: Cattle numbers in the rangelands (000 head) according to livestock returns to PLB as at June 30 2004:

	98/99	**99/00**	**00/01**	**01/02**	**02/03**	**03/04**	**04/05 estimate**
Gascoyne	50	56	65	64	51	62	N/A
Goldfields	14	18	19	24	24	27	25
Kimberley	448	534	479	566	543*	549	480
Murchison	59	71	65	68	67*	75	N/A
Pilbara	203	224	238	260	226	243	250
TOTAL	**774**	**904**	**866**	**981**	**911***	**955**	

Source: Annual Return of Livestock and Improvements

Note: Estimates based on historical figures and seasonal conditions
N/A means that an estimate was not available

(*Some stations in the Kimberley failed to report correctly in the statutory declarations in 2003. It has been assumed that for these stations the same number of cattle were present in 2003 as in 2004. This assumption increases Kimberley cattle numbers by 53,000 above what is reported in the Annual Return of Livestock and Improvements. Likewise, in the Murchison, 6 stations failed to report correctly in 2003. It is estimated this would increase Murchison cattle numbers by 4000.)

Key issues:

- While both ABS and the Annual Return of Livestock and Improvements state that cattle numbers in the Kimberly have not exceeded 590,000 in recent times, Department of Agriculture staff believe the number of cattle in the Kimberly was closer to 650,000.
- Between year variation is greater than the trend over time in most cases.

- The Pilbara, Gascoyne and Kimberley all reduced numbers in 2002/03 and then increased in 2003/04.
- The number of cattle in the Murchison is expected to have remained relatively static as most stations are running very low cattle numbers if they have not already completely de-stocked.
- Longer term trends in the Pilbara, Murchison and Gascoyne herds should indicate an increase in cattle numbers due to strong export demand for live cattle.
- Poor returns for wool in the 1990s and high wild dog numbers have forced many pastoralists to diversify into cattle.
- The Goldfields herd shows steady growth from a very small base.
- Given the dry season to June 2005 in the Kimberly the number of cattle is likely to have declined.
- Pilbara numbers might have increased marginally in the 12 months to June 2005 – in spite of a general failure of summer rains. Pasture and cattle responded well to good general relief rain with falls around 100mm in many areas in early July.

Table 9: Number of cattle sales in the rangelands (000 head) according to livestock returns to PLB as at June 30:

	98/99	**99/00**	**00/01**	**01/02**	**02/03**	**03/04**	**04/05 estimate**
Gascoyne	11	17	19	29	30	17	N/A
Goldfields	1	4	4	5	7	6	6
Kimberley	103	88	126	153	168	179*	240
Murchison	18	26	28	45	32	28*	N/A
Pilbara	49	63	74	94	113	85	105
TOTAL	**182**	**198**	**251**	**326**	**350**	**315**	

*Where Statutory Declarations were inadequately completed values were estimated based on historical figures.
Source: Annual Return of Livestock and Improvements
Note: Estimates based on historical figures and seasonal conditions
N/A means that an estimate was not available

Key issues:

- Increase in the Kimberley turnoff due to buoyant market prices and strong export demand. A significant increase is expected for the year ending June 2005 as the dry season facilitated the muster of many of the feral cattle and encouraged properties to offload cows.
- It is likely that there was an increase in sales/stock movements from the Pilbara due largely to a lot of cattle being moved early on 2005 as part of management strategies to manage the extended dry conditions developing as a result of the failure of summer rains. This was encouraged by strong demand and reasonable prices.
- Increasing sales in the goldfields from a very small base.
- Demand for Australian beef has been remarkably buoyant since early 2004, due to a combination of the lack of competition from the US in key markets, high US beef prices, and the revival of Australian and US consumer interest in beef. This

situation could start to change from early 2006, with the expected gradual re-entry of US and Canadian beef into Japan, a more sudden return to Korea, easing US beef demand and the re-opening of the US–Canadian border triggering a moderate fall in export demand for Australian product. (MLA)

- Australia-US free trade agreement entered into force in January 2005 immediately eliminating the in quota tariff on Australian beef (4.4 US cents/kg). The agreement also increases Australia's quota for beef by 70,000 tones over the 18 years.

Table 10: Sheep and lamb numbers in the rangelands (000 head) according to livestock returns to PLB as at June 30:

	98/99	99/00	00/01	01/02	02/03	03/04	04/05 estimate
Gascoyne	374	461	315	266	190	208	N/A
Goldfields	293	415	385	379	259	279	200
Murchison	443	563	493	384	221	211	N/A
Pilbara	42	84	35	25	32	16	16
TOTAL	**1,152**	**1,524**	**1,227**	**1,055**	**702**	**715**	

Source: Annual Return of Livestock and Improvements
Note: Estimates based on historical figures and seasonal conditions
N/A means that an estimate was not available

Key issues:

- A significant decrease in numbers in the Pilbara where now only 3 stations run flocks over 1,000 head.
- Significant decreases in the Gascoyne as producers switch to cattle.
- A significant decrease in the Murchison.
- The Goldfields sheep population shows no strong trend with 2004 numbers within 5% of 1999 numbers.
- Total numbers of merino sheep declining throughout the rangelands. Alternative meat sheep breeds such as the Damara and Dorper are on the rise and will help stabilize the overall decline of sheep numbers.

Table 11: Number of sheep and lamb sales in the rangelands (000 head) according to livestock returns to PLB as at June 30:

	99/00	00/01	01/02	02/03	03/04	04/05 estimate
Gascoyne	108	115	132	60	38*	N/A
Goldfields	67	91	105	52	55*	45
Murchison	136	160	143	75	44*	N/A
Pilbara	49	27	12	5	20	5
TOTAL	**359**	**393**	**392**	**192**	**157***	

*Where Statutory Declarations were inadequately completed values were estimated based on historical figures.
Source: Annual Return of Livestock and Improvements
Note: Estimates based on historical figures and seasonal conditions
N/A means that an estimate was not available

Key issues:

- Large variability in the Pilbara, due to the reduction in sheep flock size due to 2 stations selling out of sheep in 2004 and the other 3 reducing numbers.
- Low availability of sheep and lambs throughout Australia has resulted in record sale yard prices for lambs in WA and a sharp increase in retail prices.
- Reduction in sheep numbers in the Gascoyne and Murchison has resulted in lower turnoff in recent times.
- Industry focus in 2005/06 is likely to remain on the supply of sheep and lambs available for processing and live export. Processors have expressed concern over the low availability of sheep and lambs, and the impact on their operational efficiency.

Table 12: Wool production in the rangelands (tonnes greasy)

	98/99	99/00	00/01	01/02	02/03	03/04	04/05 estimate
Gascoyne	2,302	2,278	1,703	1,141	700	651	N/A
Goldfields	2,057	1,837	1,870	1,910	1,214	1,135	923
Murchison	2,892	3,174	2,845	1,927	912	748	N/A
Pilbara	277	309	160	116	124	86	71
TOTAL	**7,529**	**7,598**	**6,578**	**5,094**	**2,950**	**2,544**	

Source: Annual Return of Livestock and Improvements
Note: Estimates based on historical figures and seasonal conditions
N/A means that an estimate was not available

Key issues:

- There has been a gradual decline since the mid 1990s of the national sheep flock due to pastoralists reacting to downward movements of wool price and diversifying into cattle.

Table 13: Value of wool production in the rangelands ($000)

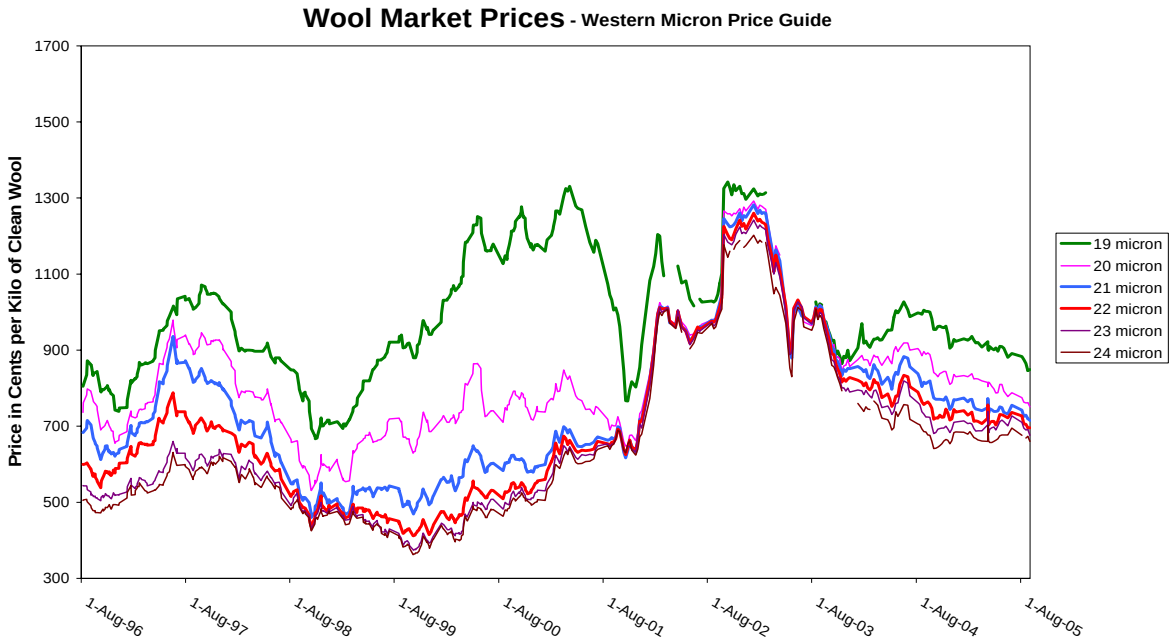
	98/99	99/00	00/01	01/02	02/03	03/04	04/05 estimate
Gascoyne	4,535	5,088	5,045	3,891	3,314	2,495	N/A
Goldfields	5,105	4,858	6,146	8,553	6,606	5,956	3,981
Murchison	6,646	7,440	9,262	7,827	5,243	3,392	N/A
Pilbara	492	644	360	393	706	342	319
TOTAL	**16,778**	**18,030**	**20,812**	**20,664**	**15,868**	**12,184**	

Note: Calculated using stated wool production from PLB Annual Return of Livestock and Improvements and average annual auction price for each region.

Key issues:

- Although there has been a decline in production in recent times, the volatility of wool prices led to the value of wool increasing in 2000 and 2001.
- Exchange rates have a direct impact on the auction prices for Australian wool, with over 95% of the production destined for export markets
- Western Australian wool prices have eased fairly consistently for the past thirty months falling from 1143 cents a kilogram in January 2003 to 670 cents a kilogram in September 2005.
- Outlook is for a slight firming in finer wool prices (US basis) into 2005/06 and steady prices for mid/broad micron wool (Woolmark Outlook February 2005).
- Premium for diameter remains, after re-emerging in Nov 2003 (see figure 7).

Figure 7 Wool market prices



Source: Western Market Price Indicator Guides (Aug 96 – Aug 05)

Goats

Goat meat exports have averaged $11 million in revenue for Western Australia over the last 5 years (Agrifood Infonet). Historical data shows that prices for rangeland goats are lowest in March-April and rise steadily from August until December. The US is the major market for Australian goat meat with year round demand and the highest prices. Taiwan remains Australia's second largest customer for goat meat, with demand for 'skin on' carcasses during the October to January period.

The primary market for WA goat meat is Taiwan with export value of $7.8 million in 2004/05. Next is Trinidad and Tobago with $1.8 million followed by the USA with $0.6 million. In July 2005 the abattoir in Geraldton became USDA accredited and is now able to service the consistent and lucrative US market.

In late 2003, the LAA was amended to allow goats as authorised livestock on the rangelands, subject to a best practice management framework to ensure sustainability of the industry and associated markets.

The constraints of inconsistent supply and variable quality have hampered industry development. Recently, new goat enterprises have been established, with a range of market targets, infrastructure development and management strategies. Goat processing works at Geraldton are conveniently located to the producers in the southern rangelands of WA.

Table 14: 2004 Goat Meat Schedule Prices- Western Australia

	Carcass	<12kg	12-16kg	16-24kg	>25kg
Jan–March 16	NCV	$25	$34	$36	$36
16 March-15 June	NCV	$15-20	$30	$33	$33

Table 15: Current state of the goat industry

	99/00	**00/01**	**01/02**	**02/03**	**03/04**	**04/05**
No. of rangeland goats processed (John James- records no longer maintained).	210,181	173,906	286,743	282,435	210,770	
Goat meat exports from WA (Tonnes) (WAQIS)	3,155	4,253	4,536	4,287	3138	3774
No. of goats exported live (Agrifood Infonet)	31,772	57,544	63,960	41,499	27,119	26,100

As seen in table 16, slaughter figures for 2003/04 were 25% less than the previous year due in part to the closure of the works at Carnarvon rather than a shortfall of goats. Slaughter numbers have increased in 2004/05 however goats are not slaughtered at Carnarvon or Katanning abattoirs.

Table 16: Numbers of goats processed at export accredited abattoirs in Western Australia.

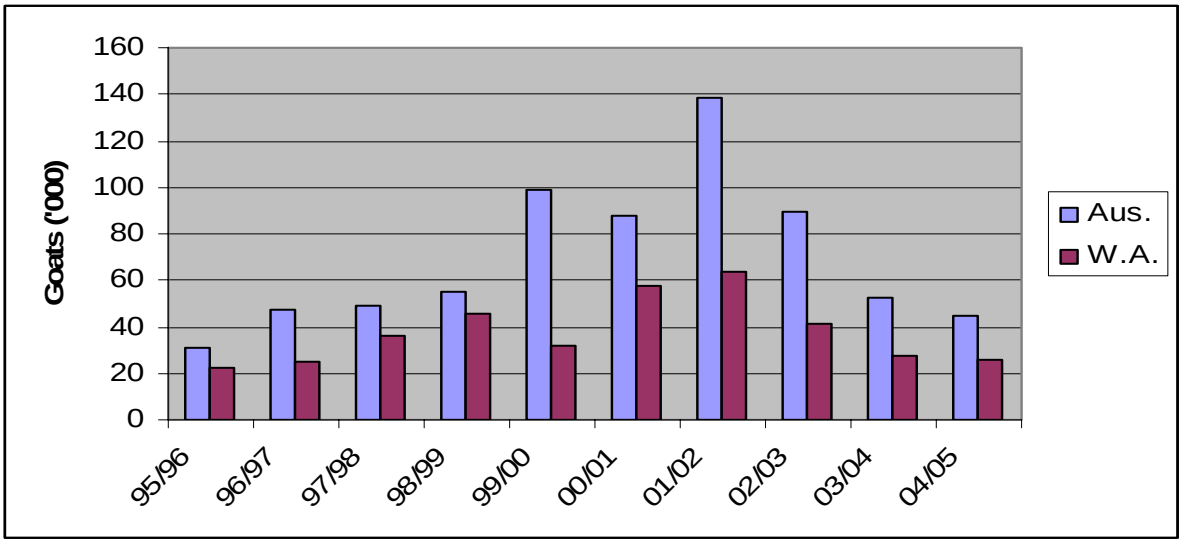
Abattoir	**02/03**	**03/04**	**04/05**
Beaufort River	41,734	9,232	18,295
Carnarvon	32,681	0	0
Geraldton	148,688	155,115	184,701
Gingin	44,550	39,477	23,747
Katanning	14,727	3,789	0
Margaret River	23	3,076	3,853
Narrogin	32	81	34
Total	**282,380**	**210,770**	**230,630**

Source WAQIS

The continuing decline in the volume of live goat exports from Australia from the record of 138,781 in 2001/02 is shown in figure 8. The major market in that year, Saudi Arabia, was affected by a ban on live exports from August 2003 to July 2005 when shipments resumed. Only small numbers of goats were sold to neighboring countries in the Middle East in that period.

In 2004/05, WA contributed 60% of total Australian live goat exports (26,100 head). Most of the product (males above 25kg live weight) was consigned on regular shipments as slaughter goats.

Figure 8 Live exports of goats from Australia and Western Australia



Source: Agrifood Infonet

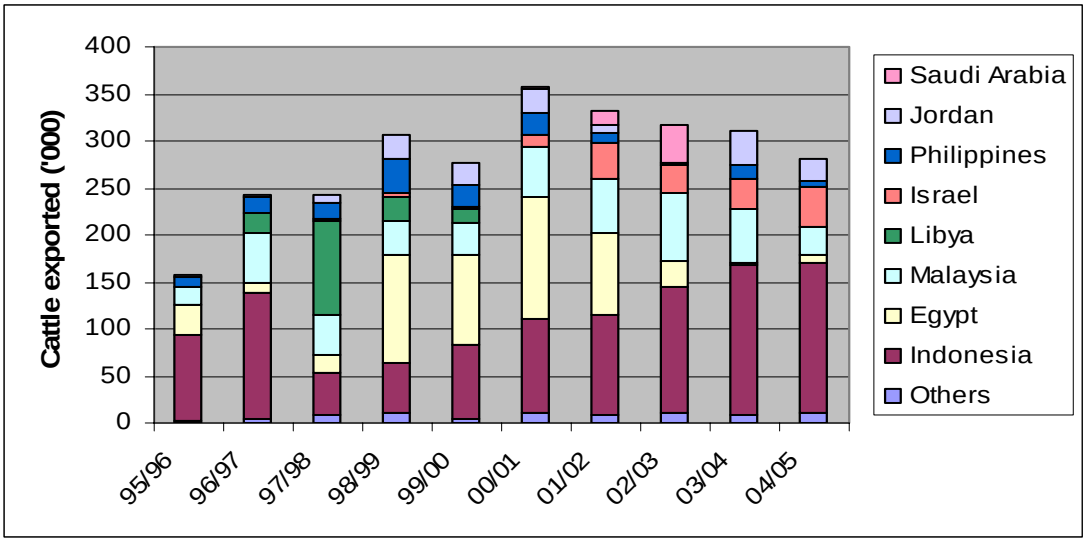
Live export markets

Export markets are important for both temperate and tropical rangeland pastoral businesses. In tropical areas there is a strong demand for feeder cattle for lot feeding operations in Asia and the Middle East. In temperate areas, the export of live sheep to Middle East markets is an important revenue earner for pastoral businesses. The high Australian Dollar and competition from other suppliers is limiting returns to Australian exporters.

Saudi Arabia was Australia's biggest Middle Eastern market for live sheep in 2003, importing 1.4 million head valued at $100 million. In 2001, the market took more than 2.1 million head. The trade was suspended in August 2003 after sheep on board the MV Cormo Express were denied entry. In May 2005 Australia and Saudi Arabia signed a Memorandum of Understanding (MoU) which has allowed the resumption of live trade from Australia to Saudi Arabia.

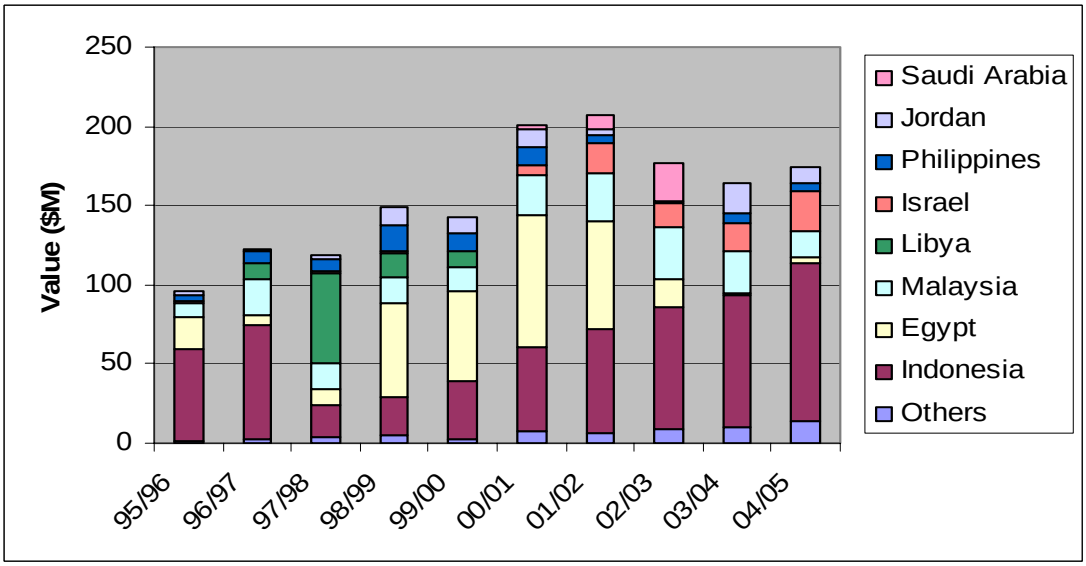
The main export destination for cattle sourced from pastoral regions has traditionally been Indonesia, Malaysia, and Egypt. Over the past few years the relative importance of these markets has changed – and the principal export destination for Western Australian live cattle in 2004/05 was Indonesia at 57%, followed by Israel 15% and Malaysia at 11%.

Figure 9 Live Cattle exports from Western Australia (Quantity '000 head)



Source: Agrifood Infonet

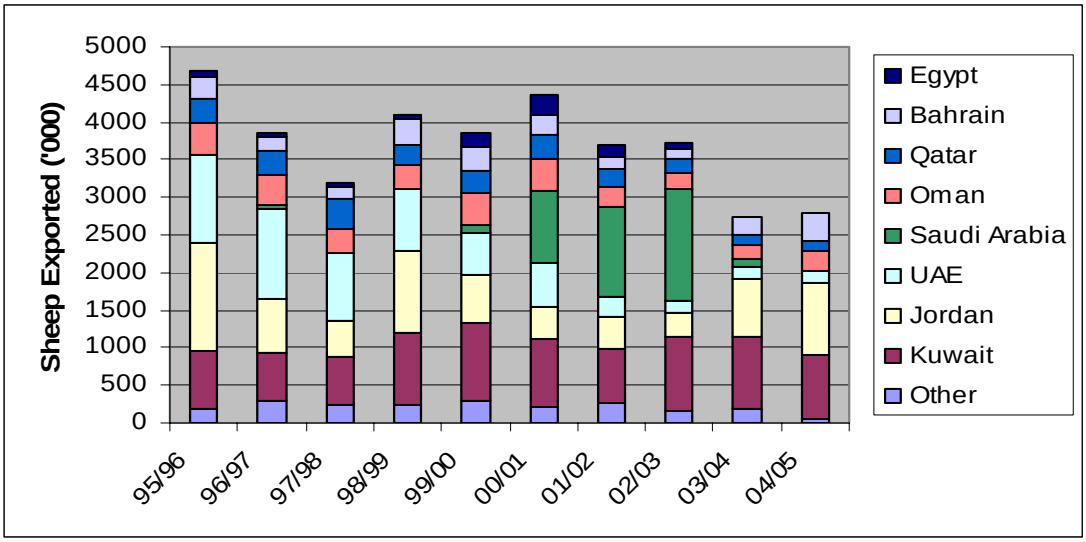
Figure 10 Live Cattle exports from Western Australia (Value $ Millions)



Source: Agrifood Infonet

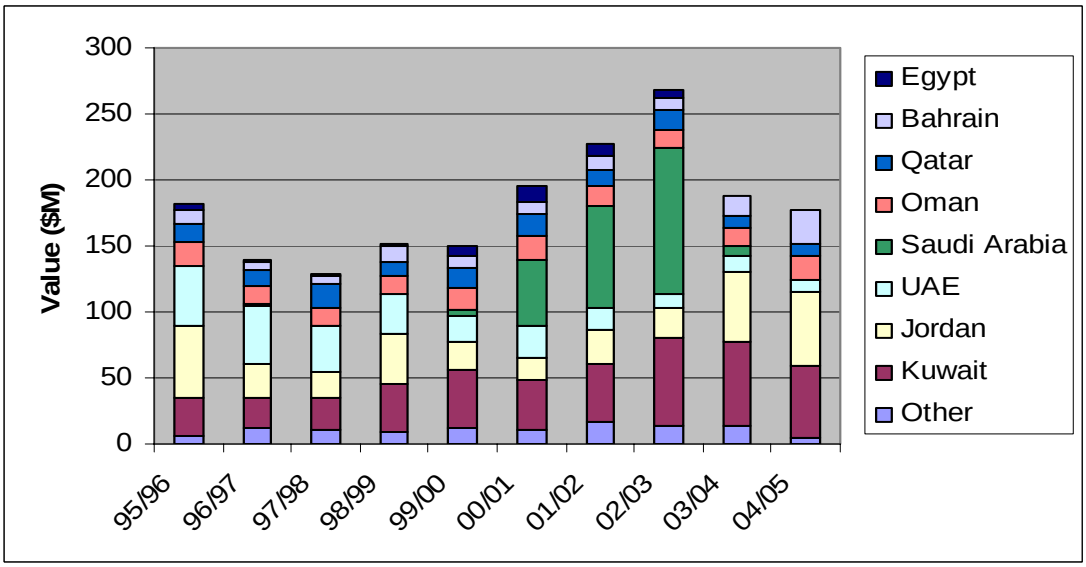
Since the late 1990's Western Australia has been the largest exporter of any Australian state for goats, cattle and sheep and a high proportion of these livestock are sourced from rangelands pastoral businesses. The main ports for exporting livestock from Western Australia's rangelands are Fremantle, Geraldton, Port Hedland, Broome and Wyndham.

Figure 11 Live Sheep exports from Western Australia (Quantity '000 head)



Source: Agrifood Infonet

Figure 12 Live Sheep exports from Western Australia (Value $ Millions)

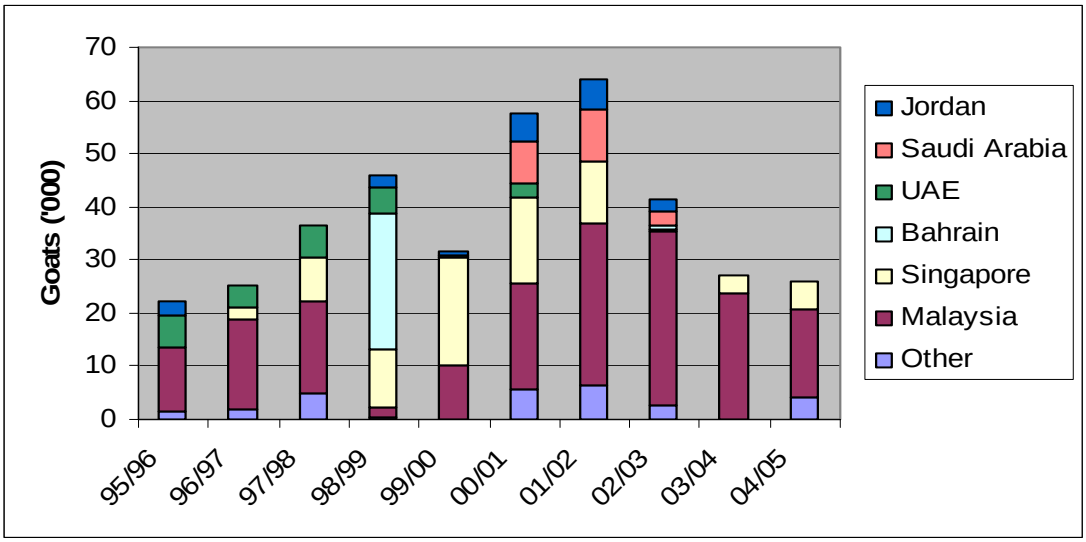


Source: Agrifood Infonet

It is interesting to note the difference in the quantity and value tables for live export sheep from Western Australia. Price per animal increased by 38% in 2001/02 and, coupled with a slight increase in export numbers lead to significant gains in total value of live exports. Prices have remained high and compared to the late 1990's the value of exports are greater despite the number of sheep exported reducing.

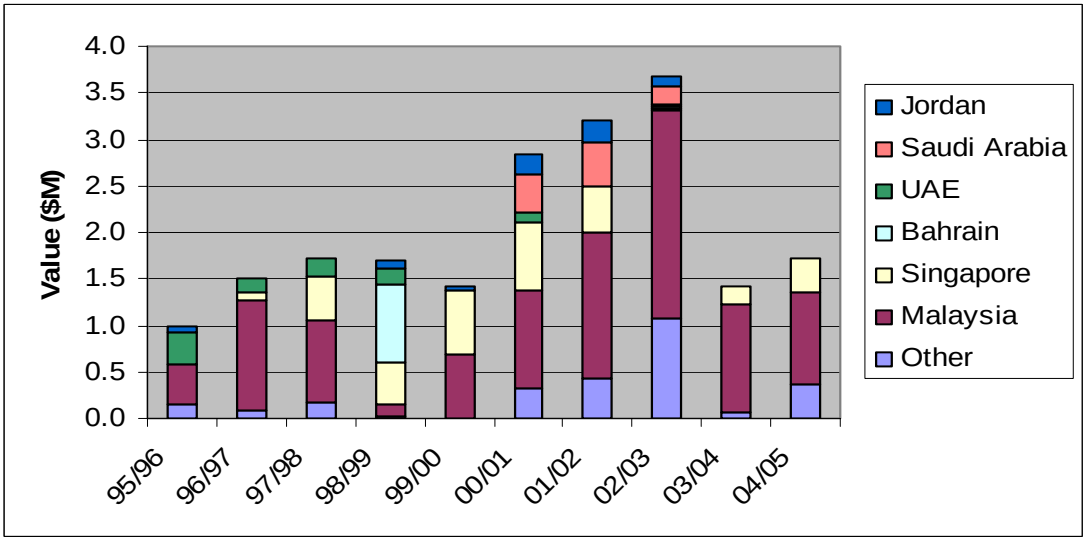
The Western Australian goat industry remains confident that Malaysia will continue to offer a year round market. The demand is created by religious and cultural festivals of the various ethnic groups (Malays, Indians and Chinese). However, it is unlikely that export volumes would increase significantly above present levels, with the main constraint being the limited infrastructure that exists for quarantine and holding facilities.

Figure 13 Live Goat exports from Western Australia (Quantity '000 head)



Source: Agrifood Infonet

Figure 14 Live Goat exports from Western Australia (Value $ Millions)



Source: Agrifood Infonet

For export demand to return back to levels of 2001/02, (>60,000) it would require a large volume buyer like Saudi Arabia to resume trading with Australia and increased demand from existing markets. In July 2005, live shipments of sheep to Saudi Arabia resumed and there are positive signs that shipments of live goats will begin to service the demand for the Ramadan period, commencing October 2005.

Exotic sheep

The exotic sheep industry in Western Australia has steadily grown in recent years and is made up primarily of damaras and dorpers. Both species are particularly well suited to the southern rangeland environment of Western Australia.

The Department of Agriculture estimates between 80-100,000 exotic sheep are run in the Southern Rangelands on around 30 properties. Approximately 150,000 males and 20,000 female exotic sheep were exported in the last 12 months and it is thought that around 30-40,000 of these were sourced from pastoral businesses. The average price of contracts is currently approximately $55 per head.

Table 17: Livestock numbers exported by port and livestock category for WA

Port	Livestock category	2001	2002	2003	2004
Fremantle	Goats	24,245	22,677	12,878	7,200
	Cattle	139,154	145,473	125,531	87,142
	Sheep	4,334,759	3,338,362	3,023,194	2,809,908
Geraldton	Goats	10,485	12,850	6,430	9,500
	Cattle	15,610	26,069	25,741	32,521
	Sheep	6,285	8,400	5,980	8,850
Port Hedland	Goats	5,914	5,900	3,200	2,200
	Cattle	47,120	22,481	20,207	16,810
	Sheep	4,077	1,350	280	n/a
Broome	Goats	9,850	8,757	4,950	5,365
	Cattle	80,306	77,962	85,138	98,780
	Sheep	6,574	5,044	7,100	5,002
Wyndham	Goats	n/a	93	1,550	100
	Cattle	56,892	56,708	54,078	59,797
	Sheep	n/a	n/a	50	n/a
Other	Goats	18,668	4,777	n/a	n/a
	Cattle	112	n/a	n/a	n/a
	Sheep	7739	1,638	n/a	n/a

Source Livecorp

Financial performance of pastoral businesses

It has been established that the productivity of the rangelands is relatively low compared with land located in the agricultural regions of Western Australia. Even though there may be low productivity, this is offset by the large size of pastoral businesses and the relatively large livestock herds and flocks on each pastoral lease.

The financial performance of pastoral businesses is comparable to the financial performance of grazing enterprises in the agricultural regions but the cost structure, due to the scale of the operation, is quite different. The low productivity of the rangelands and scale of operation means that it is not cost effective to run intensive management systems of pastures or livestock. In parts of the tropical north, some

cattle ventures may have extremely low managerial inputs but still earn a good rate of return on capital invested.

Table 18: Economic indicators for Northern and Southern rangelands

Northern rangelands		**2000**	**2001**	**2002**	**2003**	**2004**
Total Cash Receipts	$	667,773	1,004,618	958,908	755,723	748,447
Total Cash Costs	$	480,382	537,773	594,476	712,012	774,343
Farm Cash Income	$	187,392	466,846	364,432	43,710	-25,897
Farm Business Profit	$	429,642	605,554	683,584	893,706	-160,296
Profit at full equity (excl. cap. Apprec.)	$	449,385	616,242	713,517	922,314	-115,932
Farm capital at 30 June	$	5,608,500	7,766,082	7,649,440	5,983,072	7,497,012
Equity ratio	%	97	99	93	95	95
Debt servicing ratio			1.9	28.3	10.9	26.3
Rate of return - excl. cap. appreciation	%	8.8	9.4	10.6	18.3	-1.6
Southern rangelands		**2000**	**2001**	**2002**	**2003**	**2004**
Total Cash Receipts	$	390,695	643,211	514,657	381,343	363,471
Total Cash Costs	$	312,967	462,208	308,258	263,406	275,939
Farm Cash Income	$	77,728	181,002	206,399	117,937	87,532
Farm Business Profit	$	12,221	84,538	84,902	-60,612	-26,866
Profit at full equity (excl. cap. Apprec.)	$	40,097	135,215	109,402	-39,942	-4,121
Farm capital at 30 June	$	1,916,226	2,599,943	2,662,514	3,193,013	2,654,693
Equity ratio	%	71	75	85	89	88
Debt servicing ratio			28.5	13.5	23.9	19.7
Rate of return - excl. cap. appreciation	%	2.2	5.9	4.4	-1.2	-0.2

Source: ABARE Farm Survey

The 2004 year brought negative returns (excluding capital appreciation) to both the Northern and Southern rangelands. In recent years returns to northern rangelands properties have exceeded those of properties in the southern rangelands. This may be partly due to the fact that the Northern rangelands operations are larger than their Southern rangelands counterparts.

Wooleen station shearing shed (prior to being destroyed by destructive winds in 2005)

3.2 Trends in stock numbers compared to potential carrying capacities

Figure 15 The percentage of actual to potential stock units from Annual Return of Livestock and Improvements Declarations aggregated by region

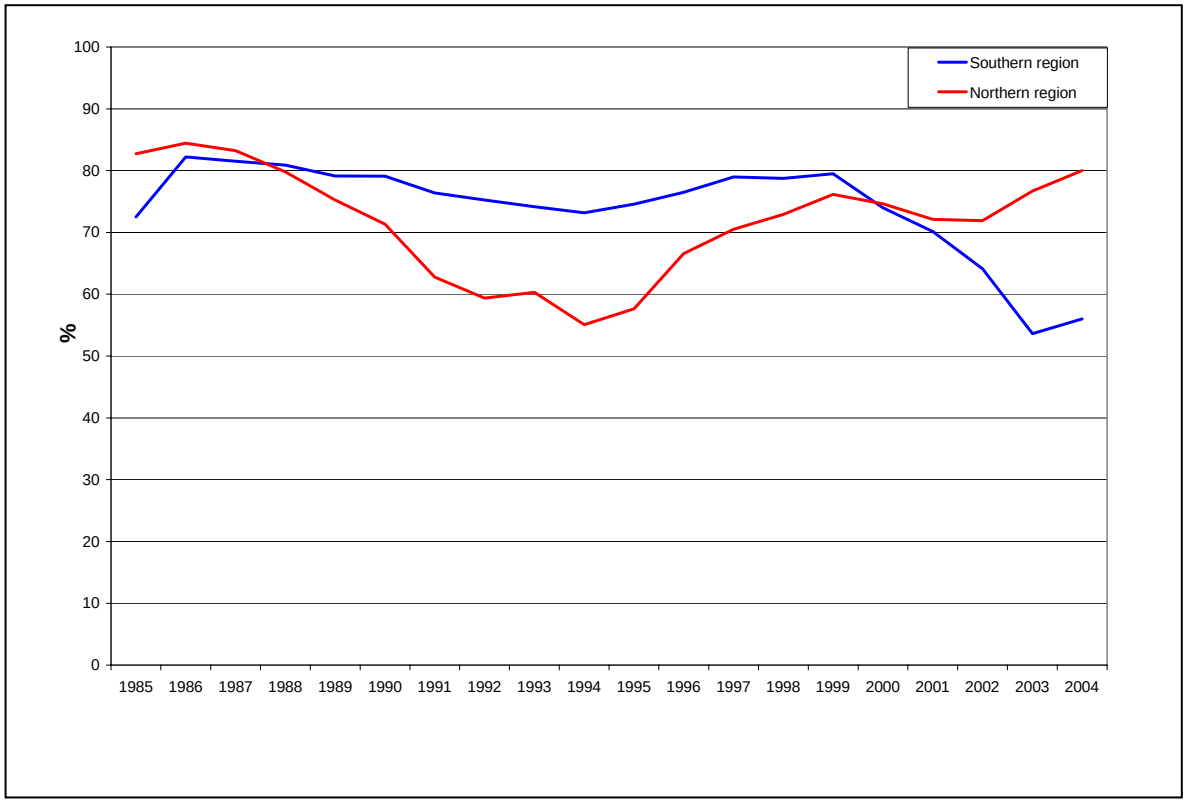
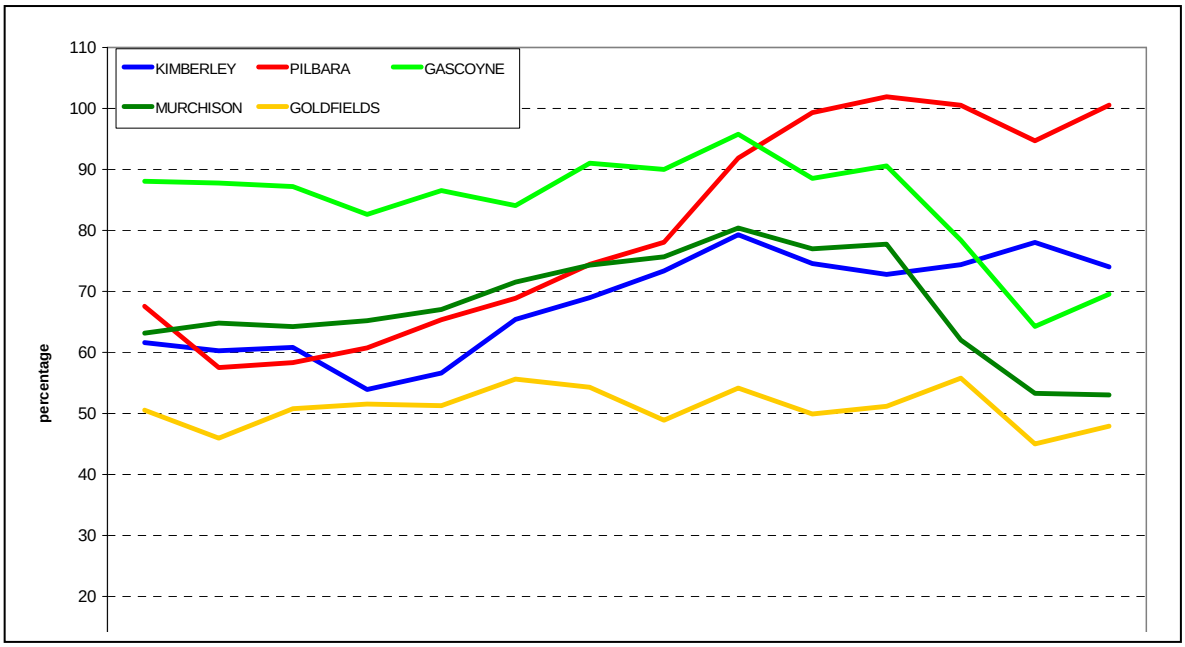


Figure 16 The percentage of actual to potential stock units from Annual Return of Livestock and Improvements Declarations aggregated by district



3.3 Trends in cattle turnoff and wool cuts per head

Figure 17 Cattle turnoff in the rangelands (source Annual Return of Livestock and Improvement Declarations)

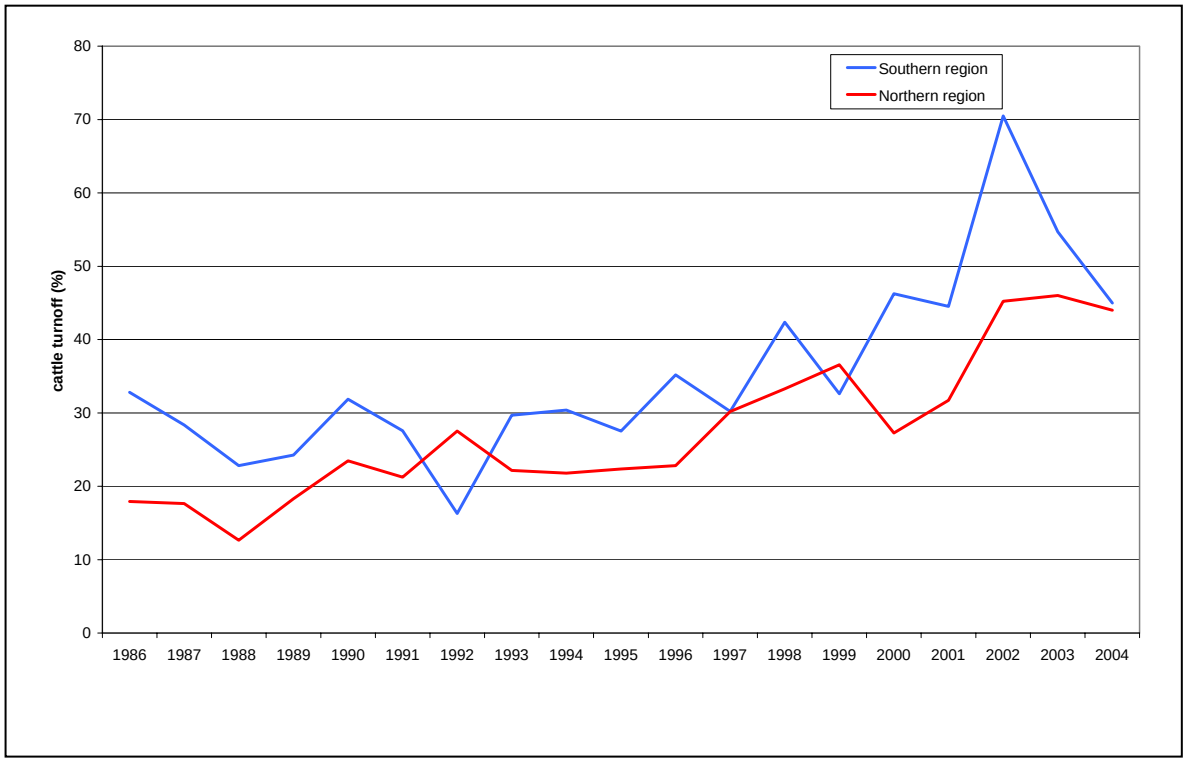


Figure 18 Wool cuts per head in the southern rangelands (source Annual Return of Livestock and Improvement Declarations)

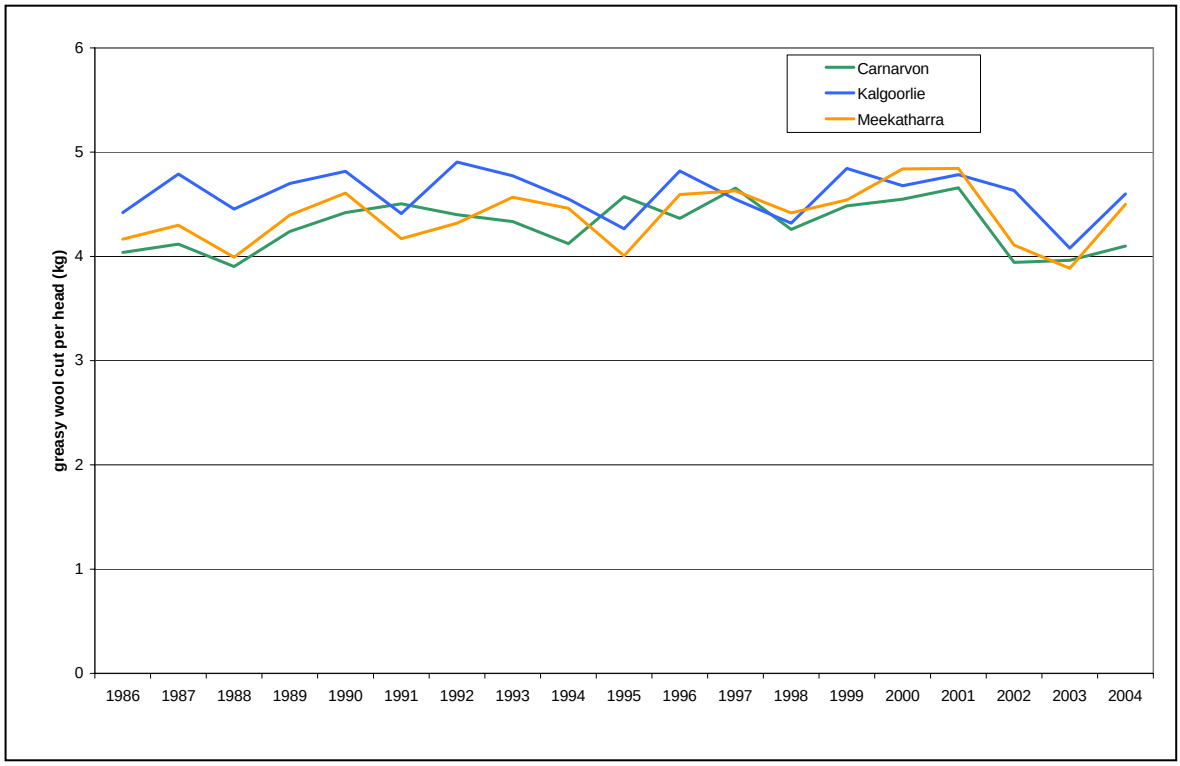
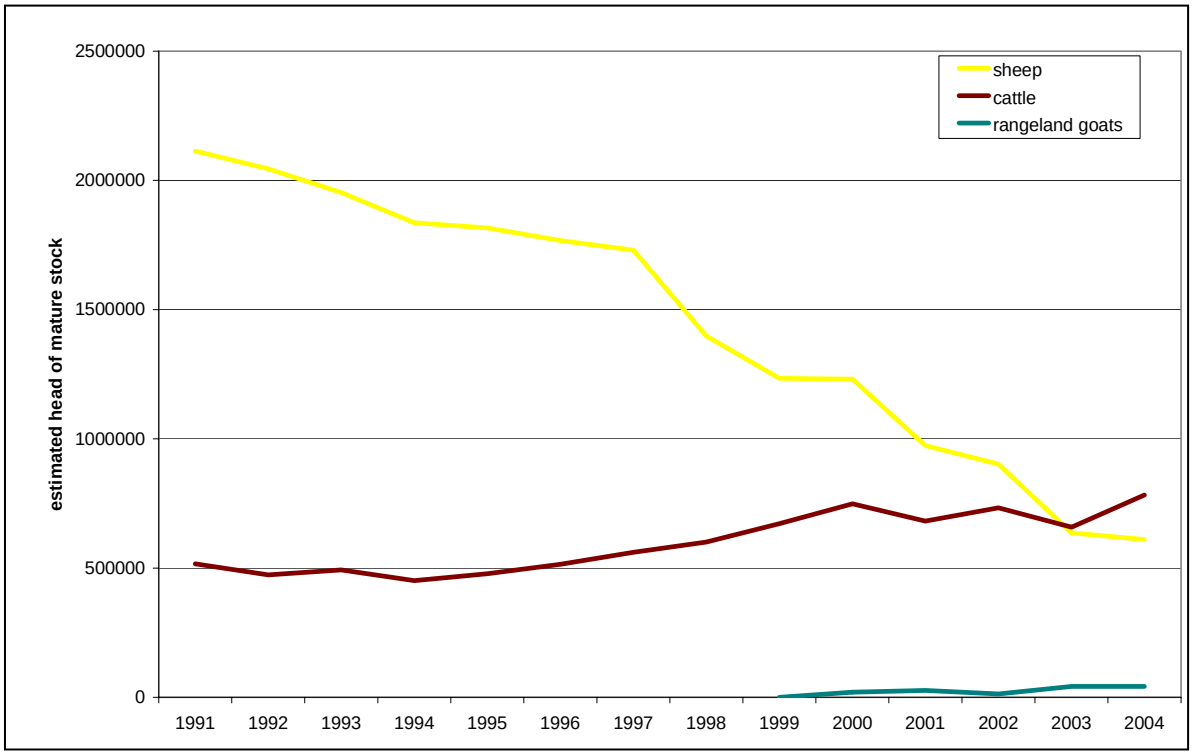


Figure 19 Trends in livestock type in rangelands of Western Australia (source Annual Return of Livestock and Improvement Declarations)



Brahman in the Rangelands

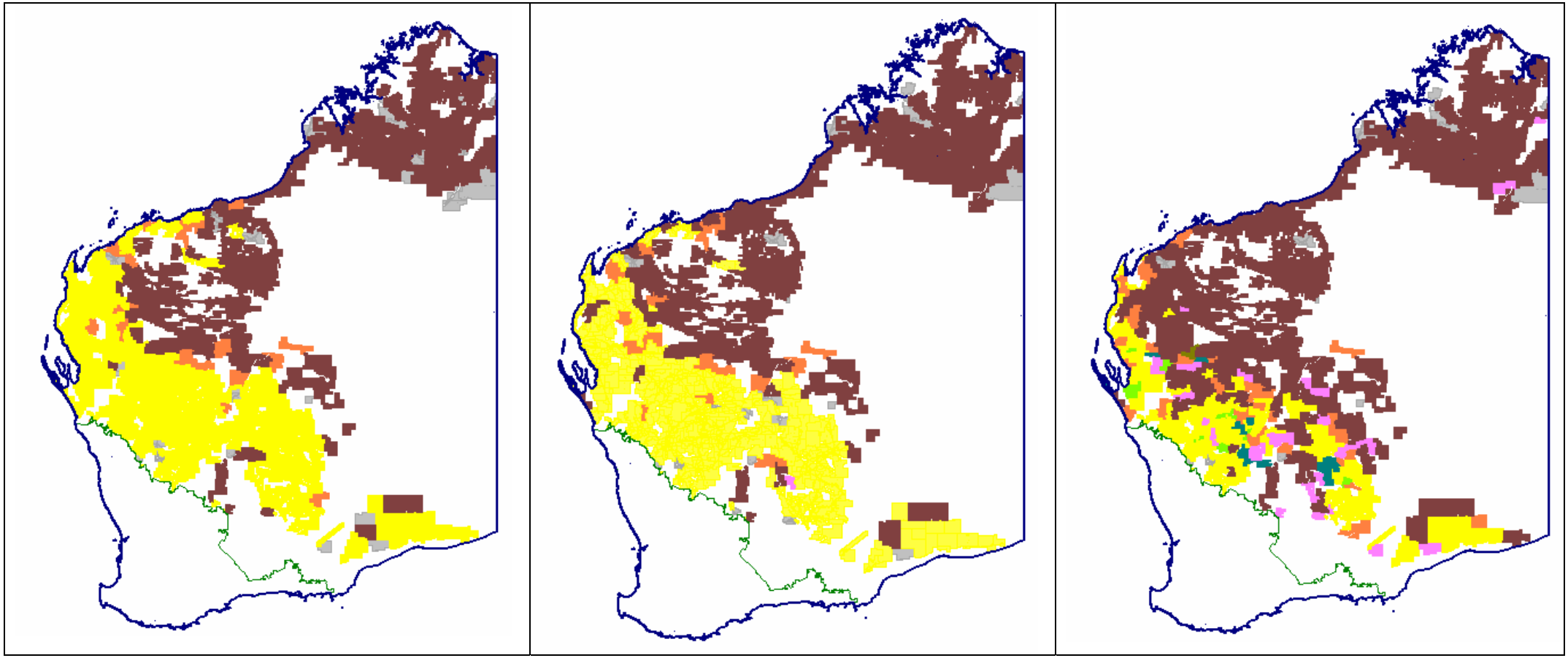


Figure 20 Changes in livestock type in Western Australian rangelands over last 20 years

(The type referred to is the dominant income stream. Some sheep stations may carry small numbers of cattle. In the case of sheep and cattle or sheep and goats income could be expected from both livestock types.)

4. Pastoral Lease Transfers

During the 2004/05 financial year, 51 lessees applied for approval to transfer their pastoral leases and 23 pastoral leases were transferred. Of these, two sales occurred in the Kimberley, one in the Pilbara with the balance in the southern rangelands. These sales exclude “non arms length” transactions of leases involving share transfers and trust dissolutions etc. The Valuer General has not investigated any of the sales as the next required re-valuation is not until 2009, so information provided under this heading is of a generic, rather than specific nature.

Demand for cattle leases remained strong with prices being driven by ongoing demands for beef from the live export trade and reasonably good future market prospects. There has been a limited supply of commercial size leases available for purchase and there were only two transfers in the Kimberley region with the majority of sales of cattle leases being outside this area.

Demand is greatest for leases with either coastal position, and or perceived rainfall reliability, adequate infrastructure and with either river flood out country and/or significant areas of buffel grass.

The value of viable or larger sheep properties with a carrying capacity of 10,000 DSE or over levelled out from previous years. There is increasing interest in converting sheep leases (where rangeland type permits) to cattle. With a continuation of depressed wool prices and a general cost price squeeze there is also an ongoing trend for Merino properties to convert to meat breeds such as damara and dorper crosses.

The largest market sector was the smaller, non viable, lifestyle/grazing type properties with 12 transfers. Four of these were transfers to mining interests with the balance being a mix of lifestyle and grazing. Many of these leases sold on a bare basis or with minimal stock with a fair proportion coming from drought affected areas such as the Murchison.

One lease located close to the south west land division was purchased for private conservation purposes, and one coastal pastoral lease which included two special tourism leases was also transferred.

Reasons for sales are varied and include personal circumstances (health/family issues etc) and the affect of drought and low commodity prices with the resulting impact on viability and equity. Purchasers are generally either from within the industry or from the southwest agricultural areas.

There are signs that lease prices are levelling out with a slow down in sales and increased number of listings which may indicate a possible plateau in market values in the latter half of this financial year.

At the end of 2004/2005 there were 26 leases (actively) listed for sale.

5. Rangelands Natural Resource Management Strategy

Consistent with the whole of Australia, Western Australia has been divided into six natural resource regions with the Rangelands being one of those six. The Rangelands NRM Coordinating Group (RCG) was established with a primary objective of overseeing the development of a Rangelands Strategy and Investment Plan consistent with the Bilaterals agreed to by the Australian and State Governments.

A Rangelands Strategy and accompanying Investment Plan has been developed and presented to the Joint Steering Committee (joint membership of Australian and State Government representatives) which has recommended Ministerial approval to both. The Strategy covers one third of Australia, 87% of WA and 75% of WA's coastline.

The Rangelands NRM Strategy has been developed to facilitate the flow of funds from two Australian Government programs – the Natural Heritage Trust (NHT) and the National Action Plan for Salinity and Water Quality (NAP). Completion and accreditation of the Strategy is essential for funds to flow to the Region in accordance with the approved Investment Plan.

The Strategy and Investment Plan highlights priority natural resource assets in the Rangelands, the threats to these assets and sets targets for their long term protection. The community, including the pastoral community, have been engaged in development of the Strategy and on-going community and industry engagement will be a key part of the future review of the Strategy and Investment Plan.

The Investment Plan follows the strategic intent of the Strategy defining three broad Programs for investment:

1. Sustainable Land Management;
2. Sustainable Management of Water; and
3. Sustainable Management of the Coast and Coastal Waters.

Within these Programs are a number of strategic areas of activity for investment, including fire management, ecologically sustainable rangelands management, managing invasive species, catchment restoration and protection of threatened species.

The Rangelands NRM Coordinating Group is in the process of working with key community, industry and government stakeholders to determine the specific on-ground actions that will be delivered in accordance with the intent of the Investment Plan.

Whilst the Strategy and Investment Plan are complete, they are first iterations in an on-going process to deliver strategic NRM outcomes in the Rangelands. As such the Coordinating Group has committed to review the Strategy over the next 18 months whilst the Investment Plan will be reviewed annually.

For 2005/06, $3.6 million is available through the National Heritage Trust and $2 million through the National Action Plan. In addition, funds allocated for specific purposes are also available from initiatives including *The National Landcare Program, Envirofunds, Community Water Grants,* and *Defeating the Weeds Menace*.

The regional NRM delivery model provides the opportunity for focused investment in activities aimed at improving rangeland condition. Investments will address issues such as weed and feral animal management, fire management, holistic ecosystem management and catchment restoration.

A major focus for the Coordinating Group over the next two years will be to seek significantly more investment for NRM in the Rangelands.

6. Biosecurity

East Kimberley

- ***Donkeys***

For the season 6000 feral donkeys were culled in the Kimberley utilising 517 helicopter hours. A significant number of these were from the north Kimberley area and along the NT border. Four new properties were declared as locally eradicated in the Kimberley bringing the total number to 38 leases. These properties included Mabel Downs, Moola Bulla, Alice Downs, and Bow River.

Pastoral leases in the North Kimberley with donkeys are now undertaking a collaring program with the exception of a few areas. This activity completes the initial collaring program for the Kimberley.

- ***Pigs***

Feral pigs are reported to be increasing in population and distribution throughout the Kimberley. Pastoralists conduct ground control and pigs are controlled during feral donkey tracking by DAWA staff. No effective control method is available for pastoral regions.

In the Halls Creek area, pigs have been found on Margaret River, Lamboo, Spring Creek, Ord Reserve, and Fox River. 120 were culled both by air and ground shooting. Staff assisted Vertebrate Pest Research Station personnel with a pig poisoning trial using grain on Go - Go station. These trials proved very successful resulting in a very high percentage of pigs in the trial area being eradicated.

- ***Camels***

Camels are moving in from the Northern Territory in numbers. While tracking donkeys 70 have been culled on Nicholson station, 10 on Spring Creek station and 20 on the Ord Reserve.

- ***Wild dogs***

Sixty six properties were baited for Wild dogs in the Kimberley in the spring of 2004. Of these 54 were aerially baited and 12 ground baited. A total of 144,000 baits were laid on pastoral land.

- ***Mesquite***

Approximately 100 mesquite trees were controlled on Yeeda station with the assistance of 6 TAFE students studying for their certificate 3 in land management. A follow up inspection revealed poor results on trees that were treated using the Velpar liquid soil injection technique due to below average rainfall in the area treated.

- ***Prickly Acacia***

Work undertaken on part of the *Acacia nilotica* infestation at Durack River with the use of $30,000 NHT funding was undertaken by the community with supervision by the Department. No signs of any new *Acacia nilotica* plants at the Nicholson station infestation have been observed.

A small area of prickly acacia has been discovered on El Questro station, and all plants are being controlled by station staff.

- ***Salvinia***

Further spraying and burning of the area of Salvinia has been carried out on the infestation in Lily Creek Lagoon. The area has also had an earth wall constructed around the infestation to further prevent any Salvinia moving out to the rest of the lagoon and possibly into Lake Kununurra.

West Kimberley

The major biosecurity issue has been the discovery of rubber vine, (*Cryptostegia grandiflora*), at Willare Bridge on the lower Fitzroy River. Plants are spread over some 450 Ha, north and south of the bridge, on Yeeda pastoral lease, Crown land, a picnic area held by the Shire of Derby-West Kimberley, and a reserve held by the Department of Main Roads. Mature, seeding plants have been cut-stump poisoned and a control campaign is planned to commence in the early dry in 2006, when other plants are actively growing and receptive to chemical control. CALM have taken the lead role in the control plan. A funding submission has been prepared and submitted to "Defeating the Weed Menace" as part of the Natural Heritage Trust. Eradication of this weed over the next three years is the initial goal.

In the north, fewer surface waters has led to a concentration of feral pigs around available waters, and as a result pastoralists have expressed concern at the apparent increase in numbers. Feral donkey and wild dog control programs continue. Aerial baiting for wild dogs has support, with a number of stations supplementing or substituting this with ground baiting at different times of the year.

Pilbara

- ***Revenue***:

A major issue emerged with a shortfall of $100,000 between the APB rates raised and the traditional expenditure of the Zone. As in the previous year, the APB met this shortfall from carry over and reserve funds to assist the Pilbara. However this was a short term solution and is not to continue. The Zone would need to increase its current rate by 46% in order to continue with the current level of activity. At a recent District Consultation Meeting it was resolved that the rates would not be raised as it was preferred to reduce the services being delivered. The services affected included ceasing funding for the three dogging groups and labour for the De Grey Parkinsonia Group.

- ***Wild Dogs***:

Control efforts by the ZCA are a spring aerial baiting campaign. Dog numbers are considered to be high throughout the Zone in comparison to the 1980s.

As a result of high dog numbers ground baiting by pastoralists continues to increase throughout the Zone. Three pastoralists have been trained in the use of 1080 red for public baiting to assist in baiting programs.

A total of 62 properties were baited for wild dogs in the Pilbara in the spring of 2004. Of these 17 were also ground baited and a total of 198,000 baits were laid on pastoral land.

- ***Feral camels and donkeys***:

Feral donkey numbers, especially in the East Pilbara require on-going management to contain the population. With the assistance of a feral donkey radio monitoring device it is intended to gradually eradicate donkeys from stations and progressively move this activity in a southerly direction.

For the season, 1066 feral donkeys were culled during the radio telemetry program incorporating 170 helicopter hours.

- One new property (Wallareenya) is considered to have a status of locally eradicated and brings the Pilbara total to 5 locally eradicated properties.
- Donkeys between Corunna Downs, Hillside and Mosquito Creek (NE Nullagine) have been collared.
- A management shoot was conducted with Carnarvon in the Upper Yannarie area and on four Pilbara stations. 857 feral donkeys were culled in 23 helicopter hours.

Feral camels and donkeys are causing significant concern on east Pilbara properties adjacent to the Great Sandy Desert with significant numbers moving from the desert onto pastoral properties. A control program for the area was deferred from 2004 to late 2005 following the contract helicopter being considered inadequate for the conditions.

- ***Weeds***:

Weeds in the Pilbara include Mesquite, Parkinsonia, Calotropis, Prickly Pear and rubber vine.

The DPACF part funds a Declared Plant Group in the DeGrey catchment and other infestations have chemical and hand-sprayers supplied via control work agreements.

A meeting was held with Pilbara MRD to discuss minimising the risk of introduction and spread of declared plants on main roads. The De Grey River Parkinsonia Group conducted control on the De Grey River, and Pardoo, and the infestations were recorded on GPS by pastoralists at Pardoo and Warrawagine. This group also sourced funds from NHT via the LCDC to provide training for chemical control, GPS use, an aerial survey and for addition control.

Mesquite spraying at Mardie strategically focused on holding paddocks/yards, buffer zone and ‘clean’ areas.

Meekatharra

The aerial baiting programs were successful with 97,431 baits applied on 48 pastoral leases in April. In the October program 111,985 baits were laid and 54 leases participated. The CALM Peak Hill common participated in the baiting program for the first time.

The baiting racks were upgraded and expanded prior to the baiting program. Both the April 2004 and October 2005 program were modified to accommodate the loss of a staff member from Meekatharra and to work in with support from officers from other districts.

The saffron thistle and Patterson's curse weeds program was cancelled due to weather conditions.

CALM has increased its funding to the ZCA and overall the ZCA budget has been increased to $248,116. This increase will allow the ZCA to consider purchasing two cool rooms to store meat in Meekatharra, and the appointment of a part time dogger.

Carnarvon

Wild Dog control has attracted the majority of inputs of the Zone Control Authority (ZCA) and departmental staff. Following extensive investigation and consultation, the zone substantially increased the four doggers' contracts to $66,000 p.a. and amended the contract between the doggers and the Declared Animal Groups to more appropriately reflect the duties expected of the doggers. The aerial baiting executed in early November was well planned, however the feedback was that sightings of wild dog numbers remained high post this baiting.

Following requests from four pastoralists in the Pilbara ZCA, (Maroonah, Nyang, Towera and Ullawarra), these leases were transferred from the Pilbara to the Carnarvon ZCA to allow greater control associated with this zone. In addition, an extra dogging group has been established that will service leases abutting the Pilbara and Carnarvon ZCA boundaries.

External funding through NLP for mesquite and parkinsonia control and management was sought and obtained during the year with the ZCA contributing $10,000 toward the project. This project is envisaged to be ongoing for 3 years and will result in over $120,000 of NLP funds being made available for extensive aerial mapping and on ground control. Staff believe that concerted control of these outbreaks could lead to the pests' ultimate control, however if left unmanaged, will continue to spread until it is beyond control measures.

Following the agreement of the Shire, agencies, ZCA, and LCDC to participate in a joint funding venture initiated by the Department of Agriculture, an extensive mesquite control program on the Carnarvon Town Common was initiated during the period. This project resulted in a focused control program of a large infestation and it is anticipated the project will continue into the new financial year.

The ZCA undertook a strategic planning exercise to ensure its activities and investments were consistent with State objectives.

Kalgoorlie

Wild dogs continue to be the main Biosecurity Risk in the zone and the current priority.

- ***$300,000 National Feral Animal Control program***

Following a commitment of $300,000 from the Australian Government the Kalgoorlie ZCA was requested to develop a project submission to the National Feral Animal Control Program (NFACP) for the $300,000. The project includes a blend of on-ground control works, extension and research and development.

- ***A community-based approach to enhancing vertebrate pest management in the rangelands.***

The ZCA was successful in applying to the National Landcare Program for a project to develop tools to monitor vertebrate pest population dynamics over time. The project will support pastoralists' innovative approaches to improved vertebrate pest control methods, develop cost effective means of monitoring and controlling vertebrate pest, and increase the capacity of land users to monitor and control vertebrate pests at a management unit and district scale.

- ***Declared Animal Groups***

The Kalgoorlie ZCA now supports 7 Declared Animal Groups with the introduction of a new East Menzies Group established in June 2005. Declared Animal Groups are becoming more proactive and have been successful in attracting additional Shire, pastoralist and Mining Company funds.

- ***Wild Dog Regional Planning day***

The PGA Conference held in Kalgoorlie highlighted continuing wild dog impacts as a significant issue affecting livestock production within the Goldfields-Esperance Region. In response, the Kalgoorlie Zone Control Authority (ZCA) hosted an intense regional planning day on the 18th of July with the objective of the day to agree on a regional plan for the more effective management of wild dog impacts throughout the Zone.

- ***Community and aerial baiting***

There has been a steady increase in the participation of landholders with the community baiting programs. These programs are now being coordinated by local Declared Animal Groups which is proving to be very successful.

There has also been an encouraging trend with pastoralists using their DPACF allocation of baits for both ground and aerial baiting. During the autumn baiting program 25% of leases undertook ground baiting only, 44 % of leases combined ground baiting with aerial bating, and only 23 percent of leases undertook aerial baiting alone.

Members of the Kalgoorlie ZCA held a strategic planning workshop with the aim of setting medium and long term goals for the organisation and initiate short term actions.

- **Total expenditure from Declared Plant and Animal Control Fund (DPACF) in the rangelands 2004 – 2005**

Zone		2004/05 Expenditure
Kimberley		
·	Feral Donkeys	369,874
·	Wild Dogs	92,463
.	Other Pests (F. pigs)	2,501
·	Weeds	28,629
·	ZCA Operation	14,244
	sub	507,711
Pilbara		
.	Feral Donkeys	124,725
.	Wild Dogs	161,629
.	Weeds	32,628
.	ZCA Operation	4,744
	sub	323,726
Carnarvon		
.	Feral Donkeys	11,922
.	Wild Dogs	267,740
.	Weeds	14,910
.	ZCA Operation	2,261
	sub	296,833
Meekatharra		
.	Feral Donkeys	3,200
.	Wild Dogs	85,315
.	Weeds	167
.	ZCA Operation	6,677
.	Murchison Vermin Fence	28,000
	sub	123,359
Kalgoorlie		
.	Wild Dogs	446,204
.	Weeds	15,630
.	ZCA Operation	14,299
	sub	476,133
TOTAL		1,727,762

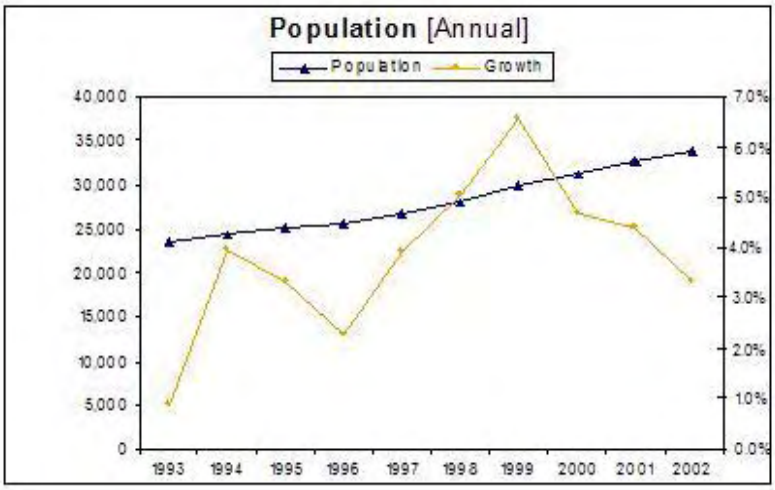
7. Social indicators

7.1 Kimberley

- **Population**

The population of the Kimberley Region was 33,705 as at 30 June 2002. This represented an increase of 3.3% over the previous year. Over the same period, the population of regional Western Australia grew by 1.1% and the State population grew by 1.4%.

As at 30 June 2002 the population of the Kimberley Region made up 6.4% of the people living in regional Western Australia and 1.7% of the State's population.



Source: Australian Bureau of Statistics

- **Employment**

Total employment in the Kimberley Region in the March 2003 quarter was 15,413 people. This represented a decrease of 2.6% from the previous quarter when there were 15,822 people employed in the region. When the March 2003 quarter is compared with the same quarter of the previous year, employment within the Kimberley Region grew by 38.1%, compared to 4.1% growth for regional Western Australia and 3.0% growth for the State. A total of 7.5% of the Kimberley workforce is employed in the Agriculture, Forestry and Fishing industries, under which pastoralism falls.

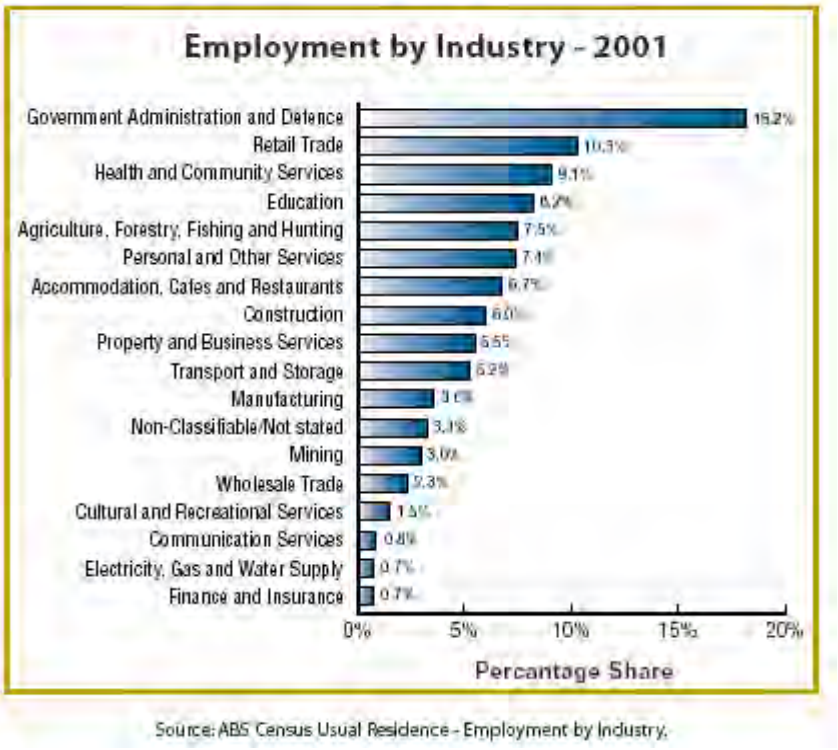
Source: Department of Employment and Workplace Relations

Kimberley Employment Multipliers indicate how much employment will increase in the Kimberley economy if employment in the industry increases by one person.

To give an example using the cattle industry for every extra person employed in the industry a further 1.2 people will be employed in the whole economy (includes the original increase from cattle). If we know a certain project will create 10 jobs then by using this multiplier we can estimate total jobs created by the project's sales. Expressed numerically it is equal to 1.2×10 which is equal to 12.36 jobs. The value of 12.36 includes the 10 people employed in the cattle project.

Industry	Employment multiplier
Grains	1.1297
Beef cattle	1.2364
Other agriculture	1.2611

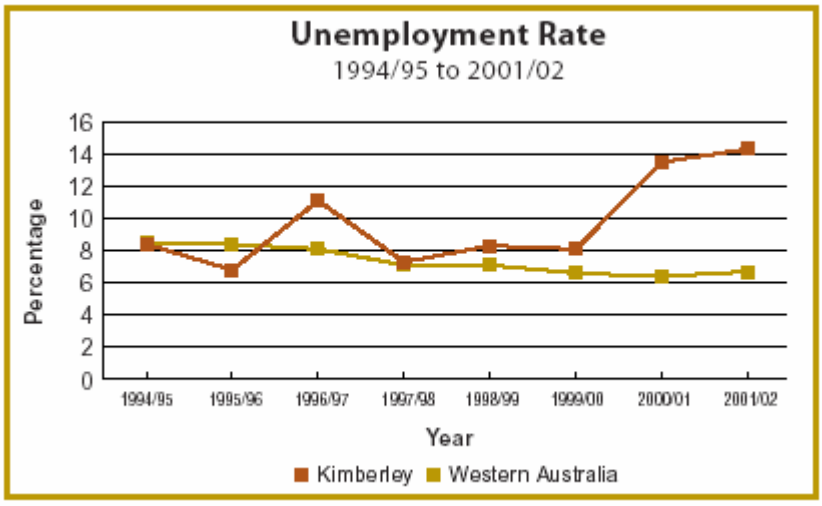
Source : Johnson P, An input-output table for the Kimberley region of W.A. Economic Research Centre, Department of Economics, The University of Western Australia, March 2001



Source: ABS Census Usual Residence - Employment by Industry.

- **Unemployment**

In the March 2003 quarter there were 1,493 unemployed people in the Kimberley Region, compared to 1,380 unemployed people in the December 2002 quarter and 1,384 people for March 2002. The unemployment rate for the Kimberley Region in the March 2003 quarter was 8.8% compared to 6.0% for regional Western Australia and 6.3% for the State.



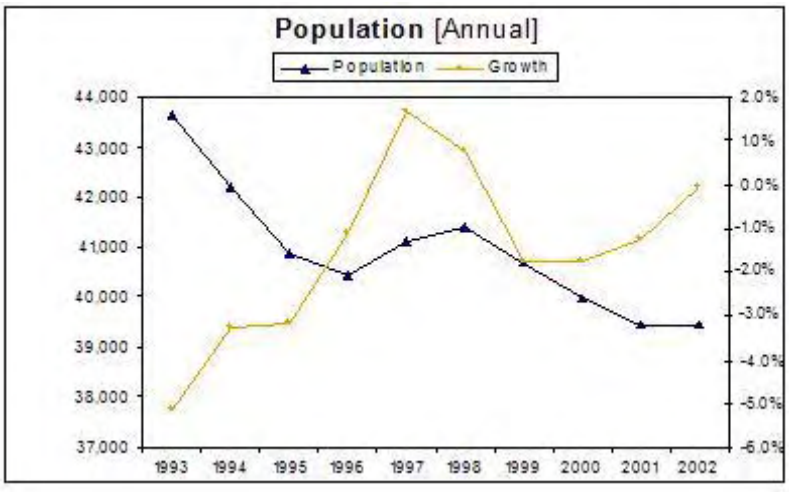
Source: Department of Employment and Workplace Relations

7.2 *Pilbara*

- **Population**

The population of the Pilbara Region was 39,441 as at 30 June 2002. This represented a decrease of 0.1% from the previous year. Over the same period, the population of regional Western Australia grew by 1.1% and the State population grew by 1.4%.

As at 30 June 2002 the population of the Pilbara Region made up 7.5% of the people living in regional Western Australia and 2.0% of the State's population.



Source: Australian Bureau of Statistics

- **Employment**

Total employment in the Pilbara Region in the March 2003 quarter was 23,128 people. This represented a decrease of 2.4% from the previous quarter when there were 23,698 people employed in the region. Only 1.6% of the workforce is employed in the Agriculture, Forestry and Fishing industries, under which pastoralism falls.

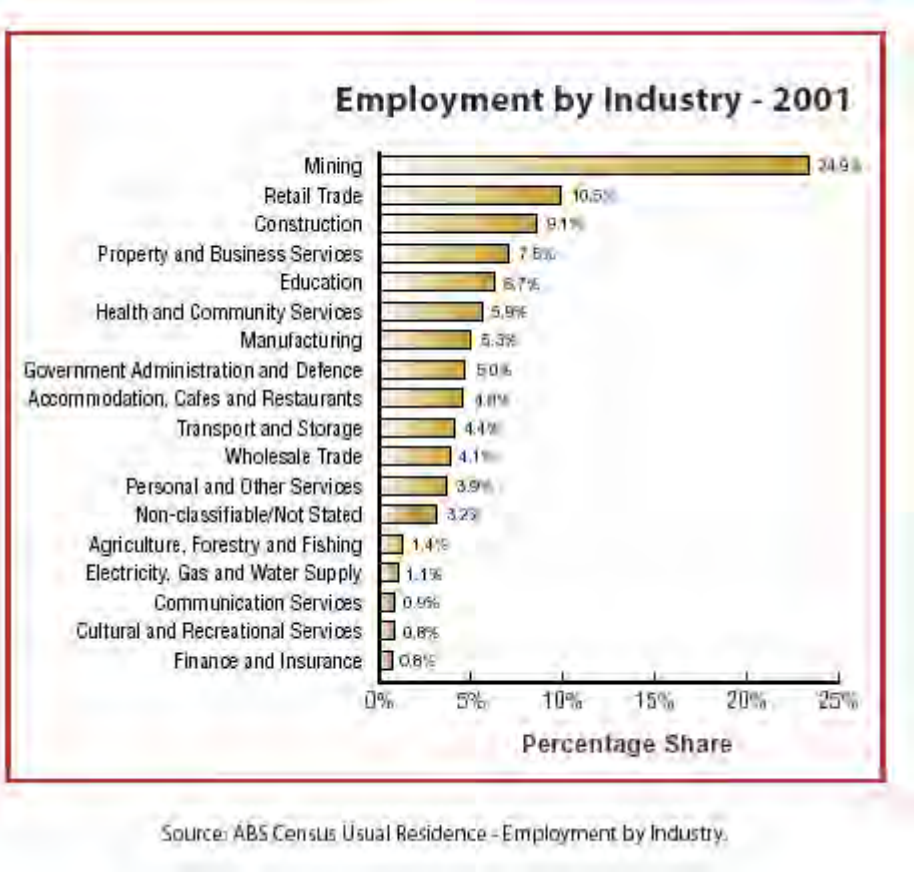
When the March 2003 quarter is compared with the same quarter of the previous year, employment within the Pilbara Region grew by 7.8%, compared to 4.1% growth for regional Western Australia and 3.0% growth for the State.

Source: Department of Employment and Workplace Relations

A set of employment multipliers do not currently exist for the Pilbara region however the State multipliers give the next best indication:

Industry	Employment multiplier
Sheep meat	1.2939
Sheep wool	1.4728
Beef cattle	1.4579
Horticulture	1.7431

Source: Islam N and Johnson P, Australia and the Western Australian Economy - An input-output analysis Volume 1, Agriculture Western Australia, October 1997

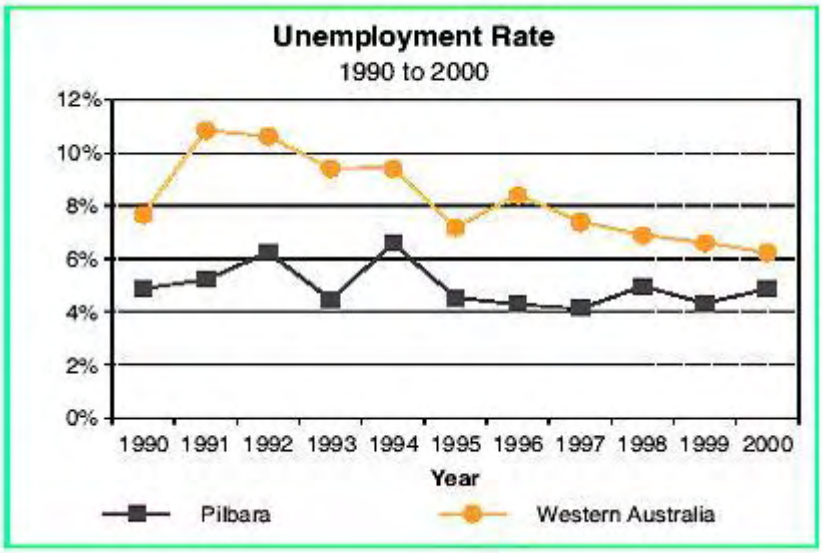


Source: ABS Census Usual Residence - Employment by Industry.

- **Unemployment**

In the March 2003 quarter there were 871 unemployed people in the Pilbara Region, compared to 721 unemployed people in the December 2002 quarter and 1,171 people for March 2002.

The unemployment rate for the Pilbara Region in the March 2003 quarter was 3.6% compared to 6.0% for regional Western Australia and 6.3% for the State.



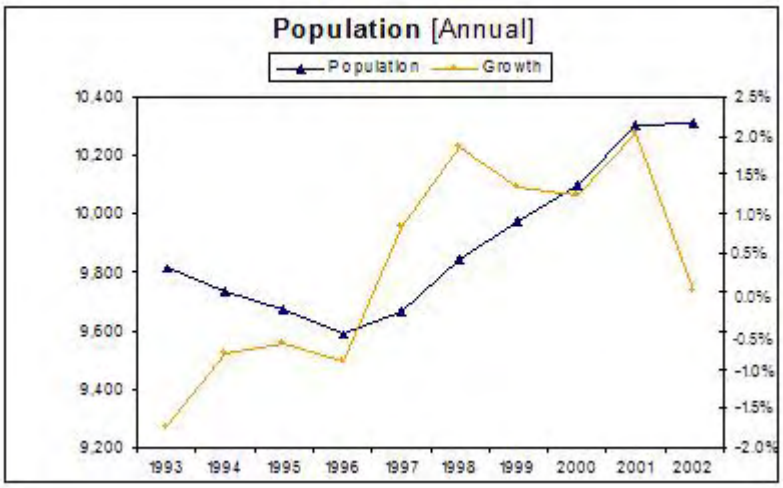
Source: Department of Employment and Workplace Relations

7.3 Gascoyne

- **Population**

The population of the Gascoyne Region was 10,308 as at 30 June 2002. This represented an increase of 0.0% over the previous year. Over the same period, the population of regional Western Australia grew by 1.1% and the State population grew by 1.4%.

As at 30 June 2002 the population of the Gascoyne Region made up 2.0% of the people living in regional Western Australia and 0.53% of the State's population.



Source: Australian Bureau of Statistics

- **Employment**

Total employment in the Gascoyne Region in the March 2003 quarter was 5,457 people. This represented a decrease of 3.6% from the previous quarter when there were 5,660 people employed in the region. 16.7% of the workforce is employed in the Agriculture, Forestry and Fishing industries, which pastoralism falls under.

When the March 2003 quarter is compared with the same quarter of the previous year, employment within the Gascoyne Region grew by 22.9%, compared to 4.1% growth for regional Western Australia and 3.0% growth for the State.

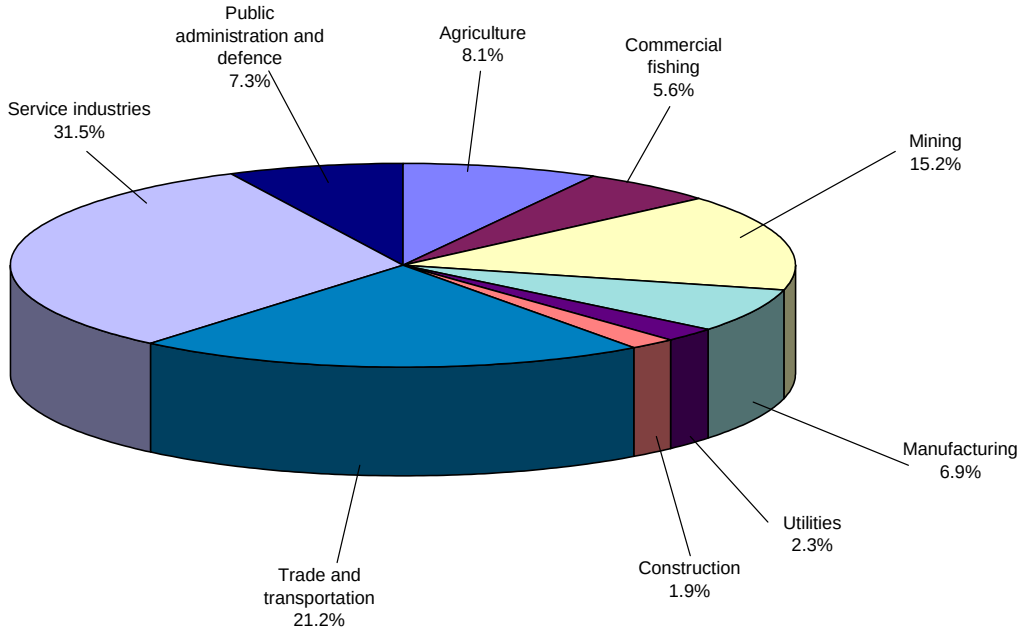
Source: Department of Employment and Workplace Relations

An input – output analysis was recently completed for the Gascoyne region. The following employment multipliers were generated.

Industry	Employment multiplier
Sheep	1.3760
Grains	1.2409
Beef cattle	1.2682
Goats	1.4233
Horticulture	1.2421

Source : Johnson P, An input-output table for the Kimberley region of W.A. Economic Research Centre, Department of Economics, The University of Western Australia, March 2001

The following pie chart displays the factor income shares in the Gascoyne for 2001-02

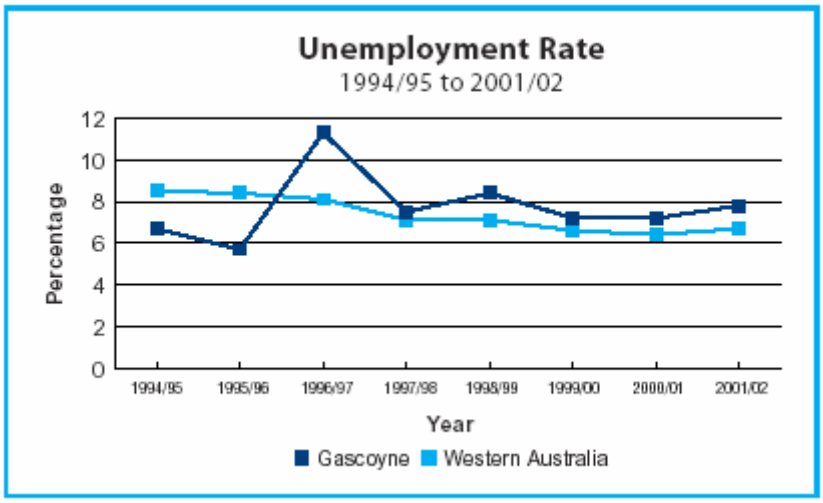


Source: Department of Employment and Workplace Relations

- **Unemployment**

In the March 2003 quarter there were 425 unemployed people in the Gascoyne Region, compared to 326 unemployed people in the December 2002 quarter and 524 people for March 2002.

The unemployment rate for the Gascoyne Region in the March 2003 quarter was 7.2% compared to 6.0% for regional Western Australia and 6.3% for the State.



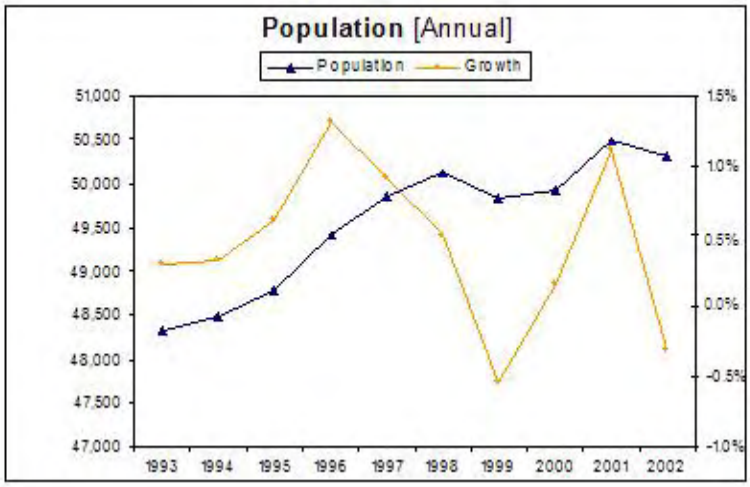
Source: Department of Employment and Workplace Relations

7.4 *Mid-West*

- **Population**

The population of the Mid West Region was 50,318 as at 30 June 2002. This represented a decrease of 0.3% from the previous year. Over the same period, the population of regional Western Australia grew by 1.1% and the State population grew by 1.4%.

As at 30 June 2002 the population of the Mid West Region made up 9.6% of the people living in regional Western Australia and 2.6% of the State's population.



Source: Australian Bureau of Statistics

- **Employment**

Total employment in the Mid West Region in the March 2003 quarter was 25,694 people. This represented a decrease of 3.2% from the previous quarter when there were 26,550 people employed in the region. 16.3% of the workforce is employed in the Agriculture, Forestry and Fishing industries, which pastoralism falls under.

When the March 2003 quarter is compared with the same quarter of the previous year, employment within the Mid West Region grew by 11.2%, compared to 4.1% growth for regional Western Australia and 3.0% growth for the State.

As indicated in section 3.2, State multipliers give the next best indication of the impact on employment in the region if employment in the industry increases by one person.

Source: Department of Employment and Workplace Relations

- **Unemployment**

In the June 2002 quarter there were 2,028 unemployed people in the Mid West Region, compared to 2,173 unemployed people in the March 2002 quarter and 2,047 people for June 2001. The unemployment rate for the Mid West Region in the June 2002 quarter was 7.8% compared to 5.8% for regional Western Australia and 6.1% for the State.

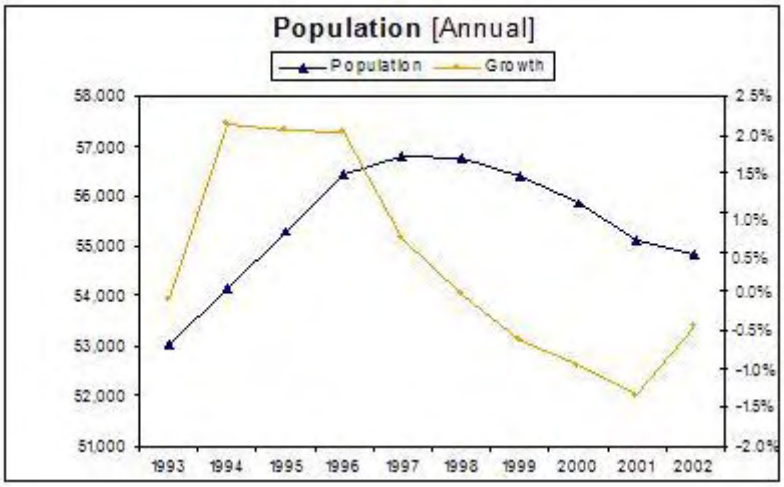
Source: Department of Employment and Workplace Relations

7.5 *Goldfields-Esperance (Nullarbor)*

- **Population**

The population of the Goldfields-Esperance Region was 54,855 as at 30 June 2002. This represented a decrease of 0.4% from the previous year. Over the same period, the population of regional Western Australia grew by 1.1% and the State population grew by 1.4%.

As at 30 June 2002 the population of the Goldfields-Esperance Region made up 10.4% of the people living in regional Western Australia and 2.8% of the State's population.



Source: Australian Bureau of Statistics

- **Employment**

Total employment in the Goldfields-Esperance Region in the March 2003 quarter was 31,067 people. This represented a decrease of 2.8% from the previous quarter when there were 31,961 people employed in the region. 7.1% of the workforce is employed in the Agriculture, Forestry and Fishing industries, which pastoralism falls under.

When the March 2003 quarter is compared with the same quarter of the previous year, employment within the Goldfields-Esperance Region grew by 2.4%, compared to 4.1% growth for regional Western Australia and 3.0% growth for the State.

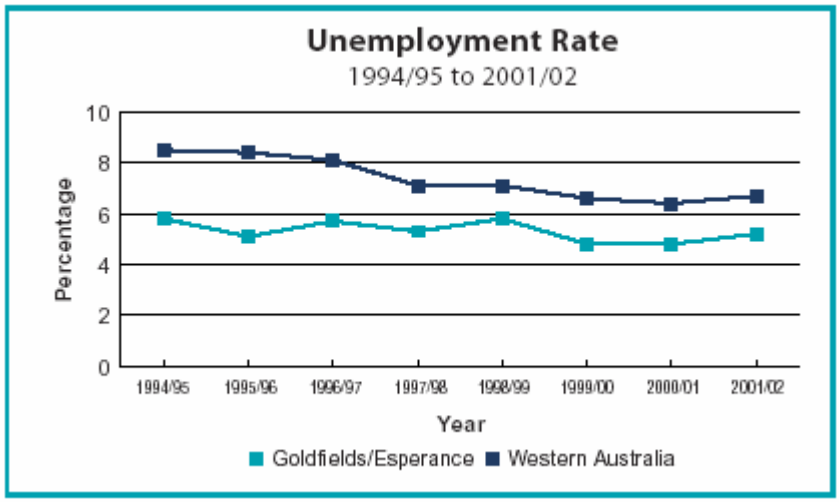
As indicated in section 3.2, State multipliers give the next best indication of the impact on employment in the region if employment in the industry increases by one person.

Source: Department of Employment and Workplace Relations

- **Unemployment**

In the June 2002 quarter there were 1,546 unemployed people in the Goldfields-Esperance Region, compared to 1,754 unemployed people in the March 2002 quarter and 1,652 people for June 2001.

The unemployment rate for the Goldfields-Esperance Region in the June 2002 quarter was 4.7% compared to 5.8% for regional Western Australia and 6.1% for the State.



Source: Department of Employment and Workplace Relations

8. Tables for Appendix

Live exports of goats from Australia and Western Australia.

	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Australia	31	47	49	55	99	88	139	89	53	44
Western Australia	22	25	37	46	32	58	64	41	27	26
Proportion of total	71%	54%	74%	84%	32%	65%	46%	47%	51%	59%

Source: Agrifood Infonet

Live Cattle exports from Western Australia (Quantity '000 head)

	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Indonesia	90	134	44	52	80	101	107	135	159	160
Egypt	33	11	19	114	95	128	87	26	3	7
Malaysia	18	52	43	37	33	55	57	73	57	30
Libya	1	21	101	26	16	0	0	0	0	0
Israel	0	0	2	4	2	12	38	31	33	43
Philippines	10	18	17	37	23	23	10	0	14	7
Jordan	3	3	8	24	25	26	9	1	36	22
Saudi Arabia	0	0	0	0	0	4	13	41	0	0
Others	3	5	9	11	4	10	9	10	9	11
Table	157	243	242	306	277	358	331	317	310	280

Source: Agrifood Infonet

Live Cattle exports from Western Australia (Value $ Millions)

	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Indonesia	58	72	20	23	37	53	65	77	83	100
Egypt	20	6	9	60	57	83	68	19	2	4
Malaysia	9	23	16	16	15	26	31	33	26	17
Libya	0	10	57	15	10	0	0	0	0	0
Israel	0	0	1	2	1	6	19	16	17	25
Philippines	5	8	7	16	11	11	5	0	8	5
Jordan	2	1	3	11	10	11	4	1	19	10
Saudi Arabia	0	0	0	0	0	3	9	24	0	0
Others	1	3	4	5	2	8	7	8	10	14
Total	96	122	118	149	143	200	207	177	164	174

Source: Agrifood Infonet

Live Sheep exports from Western Australia (Quantity '000 head)

	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Kuwait	766	634	634	979	1,019	899	729	981	953	838
Jordan	1,441	709	492	1,076	641	415	417	326	785	963
UAE	1,168	1,213	901	832	566	588	282	152	167	151
Saudi Arabia	0	34	0	0	104	966	1,202	1,509	105	0
Oman	444	404	322	326	424	427	266	188	187	257
Qatar	299	323	383	244	302	308	220	187	123	135
Bahrain	300	171	180	364	300	265	155	134	231	382
Egypt	93	55	33	58	192	286	165	86	0	0
Other	178	303	234	228	303	218	253	156	180	65
Total	4,691	3,847	3,180	4,106	3,851	4,372	3,689	3,718	2,732	2,792

Source: Agrifood Infonet

Live Sheep exports from Western Australia (Value $ Millions)

	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Kuwait	28	23	25	36	45	38	44	66	65	54
Jordan	56	26	19	38	21	16	26	23	53	56
UAE	45	43	35	31	20	24	17	10	11	10
Saudi Arabia	0	1	0	0	5	50	76	112	8	0
Oman	18	15	13	13	17	19	16	14	13	18
Qatar	13	12	18	11	15	16	12	14	9	9
Bahrain	11	6	6	13	9	10	9	9	16	25
Egypt	4	2	1	2	7	11	10	6	0	0
Other	7	12	10	9	12	11	16	14	13	4
Total	181	140	129	152	150	195	227	268	188	177

Source: Agrifood Infonet

Live Goat exports from Western Australia (Quantity, head)

	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Malaysia	11,916	17,089	17,146	2,185	10,194	20,265	30,423	32,576	23,677	16,586
Singapore	150	2,250	8,423	10,914	20,299	16,022	11,834	453	3,369	5,298
Bahrain	0	0	0	25,500	0	0	0	500	0	0
UAE	6,000	4,111	6,076	4,711	50	2,445	0	45	0	0
Saudi Arabia	0	0	0	0	0	8,094	9,680	2,858	0	0
Jordan	2,509	5	0	2,447	1,077	5,215	5,729	2,277	0	0
Other	1,510	1,880	4,874	212	152	5,503	6,294	2,790	73	4,216
Total	22,085	25,335	36,519	45,969	31,772	57,544	63,960	41,499	27,119	26,100

Live Goat exports from Western Australia (Value '000 $)

	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Malaysia	417	1,176	888	147	686	1,066	1,564	2,221	1,152	979
Singapore	6	91	462	438	686	733	496	31	205	365
Bahrain	0	0	0	846	0	0	0	28	0	0
UAE	335	147	187	168	3	100	0	14	0	0
Saudi Arabia	0	0	0	0	0	411	471	205	0	0
Jordan	77	3	0	86	42	213	248	102	0	0
Other	158	93	175	13	7	315	433	1,080	74	366
Total	994	1,511	1,711	1,698	1,424	2,837	3,212	3,681	1,430	1,710

Source: Agrifood Infonet