Miscellaneous Publication 16/2003
ISSN 1447 - 4980

Revised edition
April 2004

RE-ASSESSMENT OF CARRYING CAPACITIES IN THE ASHBURTON RIVER CATCHMENT

Cover picture Coolibahs (*Eucalyptus victrix*) and introduced buffel grass on the Ashburton River frontage.

Miscellaneous Publication 16/2003
ISSN 1447 - 4980

Revised edition
April 2004

RE-ASSESSMENT OF CARRYING CAPACITIES IN THE ASHBURTON RIVER CATCHMENT

A.L. Payne[1], A.M.E. Van Vreeswyk[1] and K.A. Leighton[2]

[1] **Department of Agriculture, Western Australia**

[2] **Department of Land Administration, Western Australia**

Department of **Agriculture**
Government of Western Australia

CONTENTS

Buffel grass (*Cenchrus ciliaris*)
There are several different strains of buffel grass in Western Australia. This is Western Australian strain with purple seed heads. Other strains have larger straw-coloured heads and somewhat more robust tussocks.

Birdwood grass (*Cenchrus setigerus*)
Birdwood grass has purple or brownish heads with short stiff bristles rather than the hairs of buffel grass.

... I appreciate and respect the concerns raised by the conservationists but without buffel grass the cattle and the pastoralists wouldn't be here ...

Robert Bogle, Nanutarra Station, April 2001

Introduction

Potential carrying capacities for land systems in the catchment of the Ashburton River were first estimated in 1983 as a result of a rangeland survey of the area (Payne, Mitchell and Holman 1988) undertaken during 1976, 1977 and 1978. Potential carrying capacity (termed capability capacity in the 1988 report) is a suggested sustainable level of use assuming that all pastures are in good range condition, the entire station is adequately watered for the effective management of livestock and seasonal conditions are average.

The Ashburton Land Conservation District Committee had previously requested a re-assessment of carrying capacities for Ashburton stations following the widespread establishment of buffel grass (*Cenchrus ciliaris*) since the regional survey in the 1970s.

In April 2001 and April 2002 the authors from the Department of Agriculture, Western Australia and the Department of Land Administration re-inspected parts of the Ashburton survey area. Alan Payne was closely involved with the fieldwork and report writing of the original survey in the late 1970s.

Figure 1 shows the location of the Ashburton rangeland survey area and Figure 2 shows the stations that fall within the survey area.

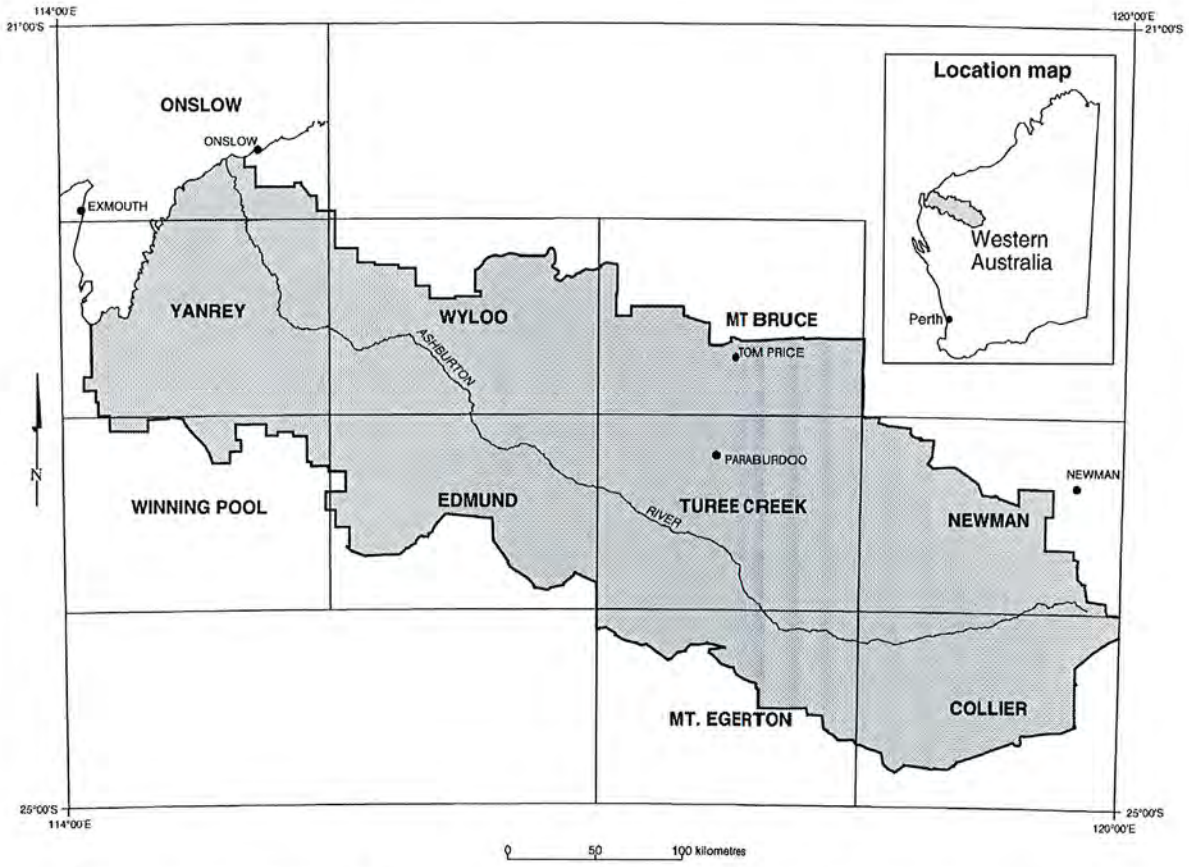


Figure 1. The location of the Ashburton rangeland survey area and relevant 1:250,000 scale map sheets

> *... buffel grass may have its problems, but it does hold the country together ...*
>
> **Jan Glenn, Ashburton Downs Station, April 2001**

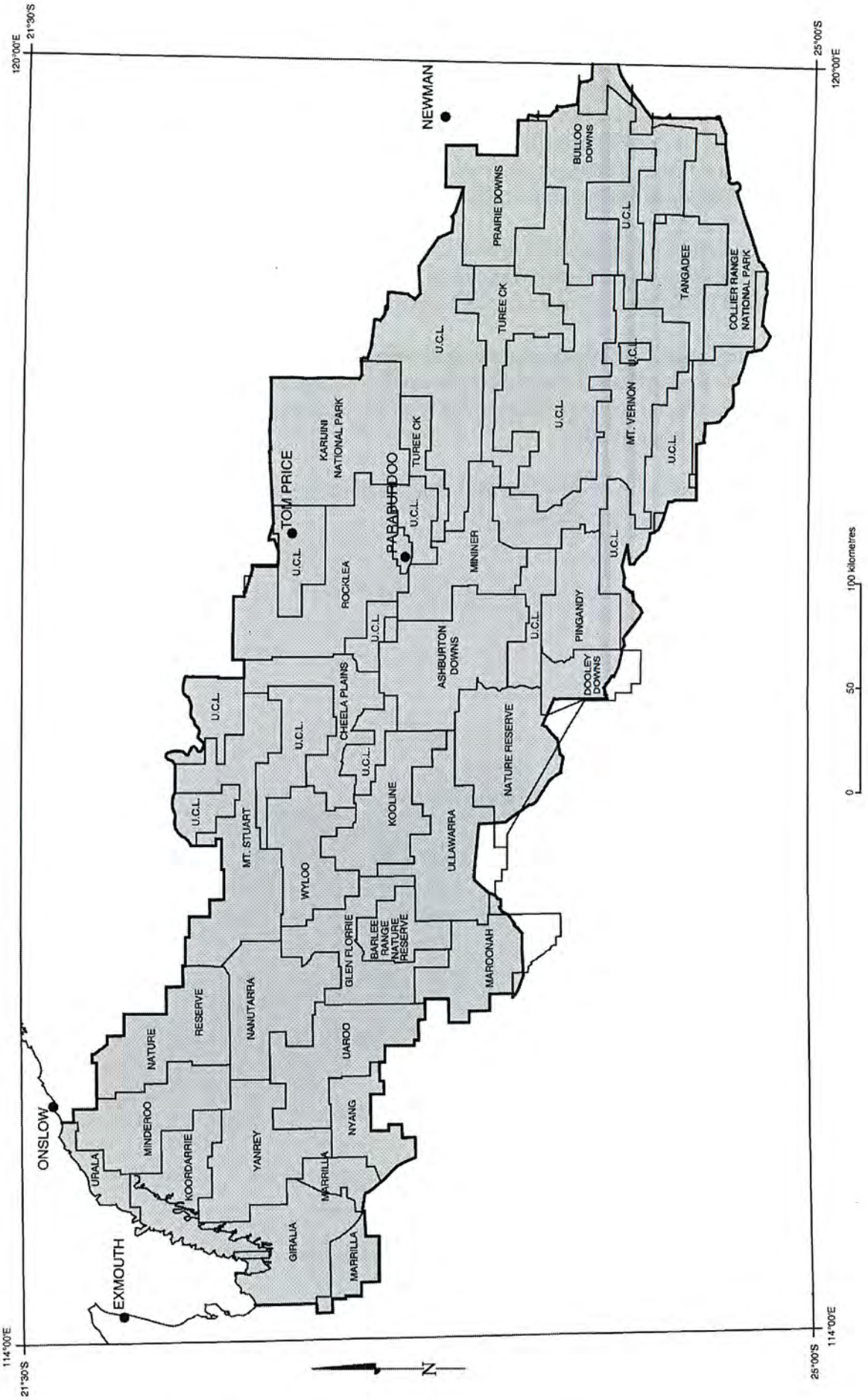


Figure 2. Pastoral leases in the Ashburton rangeland survey area

Findings

Buffel grass (*Cenchrus ciliaris*) was dominant in some areas in the 1970s (see Table 1). The ground inspection in 2001 and 2002 verified that it and Birdwood grass (*Cenchrus setigerus*) had spread considerably since the original survey. Most pastoralists spoken to considered that buffel grass had really expanded since the huge Ashburton River flood in 1997 (see Mitchell and Leighton 1997) when silt and sand was deposited over extensive areas of alluvial plains.

Table 1. Proportions of land systems dominated by buffel grass (or Birdwood grass) pastures

Land system	In 1978	In 2002
Ashburton	34%	88%
Cheela	5%	64%
Collier	0%	3%
Dollar	0%	4%
Donovan	0%	2%
Edward	0%	12%
Firecracker	0%	2%
Globe	8%	10%
Jubilee	0%	2%
Kooline	0%	8%
Minderoo	0%	2%
Mundong	0%	5%
Nadarra	0%	5%
Nanyarra	80%	80%
Onslow	14%*	6%
Prairie	0%	5%
Phillips	0%	5%
River	30%	30%
Rous	38%	41%
Turee	0%	2%
Yanrey	23%	23%

* Original estimate considered to be too high.

Figure 3 shows the extent of *Cenchrus* pastures in the Ashburton rangeland survey area in 1978 and Figure 4 shows the substantial spread of these pastures as seen in 2002.

> *... in the 60's they used to spread buffel on Urala and Uaroo. Everywhere they went they baled it up with the seed and sticks and took bales out in vehicles and spread it along the creeks ...*
>
> **Jim Cullen, Urala Station, April 2002**

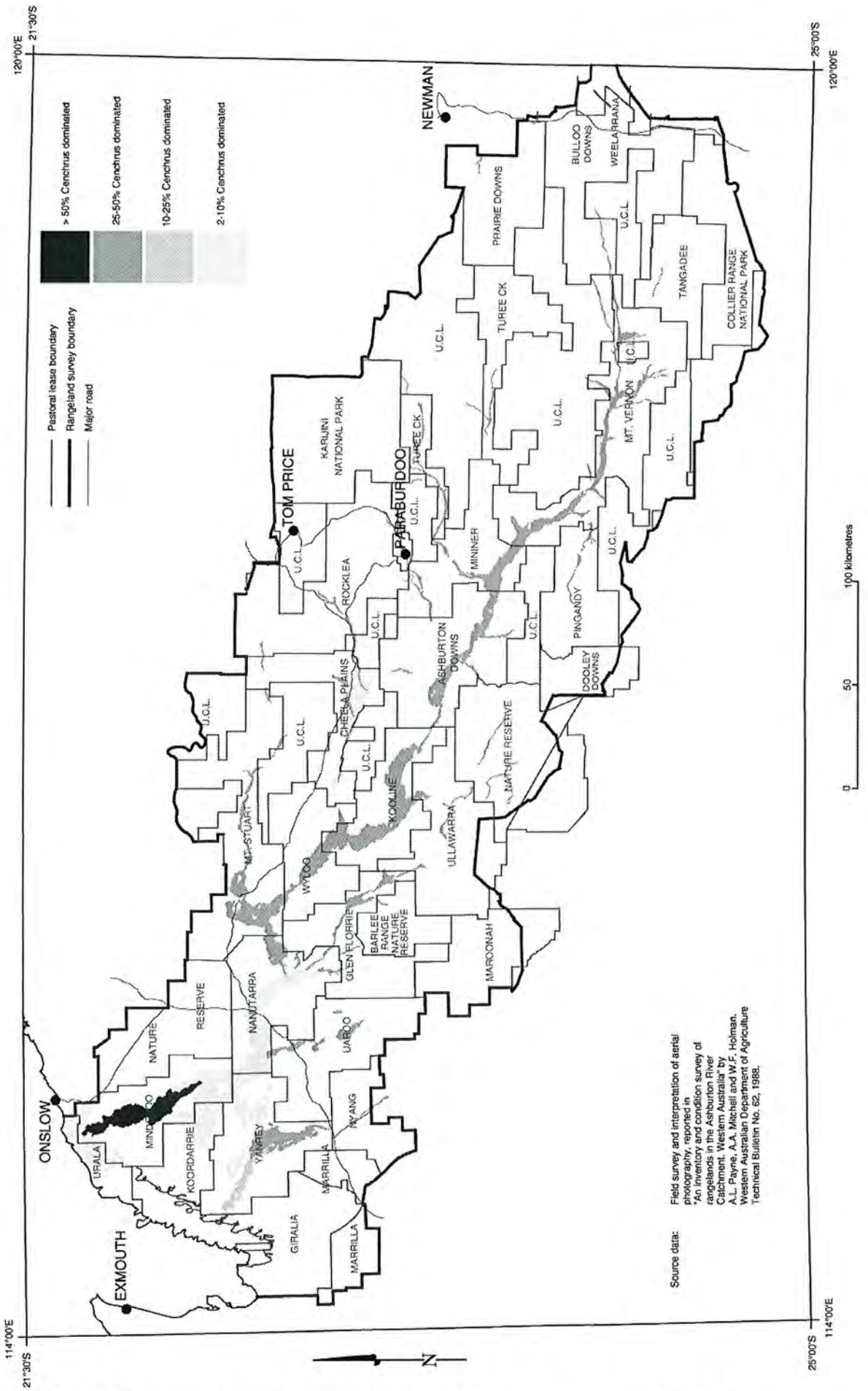


Figure 3. The extent of *Cenchrus* spp. (buffel and Birdwood grass) pastures in 1978

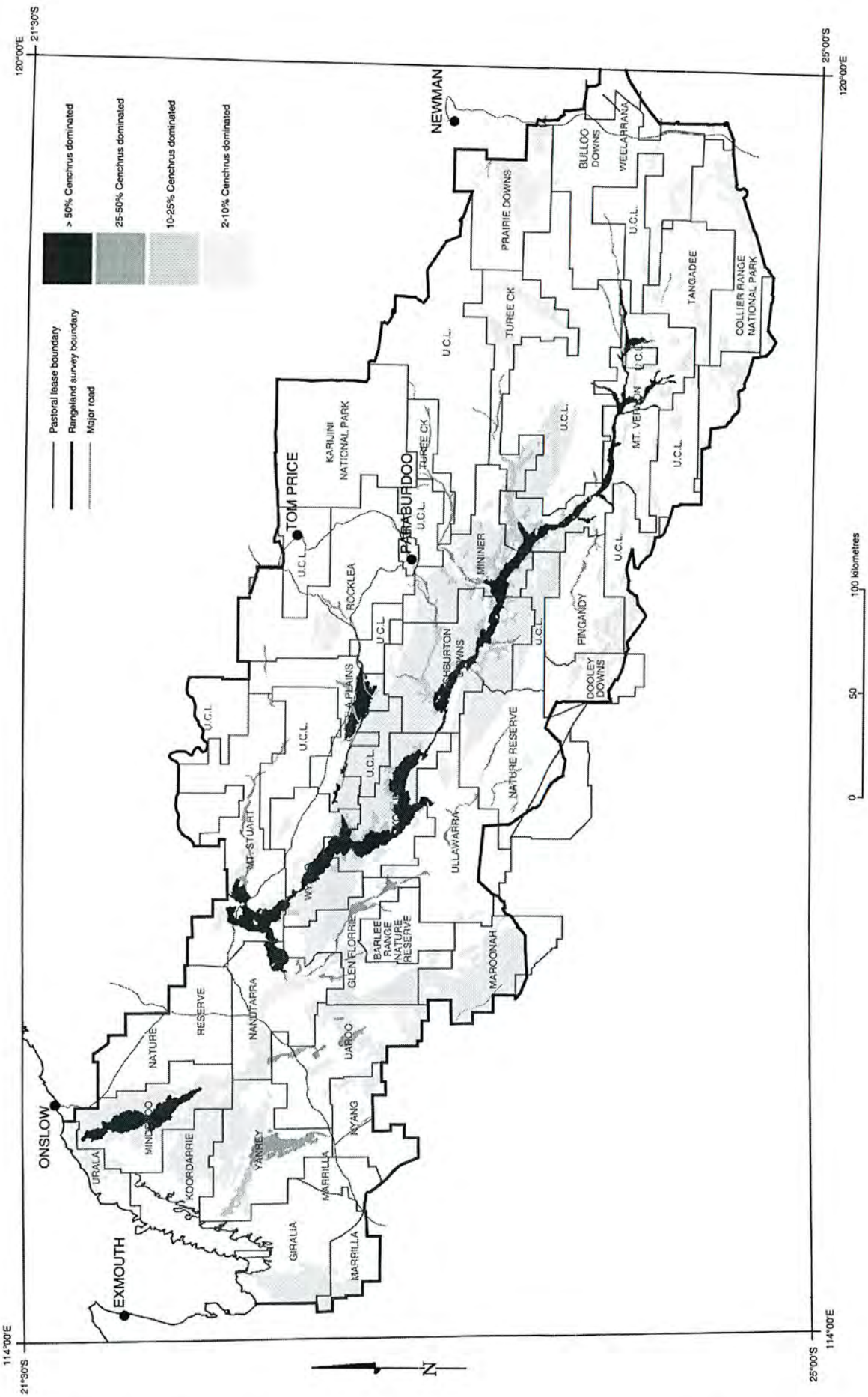


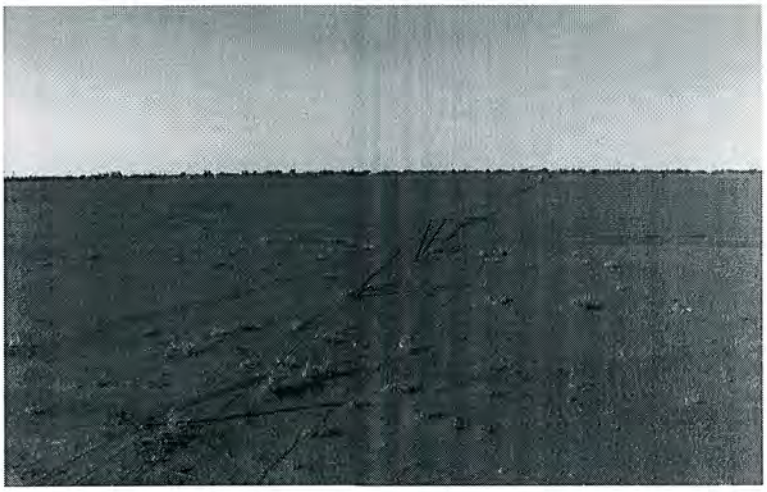
Figure 4. The extent of *Cenchrus* spp. (buffel and Birdwood grass) pastures in 2002

During the field work the survey team visited a number of areas that had been identified in the late 1970s as being severely degraded and eroded (sde). Some of these areas have recovered well with buffel grass and native grasses such as Roebourne Plains grass (*Eragrostis xerophila*) and will no longer be classified as severely degraded and eroded. Spectacular recovery has occurred on Cheela Plains (Cheela land system) and some parts of the Ashburton land system. Partial recovery has occurred on parts of the Edward, Globe and Turee land systems. However, some extensive areas identified in the late 1970s are still severely degraded and eroded (such as parts of the Nanyarra and Edward land systems).

Cheela Plains 1977
Severely degraded and eroded country with very little perennial vegetation (now Cheela Plains Station).

Cheela Plains 2001
Regeneration of perennial grasses, mainly native Roebourne Plains grass and the introduced buffel grass (Cheela Plains Station).

Parts of the Nanyarra land system on the frontage of the lower Ashburton River were severely degraded in 1978 and are still so in 2002 (photo). This country has the potential to recover with appropriate treatment such as cultivation works and the removal of all grazing animals (Minderoo Station).



Carrying capacity implications

The carrying capacity of the introduced *Cenchrus* grasses is significantly higher than the capacity of the native vegetation. Thus buffel grass increases the potential carrying capacity of those systems on which it has expanded. The survey group reviewed the potential carrying capacities of the 21 land systems in the Ashburton survey area that were identified as supporting a buffel grass component. It also reviewed the potential carrying capacities of the other 61 land systems found in the area (see Table 4). Some of the carrying capacities allocated in the 1988 report are considered to be too conservative and were increased using pasture carrying capacity estimates developed in the adjacent Pilbara survey area (Van Vreeswyk *et al.* 2004) and reported in Payne and Mitchell 2002. Consequently, as well as the potential carrying capacities of land systems being increased in recognition of the spread of *Cenchrus* grasses, they were also increased by higher allocation to other pasture types.

Table 2 shows the estimated carrying capacities for three levels of condition (good, fair and poor) for some major pasture types found in the Ashburton. For the purposes of calculating the potential carrying capacity for each station reported in this publication, the figures used are exclusively those allocated for good condition.

Table 2. Carrying capacity estimates for Ashburton pasture types at three levels of condition

Pasture type	Carrying capacity (ha/cu)		
	Good condition	Fair condition	Poor condition
Buffel grass	9	18	27
Mitchell grass alluvial plain	15	30	45
Ribbon grass	15	30	45
Roebourne Plains grass	20	40	50
Mitchell grass tableland	30	60	75
Bluebush/saltbush	55	77	110
Soft spinifex plain	60	84	120
Snakewood chenopod	80	112	160
Hardpan mulga shrub (plains)	120	145	170
Hardpan mulga shrub (groves)	60	84	120
Acacia mixed shrub	120	145	170
Hard spinifex plain	140	170	170
Spinifex hill (soft spinifex)	120	120	120
Spinifex hill (hard spinifex)	280	280	280

... the introduction of buffel grass has allowed numbers to be maintained longer over the dry season ...

Jack Harvey, Mininer Station, April 2001

Table 3 shows the method of calculating the potential carrying capacity for a particular land system based on the capacities of its component pasture types.

Table 3. Boolgeeda land system (Ashburton survey area) - component land units, pasture types and potential carrying capacity (pcc)

Land unit	Area (%)	Pasture type	pcc (ha/cu)	pcc for whole system (ha/cu)
1. Low hills and rises	5	Spinifex hill (hard spinifex)	280	125
2. Stony upper plains	45	Hardpan mulga shrub (plains)	120	
3. Lower plains	45	Hard spinifex plain	140	
4. Narrow drainage floors and channels	5	Soft spinifex plain	60	

Table 4 lists the re-assessed carrying capacities for all land systems in the Ashburton survey area. In nearly all cases the potential carrying capacities have increased from the original estimates in the Ashburton survey report (Payne, Mitchell and Holman, 1988). **The estimates in this publication supersede those in the 1988 report.**

Remapping parts of the Ashburton survey area has resulted in ten new land systems occurring on stations in the Ashburton survey area. These are Adrian, Elimunna, Houndstooth, McKay, Marandoo and Urandy from the Pilbara survey (Van Vreeswyk *et al.* 2004), and Carleeda, Gearle, Spot and Wash from the Carnarvon Basin survey (Payne, Curry and Spencer 1987). Also nine systems from the Gascoyne survey - Bibbingunna, Durlacher, Gascoyne, George, Glenburgh, James, Phillips, Sugarloaf and Thomas (Wilcox and McKinnon 1972) occur on those parts of Ashburton stations which fall in the Gascoyne survey area. All of these additional systems are included in Table 4.

The figures for good condition in Table 4 have been used to calculate the potential carrying capacity for each station in the Ashburton rangeland survey area. It needs to be remembered that the potential figures assume:

- that all pastures are in good range condition (not the same as good seasonal condition);
- that all of the station is adequately watered (fully developed for grazing); and
- that seasonal conditions are average.

Actual carrying capacity which can be sustained in any one year will usually be somewhat less than the potential figure as no station is likely to be in 100 per cent good range condition. Some areas are always likely to be reduced to fair or poor condition and this will reduce carrying capacity. Also not all stations are fully developed for grazing. The only scenario where actual carrying capacity which could be run in any one year could be higher than potential capacity is where nearly all country is in good range condition, the station is fully developed and there has been a run of exceptionally good seasons.

> *... there's a fair bit of Birdwood - more than you realise - about 70% buffel and 30% Birdwood. Birdwood is a better grass - they'll graze it down to the butt even if it's dry, but buffel ranks off and they won't graze it when it's dry ...*
>
> **Brian Riek, Vernon Station, April 2002**

Table 4. Suggested potential carrying capacities (ha/cattle unit) for all land systems on stations falling wholly or partly into the Ashburton survey area

Pastoral potential	Land system	Good condition (ha/cu)	Fair condition (ha/cu)	Poor condition (ha/cu)
Very high	*Ashburton	10	20	29
	*Nanyarra	10	20	30
	*Cheela	11	23	33
	*Yanrey	13	26	39
High	Brockman	17	34	49
	*Rous	19	35	53
	Cheetara	20	40	50
	Yarcowie	20	40	50
	*River	22	41	61
	*Minderoo	23	43	62
	*Globe	28	51	72
Moderately high	*Edward	33	54	80
	*Onslow	35	60	80
	Gearle	35	56	80
	*Turee	36	65	80
	Carleeda	42	67	95
	Elimunna	42	71	95
	Gascoyne	42	67	95
	Spot	42	67	95
	Yankagee	44	75	110
	*Mundong	45	75	100
	Bibbingunna	49	78	115
	Dune	50	77	110
	*Firecracker	50	73	105
	Paraburdoo	50	76	105
Moderate	*Donovan	52	76	110
	*Nadarra	54	85	115
	*Dollar	55	90	120
	Wash	56	78	105
	Urandy	57	80	115
	Winning	59	80	115
	Scoop	70	100	140
	Cadgie	71	95	130
	*Kooline	71	110	140
	*Prairie	71	105	130
	Marandoo	73	110	140
	Laterite	74	105	130
	*Phillips	75	110	145
	Bryah	76	105	145
	*Jubilee	77	110	135

* Systems with some buffel and/or Birdwood grass pastures

Table 4. .... continued

Pastoral potential	Land system	Good condition (ha/cu)	Fair condition (ha/cu)	Poor condition (ha/cu)
Low	*Collier	85	115	145
	Durlacher	85	110	125
	Giralia	85	110	140
	Jamindie	90	125	150
	Stuart	90	120	155
	Sugarloaf	90	115	135
	Uaroo	90	120	145
	Warri	90	120	145
	Wona	90	120	165
	Nooingnin	95	125	155
	Nanutarra	100	115	125
	Ruby	100	125	160
	Spearhole	105	135	160
	Tangadee	105	135	160
	Three Rivers	105	130	160
	Ethel	110	135	165
	Robe	110	120	125
	Boolaloo	115	145	185
	Ford	115	140	170
	Nirran	115	145	170
	Egerton	120	145	170
	Houndstooth	120	160	185
Very low	Boolgeeda	125	155	170
	Charley	125	160	175
	Table	125	150	165
	Kunderong	130	165	185
	Platform	130	160	175
	Divide	140	165	170
	Ullawarra	140	165	190
	Weelarrana	145	190	225
	James	155	185	200
	McKay	160	190	210
	Adrian	170	200	200
	George	170	205	220
	Glenburgh	175	210	225
	Thomas	175	210	225
	Mulgul	190	205	220
	Capricorn	195	210	225
	Rocklea	225	235	250
	Augustus	230	230	235
	Newman	265	270	270
	Littoral	555	nil	nil

* Systems with some buffel and/or Birdwood grass pastures

... buffel grass gives a response from much less rain than native grasses - that's it's strong point: 1½ inches will give feed in a week and it will last up to six weeks without any extra rain. After that it's useless unless it's been grazed - it must be kept grazed down ...

Jack Harvey, Mininer Station, April 2001

Photographs

Monitoring site 25 on the Ashburton land system on Kooline Station

1991
Tall saltbush (*Rhagodia eremaea*), prickly acacia (*Acacia victoriae*) and well-grazed buffel grass.

1997
The massive flood of 1997 caused the death of tall saltbush by waterlogging. The flood plain was rapidly colonised by short lived plants.

2001
Prickly acacia (*Acacia victoriae*) and buffel grass now firmly re-established.

Nearly all of the narrow drainage floors between the low shale hills of the Kooline land system support buffel grass pastures as shown in this photograph (Wyloo Station 2001).

A dense stand of tall buffel and Birdwood grass pasture on river frontage country of the Ashburton land system (Wyloo Station 2001).

Grazed buffel grass pastures and coolibahs (*Eucalyptus victrix*) next to Rous Creek on Rous land system (Uaroo Station 2002).

Buffel grass established on the Firecracker land system shows the effect of heavy grazing on the left of the fence (Giralia Station 2002).

Recently burnt plain of spinifex on the Jubilee land system. The creekline in the middle distance is colonised by buffel grass (Giralia Station 2002).

Buffel grass has almost completely replaced soft spinifex on this sand dune of the Minderoo land system (Yanrey Station 2002).

The largest ever recorded flood of the Ashburton River occurred in 1997. As well as causing extensive erosion and damage to station infrastructure it deposited sand and silt over large areas of flood plains (Mt Vernon Station 2002, about 2 km south-west of the Ashburton River).

Buffel grass establishing on silty deposits from the 1997 flood. The grass stand is also recovering from a recent fire (Nanutarra Station 2002).

This area which was probably waterlogged for several weeks during the 1997 flood now supports a dense stand of young coolibahs (*Eucalyptus victrix*) not all of which will survive to maturity (Nanutarra Station 2002).

Station reports

Reports for 26 stations falling within the catchment of the Ashburton River are presented in alphabetical order. Twenty-two stations fall wholly into the Ashburton catchment area. Four stations fall partly within the Ashburton River catchment and partly in the Gascoyne River catchment or the Pilbara survey area. Reports for the whole station are presented for these four stations.

Each station report consists of preliminary information including the Land Conservation District and Shire in which the station lies. The area included within each station is that which was legally defined as part of the pastoral lease(s) comprising each station in 2002. The area does not include reserves, freehold land or unallocated Crown land within the pastoral lease. The station area calculated from the digitised mapping is more accurate than the current stated legal area. Some stations have changed in area since the 1988 report.

The station reports consist of two tables. The first table deals with land types; that is, groups of similar land systems. It gives a general impression of the types of country and their extent on each station. Table 5 provides a list of land types and their component land systems.

Table 5. Land types and their land systems

Land type	Description and land systems
1	**Hills with acacia shrublands** Land systems: Augustus, Charley, Glenburgh, Kooline, Kunderong, Marandoo, Mulgul, Ullawarra
2	**Hills and ranges with spinifex grasslands** Land systems: Adrian, Boolaloo, Capricorn, Houndstooth, Jubilee, McKay, Nanutarra, Newman, Rocklea
3	**Mesas, breakaways and stony plains with mulga and halophytic shrublands** Land systems: Laterite, Table, Thomas
4	**Mesas, breakaways and stony plains with spinifex grasslands** Land systems: Robe
5	**Low hills and stony plains with acacia-eremophila shrublands** Land systems: Collier, James, Phillips, Prairie
6	**Stony plains with acacia shrublands** Land systems: Dollar, Elimunna, Ethel, Ford, George, Mundong, Paraburdoo, Ruby, Sugarloaf, Tangadee
7	**Stony plains with acacia shrublands and halophytic shrublands** Land systems: Bryah, Durlacher, Firecracker, Scoop, Winning
8	**Stony plains with spinifex grasslands** Land systems: Boolgeeda, Egerton, Nirran, Platform, Stuart
9	**Stony plains with tussock grasslands** Land systems: Wona
10	**Sandplains and occasional dunes with spinifex grasslands** Land systems: Divide, Giralia, Uaroo, Yankagee
11	**Wash plains on hardpan with mulga shrublands** Land systems: Jamindie, Nooingnin, Spearhole, Wash
12	**Wash plains and sandy banks on hardpan, with mulga shrublands and wanderrie grasses or spinifex** Land systems: Cadgie, Three Rivers

13	**Alluvial plains with snakewood or mulga shrublands** Land systems: Globe, Minderoo
14	**Alluvial plains with halophytic shrublands** Land systems: Donovan, Edward, Gearle, Spot
15	**Alluvial and sandy plains with soft spinifex grasslands** Land systems: Urandy
16	**Alluvial plains with tussock grasslands** Land systems: Bibbingunna, Cheela, Cheetara, Rous, Yanrey ,Yarcowie, Brockman, Turee
17	**River plains with grassy woodlands and tussock grasslands** Land systems: Ashburton, Gascoyne, Nanyarra, River
18	**Calcrete plains with shrublands or spinifex grasslands** Land systems: Carleeda, Nadarra, Warri
19	**Salt lakes and fringing alluvial plains with halophytic shrublands** Land systems: Weelarrana
20	**Coastal plains, dunes, mudflats and beaches** Land systems: Dune, Littoral, Onslow

The second table provides more detailed information at a land system scale. For each land system (sorted into groups according to pastoral potential, see Table 6) there is information on its area and potential carrying capacity (pcc). The pcc figure assumes that all of the particular land system is in good range condition.

Table 6. Categories of pastoral potential

Pastoral potential group	Carrying capacity in good condition (ha/cu)
Very high	< or = 15
High	16 - 30
Moderately high	31 - 50
Moderate	51 - 80
Low	81 - 120
Very low	> 120

The carrying capacities are given in cattle units (cu). These can be converted to different classes of stock using the conversion rates in Table 7. Table 7 also provides conversion rates for sheep, goats, donkeys and kangaroos so that these other grazers can also be considered.

Table 7. Relative feed requirements expressed as cattle units (cu)

Cattle		
1 steer/bullock	=	1.0 cu
1 cow (average for cows producing 50% calves)	=	1.4 cu
1 weaner	=	0.6 cu
1 one year old steer or heifer	=	0.8 cu
1 bull	=	1.5 cu
Other grazers (dry)		
1 sheep	=	0.14 cu
1 goat	=	0.11 cu
1 donkey	=	1.0 cu
1 kangaroo	=	0.09 cu

In some cases there are differences in carrying capacities used here and in carrying capacities for the same land system in the Pilbara survey area (Van Vreeswyk *et al.* 2004). This is because in some cases the descriptions, and, in particular, the proportion of land units and their pastures, for the same land system, has changed for the Pilbara survey area to reflect regional differences.

The potential carrying capacity for the whole station is obtained by summation and is shown in the second table. **These potential carrying capacity estimates for whole stations supersede the figures in the 1988 Ashburton survey report (Payne, Mitchell and Holman, 1988).**

... Bulloo Downs wouldn't be worth a kick in the pants only for the buffel grass - buffel grass saved Bulloo Downs, the more of it the better ...

Peter Hall, Bulloo Downs station, April 2002

ASHBURTON DOWNS STATION

PASTORAL LEASE 3114/1218

Area: About 311,235 ha (legal); 309,649 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	2	188,089	60.7
2	Hills and ranges with spinifex grasslands	3	28,414	9.2
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	1	2,165	0.7
4	Mesas, breakaways and stony plains with spinifex grasslands	1	165	0.1
6	Stony plains with acacia shrublands	3	25,212	8.1
8	Stony plains with spinifex grasslands	1	644	0.2
14	Alluvial plains with halophytic shrublands	1	31,754	10.3
17	River plains with grassy woodlands and tussock grasslands	2	33,206	10.7

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	29,611	9.5	2,961
High	17	River	3,595	1.2	163
Moderately high	14	Edward	31,754	10.2	962
Moderately high	6	Paraburdoo	6,869	2.2	137
Moderate	6	Dollar	11,973	3.9	218
Moderate	1	Kooline	188,052	60.7	2,649
Low	6	Ethel	6,370	2.1	58
Low	4	Robe	165	0.1	2
Very low	1	Augustus	37	<0.1	0
Very low	8	Boolgeeda	644	0.2	5
Very low	2	Capricorn	28,062	9.1	144
Very low	2	Newman	82	<0.1	0
Very low	2	Rocklea	270	0.1	1
Very low	3	Table	2,165	0.7	17
			309,649		7,317

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **7,320**

BULLOO DOWNS STATION

PASTORAL LEASE 3114/1201

Area: About 407,355 ha (legal); 408,862 ha (computed)

Land Conservation District: Gascoyne Headwaters

Shire(s): Meekatharra

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	3	60,049	14.7
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	2	22,642	5.5
5	Low hills and stony plains with acacia-eremophila shrublands	2	20,830	5.1
6	Stony plains with acacia shrublands	3	66,011	16.1
8	Stony plains with spinifex grasslands	2	50,132	12.3
10	Sandplains and occasional dunes with spinifex grasslands	1	8,299	2.0
11	Wash plains on hardpan with mulga shrublands	2	146,783	35.9
12	Wash plains and sandy banks on hardpan, with mulga shrublands and wanderrie grasses or spinifex	2	12,606	3.1
17	River plains with grassy woodlands and tussock grasslands	1	356	0.1
18	Calcrete plains with shrublands or spinifex grasslands	1	17,201	4.2
19	Salt lakes and fringing alluvial plains with halophytic shrublands	1	3,953	1.0

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	17	River	356	0.1	16
Moderate	12	Cadgie	6,887	1.7	97
Moderate	3	Laterite	12,435	3.0	168
Moderate	5	Prairie	2,185	0.5	31
Low	5	Collier	18,645	4.6	219
Low	8	Egerton	49,844	12.2	415
Low	6	Ethel	4,019	1.0	37
Low	6	Ford	60,637	14.8	527
Low	11	Jamindie	61,170	15.0	680
Low	8	Nirran	288	0.1	3
Low	11	Nooingnin	85,613	20.9	901
Low	6	Tangadee	1,355	0.3	13
Low	12	Three Rivers	5,719	1.4	54
Low	18	Warri	17,201	4.2	191
Very low	1	Augustus	29,010	7.1	126
Very low	1	Charley	25,927	6.3	207
Very low	10	Divide	8,299	2.0	59
Very low	1	Mulgul	5,113	1.3	27
Very low	3	Table	10,206	2.5	82
Very low	19	Weelarrana	3,953	1.0	27
			408,862		3,880

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **3,880**

CHEELA PLAINS STATION

PASTORAL LEASE 398/782

Area: About 188,501 ha (legal); 188,165 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	2	34,397	18.3
2	Hills and ranges with spinifex grasslands	3	94,935	50.4
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	1	243	0.1
4	Mesas, breakaways and stony plains with spinifex grasslands	1	3,155	1.7
6	Stony plains with acacia shrublands	2	6,024	3.2
8	Stony plains with spinifex grasslands	2	21,441	11.4
9	Stony plains with tussock grasslands	1	74	0
14	Alluvial plains with halophytic shrublands	1	503	0.3
16	Alluvial plains with tussock grasslands	1	20,802	11.1
17	River plains with grassy woodlands and tussock grasslands	1	6,591	3.5

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	16	Cheela	20,802	11.1	1,891
High	17	River	6,591	3.5	300
Moderately high	14	Edward	503	0.3	15
Moderately high	6	Paraburdoo	2,562	1.4	51
Moderate	6	Dollar	3,462	1.8	63
Moderate	1	Kooline	34,316	18.2	483
Low	4	Robe	3,155	1.7	29
Low	9	Wona	74	<0.1	1
Very low	1	Augustus	81	<0.1	0
Very low	8	Boolgeeda	19,999	10.6	160
Very low	2	Capricorn	26,880	14.3	138
Very low	2	Newman	23,754	12.6	90
Very low	8	Platform	1,442	0.8	11
Very low	2	Rocklea	44,301	23.6	197
Very low	3	Table	243	0.1	2
			188,165		3,431

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **3,430**

DOOLEY DOWNS STATION

PASTORAL LEASE 3114/773

Area: About 117,448 ha (legal); 117,319 ha (computed)

Land Conservation District: Upper Gascoyne

Shire(s): Upper Gascoyne

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	4	77,810	66.3
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	1	160	0.2
5	Low hills and stony plains with acacia-eremophila shrublands	1	25,215	21.5
6	Stony plains with acacia shrublands	3	4,994	4.2
7	Stony plains with acacia shrublands and halophytic shrublands	1	3,233	2.8
8	Stony plains with spinifex grasslands	1	128	0.1
11	Wash plains on hardpan with mulga shrublands	1	5,537	4.7
12	Wash plains and sandy banks on hardpan, with mulga shrublands and wanderrie grasses or spinifex	1	242	0.2

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Moderate	7	Bryah	3,233	2.7	43
Moderate	3	Laterite	160	0.1	2
Low	5	Collier	25,215	21.5	297
Low	8	Egerton	128	0.1	1
Low	6	Ethel	1,999	1.7	18
Low	11	Jamindie	5,537	4.7	62
Low	6	Sugarloaf	318	0.3	4
Low	12	Three Rivers	242	0.2	2
Very low	1	Augustus	58,673	50.0	255
Very low	1	Charley	17,811	15.2	142
Very low	6	George	2,677	2.3	16
Very low	1	Mulgul	1,147	1.0	6
Very low	1	Ullawarra	179	0.2	1
			117,319		849

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **850**

GIRALIA STATION

PASTORAL LEASE 3114/605

Area: About 230,899 ha (legal); 236,859 ha (computed)

Land Conservation District: Lyndon

Shire(s): Exmouth

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
2	Hills and ranges with spinifex grasslands	1	25,972	11.0
7	Stony plains with acacia shrublands and halophytic shrublands	2	10,473	4.4
10	Sandplains and occasional dunes with spinifex grasslands	3	156,797	66.2
13	Alluvial plains with snakewood or mulga shrublands	1	50	0
14	Alluvial plains with halophytic shrublands	1	14,133	6.0
16	Alluvial plains with tussock grasslands	1	270	0.1
20	Coastal plains, dunes, mudflats and beaches	3	29,164	12.3

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	13	Minderoo	50	<0.1	2
High	16	Yarcowie	270	0.1	14
Moderately high	20	Dune	18,785	7.9	376
Moderately high	7	Firecracker	9,910	4.2	198
Moderately high	20	Onslow	5,406	2.3	154
Moderately high	10	Yankagee	5,826	2.5	132
Moderate	14	Donovan	14,133	6.0	272
Moderate	2	Jubilee	25,972	11.0	337
Moderate	7	Winning	563	0.2	10
Low	10	Giralia	131,820	55.6	1,551
Low	10	Uaroo	19,151	8.1	213
Very low	20	Littoral	4,973	2.1	9
			236,859		3,268

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **3,270**

GLEN FLORRIE STATION

PASTORAL LEASE 3114/1014

Area: About 197,268 ha (legal); 196,429 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	2	115,600	58.9
2	Hills and ranges with spinifex grasslands	2	9,243	4.7
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	2	4,517	2.3
4	Mesas, breakaways and stony plains with spinifex grasslands	1	604	0.3
5	Low hills and stony plains with acacia-eremophila shrublands	2	35,344	18.0
6	Stony plains with acacia shrublands	2	1,840	0.9
7	Stony plains with acacia shrublands and halophytic shrublands	1	1,109	0.6
8	Stony plains with spinifex grasslands	3	15,477	7.9
10	Sandplains and occasional dunes with spinifex grasslands	1	213	0.1
17	River plains with grassy woodlands and tussock grasslands	2	12,482	6.3

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	749	0.4	75
High	17	River	11,733	6.0	533
Moderately high	6	Mundong	42	<0.1	1
Moderate	6	Dollar	1,798	0.9	33
Moderate	1	Kooline	52,817	26.9	744
Moderate	3	Laterite	461	0.2	6
Moderate	5	Prairie	19,894	10.1	280
Moderate	7	Scoop	1,109	0.6	16
Low	2	Boolaloo	4,986	2.5	43
Low	5	Collier	15,450	7.9	182
Low	8	Egerton	309	0.1	3
Low	4	Robe	604	0.3	5
Low	8	Stuart	6,278	3.2	70
Low	10	Uaroo	213	0.1	2
Very low	1	Augustus	62,783	32.0	273
Very low	8	Boolgeeda	8,890	4.5	71
Very low	2	Capricorn	4,257	2.2	22
Very low	3	Table	4,056	2.1	32
			196,429		2,391

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **2,390**

KOOLINE STATION

PASTORAL LEASE 3114/1236

Area: About 206,080 ha (legal); 209,408 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	3	109,282	52.2
2	Hills and ranges with spinifex grasslands	1	17,878	8.5
5	Low hills and stony plains with acacia-eremophila shrublands	1	503	0.2
6	Stony plains with acacia shrublands	2	1,456	0.7
7	Stony plains with acacia shrublands and halophytic shrublands	1	3,226	1.6
8	Stony plains with spinifex grasslands	1	5,454	2.6
14	Alluvial plains with halophytic shrublands	1	14,115	6.7
17	River plains with grassy woodlands and tussock grasslands	1	57,494	27.5

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	57,494	27.5	5,749
Moderately high	14	Edward	14,115	6.7	428
Moderate	6	Dollar	880	0.4	16
Moderate	1	Kooline	73,760	35.2	1,039
Moderate	7	Scoop	3,226	1.6	46
Low	5	Collier	503	0.2	6
Low	6	Ethel	576	0.3	5
Very low	1	Augustus	34,765	16.6	151
Very low	8	Boolgeeda	5,454	2.6	44
Very low	2	Capricorn	17,878	8.5	92
Very low	1	Charley	757	0.4	6
			209,408		7,582

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **7,580**

KOORDARRIE STATION

PASTORAL LEASE 3114/1063

Area: About 116,995 ha (legal); 116,858 ha (computed)

Land Conservation District: Lyndon

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
10	Sandplains and occasional dunes with spinifex grasslands	1	39,096	33.5
13	Alluvial plains with snakewood or mulga shrublands	2	62,055	53.1
15	Alluvial plains with tussock grasslands	1	2,591	2.2
20	Coastal plains, dunes, mudflats and beaches	3	13,116	11.2

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	15	Cheetara	2,591	2.2	130
High	13	Globe	20,588	17.6	735
High	13	Minderoo	41,467	35.5	1,803
Moderately high	20	Dune	9,691	8.3	194
Moderately high	20	Onslow	1,258	1.1	36
Moderately high	10	Yankagee	39,096	33.5	889
Very low	20	Littoral	2,167	1.8	4
			116,858		3,791

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **3,790**

MAROONAH STATION

PASTORAL LEASE 3114/946

Area: About 198,289 ha (legal); 198,280 ha (computed)

Land Conservation District: Lyndon

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	4	43,356	21.9
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	2	1,230	0.6
5	Low hills and stony plains with acacia-eremophila shrublands	4	87,161	43.9
6	Stony plains with acacia shrublands	1	22,905	11.6
7	Stony plains with acacia shrublands and halophytic shrublands	1	8,595	4.3
8	Stony plains with spinifex grasslands	1	18	0
11	Wash plains on hardpan with mulga shrublands	1	3,304	1.7
17	River plains with grassy woodlands and tussock grasslands	1	1,652	0.8
18	Calcrete plains with shrublands or spinifex grasslands	1	30,059	15.2

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	17	River	1,652	0.8	75
Moderately high	6	Mundong	22,905	11.5	509
Moderate	1	Kooline	2,530	1.3	36
Moderate	18	Nadarra	30,059	15.2	557
Moderate	5	Phillips	19,120	9.6	255
Moderate	5	Prairie	33,435	16.9	471
Low	5	Collier	29,071	14.7	342
Low	7	Durlacher	8,595	4.3	101
Low	11	Jamindie	3,304	1.7	37
Very low	1	Augustus	33,226	16.7	144
Very low	8	Boolgeeda	18	<0.1	0
Very low	1	Charley	7,084	3.6	57
Very low	1	Glenburgh	516	0.3	3
Very low	5	James	5,535	2.8	36
Very low	3	Table	339	0.2	3
Very low	3	Thomas	891	0.4	5
			198,280		2,631

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **2,630**

MARRILLA STATION

PASTORAL LEASE 3114/756

Area: About 139,298 ha (legal); 139,424 ha (computed)

Land Conservation District: Lyndon

Shire(s): Carnarvon/Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
2	Hills and ranges with spinifex grasslands	1	6,181	4.4
7	Stony plains with acacia shrublands and halophytic shrublands	2	11,323	8.1
10	Sandplains and occasional dunes with spinifex grasslands	2	105,181	75.4
11	Wash plains on hardpan with mulga shrublands	1	800	0.6
14	Alluvial plains with halophytic shrublands	3	7,612	5.5
16	Alluvial plains with tussock grasslands	1	1,772	1.3
18	Calcrete plains with shrublands or spinifex grasslands	1	6,555	4.7

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	16	Yarcowie	1,772	1.3	89
Moderately high	18	Carleeda	6,555	4.7	156
Moderately high	7	Firecracker	7,690	5.5	154
Moderately high	14	Gearle	710	0.5	20
Moderately high	14	Spot	907	0.7	22
Moderate	14	Donovan	5,995	4.3	115
Moderate	2	Jubilee	6,181	4.4	80
Moderate	11	Wash	800	0.6	14
Moderate	7	Winning	3,633	2.6	62
Low	10	Giralia	79,319	56.9	933
Low	10	Uaroo	25,862	18.5	287
			139,424		1,932

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **1,930**

MINDEROO STATION

PASTORAL LEASE 3114/661

Area: About 226,585 ha (legal); 226,808 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
2	Hills and ranges with spinifex grasslands	1	2,868	1.3
4	Mesas, breakaways and stony plains with spinifex grasslands	1	216	0.1
10	Sandplains and occasional dunes with spinifex grasslands	3	63,465	28.0
13	Alluvial plains with snakewood or mulga shrublands	2	93,513	41.2
16	Alluvial plains with tussock grasslands	1	9,660	4.2
17	River plains with grassy woodlands and tussock grasslands	1	38,336	16.9
20	Coastal plains, dunes, mudflats and beaches	3	18,750	8.3

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Nanyarra	38,336	16.9	3,834
High	16	Cheetara	9,660	4.2	483
High	13	Globe	30,977	13.6	1,106
High	13	Minderoo	62,536	27.6	2,719
Moderately high	20	Dune	5,150	2.3	103
Moderately high	20	Onslow	12,209	5.4	349
Moderately high	10	Yankagee	34,972	15.4	795
Low	2	Boolaloo	2,868	1.3	25
Low	10	Giralia	5,133	2.3	60
Low	4	Nanutarra	216	0.1	2
Low	10	Uaroo	23,360	10.3	260
Very low	20	Littoral	1391	0.6	3
			226,808		9,739

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **9,740**

MININER STATION

PASTORAL LEASE 3114/1193

Area: About 222,289 ha (legal); 222,637 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton/Meekatharra

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	2	98,713	44.3
2	Hills and ranges with spinifex grasslands	2	14,401	6.5
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	1	13,900	6.2
6	Stony plains with acacia shrublands	3	30,533	13.7
8	Stony plains with spinifex grasslands	3	17,283	7.8
11	Wash plains on hardpan with mulga shrublands	1	1,103	0.5
14	Alluvial plains with halophytic shrublands	1	23,297	10.5
17	River plains with grassy woodlands and tussock grasslands	2	23,407	10.5

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	15,762	7.1	1,576
High	17	River	7,645	3.4	348
Moderately high	14	Edward	23,297	10.5	706
Moderately high	6	Paraburdoo	1,533	0.7	31
Moderate	6	Dollar	7,155	3.2	130
Moderate	1	Kooline	98,018	44.0	1,381
Moderate	1	Marandoo	695	0.3	10
Low	8	Egerton	14,882	6.7	124
Low	6	Ethel	21,845	9.8	199
Low	11	Jamindie	1,103	0.5	12
Very low	8	Boolgeeda	2,171	1.0	17
Very low	2	Capricorn	10,033	4.5	51
Very low	2	Newman	4,368	2.0	16
Very low	8	Platform	230	0.1	2
Very low	3	Table	13,900	6.2	111
			222,637		4,714

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **4,710**

MT STUART STATION

PASTORAL LEASE 3114/1267

Area: About 346,051 ha (legal); 345,183 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	1	3,143	0.9
2	Hills and ranges with spinifex grasslands	5	197,027	57.1
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	1	1,230	0.4
4	Mesas, breakaways and stony plains with spinifex grasslands	1	12,932	3.8
6	Stony plains with acacia shrublands	3	19,716	5.7
8	Stony plains with spinifex grasslands	3	74,585	21.6
10	Sandplains and occasional dunes with spinifex grasslands	1	5	<0.1
14	Alluvial plains with halophytic shrublands	1	477	0.1
15	Alluvial and sandy plains with soft spinifex grasslands	1	784	0.2
17	River plains with grassy woodlands and tussock grasslands	2	35,284	10.2

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	25,587	7.4	2,559
High	17	River	9,697	2.8	441
Moderately high	14	Edward	477	0.1	14
Moderately high	6	Paraburdoo	3,190	0.9	64
Moderate	6	Dollar	16,500	4.8	300
Moderate	1	Kooline	3,143	0.9	44
Moderate	15	Urandy	784	0.2	14
Low	2	Boolaloo	20,777	6.0	181
Low	2	Houndstooth	3,105	0.9	26
Low	4	Robe	12,932	3.8	118
Low	10	Uaroo	5	<0.1	0
Low	6	Ethel	26	<0.1	0
Low	8	Stuart	38,379	11.1	426
Very low	2	Capricorn	36,742	10.6	188
Very low	2	Newman	74,733	21.7	282
Very low	2	Rocklea	61,670	17.9	274
Very low	3	Table	1,230	0.4	10
Very low	8	Boolgeeda	34,994	10.1	280
Very low	8	Platform	1212	0.4	9
			345,183		5,230

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **5,230**

MT VERNON STATION

PASTORAL LEASE 3114/888

Area: About 381,047 ha (legal); 380,980 ha (computed)

Land Conservation District: Gascoyne Headwaters

Shire(s): Meekatharra/Upper Gascoyne

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	4	145,863	38.3
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	2	61,255	16.1
5	Low hills and stony plains with acacia-eremophila shrublands	1	20,513	5.4
6	Stony plains with acacia shrublands	4	59,155	15.5
8	Stony plains with spinifex grasslands	1	27,683	7.3
10	Sandplains and occasional dunes with spinifex grasslands	1	20	<0.1
14	Alluvial plains with halophytic shrublands	1	20,022	5.2
17	River plains with grassy woodlands and tussock grasslands	2	46,469	12.2

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	45,445	11.9	4,545
High	17	River	1,024	0.3	47
Moderately high	14	Edward	20,022	5.3	607
Moderate	1	Kooline	31,982	8.4	450
Moderate	3	Laterite	19,588	5.1	265
Low	5	Collier	20,513	5.4	241
Low	8	Egerton	27,683	7.3	231
Low	6	Ethel	28,331	7.4	258
Low	6	Ford	6,876	1.8	60
Low	6	Ruby	16,951	4.5	170
Low	6	Tangadee	6,997	1.8	67
Very low	1	Augustus	74,319	19.5	323
Very low	1	Charley	30,525	8.0	244
Very low	10	Divide	20	<0.1	0
Very low	1	Mulgul	9,037	2.4	48
Very low	3	Table	41,667	10.9	333
			380,980		7,889

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **7,890**

NANUTARRA STATION

PASTORAL LEASE 3114/1096

Area: About 234,197 ha (legal); 232,061 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	2	38,227	16.5
2	Hills and ranges with spinifex grasslands	2	65,871	28.4
4	Mesas, breakaways and stony plains with spinifex grasslands	2	3,683	1.6
5	Low hills and stony plains with acacia-eremophila shrublands	2	3,838	1.6
6	Stony plains with acacia shrublands	1	987	0.4
10	Sandplains and occasional dunes with spinifex grasslands	3	51,042	22.0
13	Alluvial plains with snakewood or mulga shrublands	1	44,750	19.3
16	Alluvial plains with tussock grasslands	2	14,403	6.2
17	River plains with grassy woodlands and tussock grasslands	2	9,260	4.0

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	6,712	2.9	671
High	16	Cheetara	17	<0.1	1
High	13	Globe	44,750	19.3	1,598
High	17	River	2,548	1.1	116
High	16	Rous	14,386	6.2	757
Moderately high	10	Yankagee	871	0.4	20
Moderate	6	Dollar	987	0.4	18
Moderate	1	Kooline	7,898	3.4	111
Moderate	5	Prairie	844	0.4	12
Low	2	Boolaloo	43,565	18.8	379
Low	5	Collier	2,994	1.3	35
Low	10	Giralia	9,662	4.1	114
Low	4	Nanutarra	2,988	1.3	30
Low	4	Robe	695	0.3	6
Low	10	Uaroo	40,509	17.4	450
Very low	1	Augustus	30,329	13.1	132
Very low	2	Capricorn	22,306	9.6	114
			232,061		4,564

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **4,560**

NYANG STATION

PASTORAL LEASE 3114/616

Area: About 125,087 ha (legal); 125,422 ha (computed)

Land Conservation District: Lyndon

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	1	1,292	1.0
2	Hills and ranges with spinifex grasslands	1	1,173	0.9
5	Low hills and stony plains with acacia-eremophila shrublands	1	4,268	3.4
6	Stony plains with acacia shrublands	1	11,048	8.8
7	Stony plains with acacia shrublands and halophytic shrublands	1	8,114	6.5
8	Stony plains with spinifex grasslands	2	2,560	2.1
10	Sandplains and occasional dunes with spinifex grasslands	2	96,338	76.8
16	Alluvial plains with tussock grasslands	1	629	0.5

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	16	Rous	629	0.5	33
Moderately high	6	Mundong	11,048	8.8	246
Moderate	7	Winning	8,114	6.5	138
Low	5	Collier	4,268	3.4	50
Low	8	Egerton	648	0.5	5
Low	10	Giralia	26,384	21.1	310
Low	8	Stuart	1,912	1.5	21
Low	10	Uaroo	69,954	55.8	777
Very low	1	Augustus	1,292	1.0	6
Very low	2	Capricorn	1,173	0.9	6
			125,422		1,592

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **1,590**

PINGANDY STATION

PASTORAL LEASE 3114/1241

Area: About 178,053 ha (legal); 179,088 ha (computed)

Land Conservation District: Gascoyne Headwaters

Shire(s): Upper Gascoyne/Meekatharra

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	4	91,114	50.9
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	2	14,122	7.9
5	Low hills and stony plains with acacia-eremophila shrublands	1	25,829	14.4
6	Stony plains with acacia shrublands	1	8,609	4.8
8	Stony plains with spinifex grasslands	1	34,829	19.4
11	Wash plains on hardpan with mulga shrublands	1	1,082	0.6
17	River plains with grassy woodlands and tussock grasslands	1	3,503	2.0

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	17	River	3,503	2.0	159
Moderate	1	Kooline	10,487	5.9	148
Moderate	3	Laterite	3,049	1.7	41
Low	5	Collier	25,829	14.4	300
Low	8	Egerton	34,829	19.4	290
Low	6	Ethel	8,609	4.8	78
Low	11	Jamindie	1,082	0.6	12
Very low	1	Augustus	57,092	31.9	248
Very low	1	Charley	5,717	3.2	46
Very low	1	Mulgul	17,818	9.9	94
Very low	3	Table	11,073	6.2	89
			179,088		1,505

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **1,510**

PRAIRIE DOWNS STATION

PASTORAL LEASE 3114/1125

Area: About 227,400 ha (legal); 227,177 ha (computed)

Land Conservation District: East Pilbara

Shire(s): Meekatharra/East Pilbara

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	3	23,131	10.2
2	Hills and ranges with spinifex grasslands	3	18,659	8.2
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	2	1,494	0.7
4	Mesas, breakaways and stony plains with spinifex grasslands	1	347	0.2
5	Low hills and stony plains with acacia-eremophila shrublands	2	62,562	27.6
6	Stony plains with acacia shrublands	1	3,433	1.5
8	Stony plains with spinifex grasslands	3	33,004	14.5
11	Wash plains on hardpan with mulga shrublands	3	67,787	29.8
12	Wash plains and sandy banks on hardpan, with mulga shrublands and wanderrie grasses or spinifex	1	8,222	3.6
16	Alluvial plains with tussock grasslands	1	2,523	1.1
17	River plains with grassy woodlands and tussock grasslands	1	766	0.3
18	Calcrete plains with shrublands or spinifex grasslands	1	5,249	2.3

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	17	River	766	0.3	35
Moderately high	6	Elimunna	3,433	1.5	82
Moderately high	16	Turee	2,523	1.1	70
Moderate	12	Cadgie	8,222	3.6	116
Moderate	3	Laterite	377	0.2	5
Moderate	5	Prairie	53,339	23.5	751
Low	5	Collier	9,223	4.0	109
Low	8	Egerton	18,564	8.2	155
Low	11	Jamindie	37,317	16.4	415
Low	8	Nirran	14,070	6.2	122
Low	11	Nooingnin	20,238	8.9	213
Low	4	Robe	347	0.1	3
Low	11	Spearhole	10,232	4.5	97
Low	18	Warri	5,249	2.3	58
Very low	2	Adrian	891	0.4	5
Very low	1	Augustus	8,702	3.8	38
Very low	8	Boolgeeda	370	0.2	3
Very low	1	Charley	632	0.3	5
Very low	1	Kunderong	13,797	6.1	106
Very low	2	Newman	4,000	1.8	15
Very low	2	Rocklea	13,768	6.1	61
Very low	3	Table	1,117	0.5	9
			227,177		2,473

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **2,470**

ROCKLEA STATION

PASTORAL LEASE 3114/1166

Area: About 390,545 ha (legal); 390,278 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	1	103,884	26.6
2	Hills and ranges with spinifex grasslands	4	170,900	43.8
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	1	2,016	0.5
4	Mesas, breakaways and stony plains with spinifex grasslands	1	13,403	3.4
5	Low hills and stony plains with acacia-eremophila shrublands	1	17,758	4.6
6	Stony plains with acacia shrublands	3	38,962	10.0
8	Stony plains with spinifex grasslands	3	28,162	7.2
9	Stony plains with tussock grasslands	1	10,168	2.6
11	Wash plains on hardpan with mulga shrublands	1	692	0.2
17	River plains with grassy woodlands and tussock grasslands	1	4,333	1.1

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	17	River	4,333	1.1	197
Moderately high	6	Paraburdoo	38,795	10.0	776
Moderate	6	Dollar	91	<0.1	2
Moderate	1	Marandoo	103,884	26.6	1,423
Moderate	5	Prairie	17,758	4.6	250
Low	8	Egerton	387	0.1	3
Low	6	Ethel	76	<0.1	1
Low	11	Jamindie	692	0.2	8
Low	4	Robe	13,403	3.5	122
Low	9	Wona	10,168	2.6	113
Very low	8	Boolgeeda	21,216	5.4	170
Very low	2	Capricorn	462	0.1	2
Very low	2	McKay	1,587	0.4	10
Very low	2	Newman	35,997	9.2	136
Very low	8	Platform	6,559	1.7	50
Very low	2	Rocklea	132,854	34.0	590
Very low	3	Table	2,016	0.5	16
			390,278		3,869

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **3,870**

TANGADEE STATION

PASTORAL LEASE 3114/1129

Area: About 181,942 ha (legal); 181,989 ha (computed)

Land Conservation District: Gascoyne Headwaters

Shire(s): Meekatharra

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	3	26,116	14.4
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	2	9,526	5.2
5	Low hills and stony plains with acacia-eremophila shrublands	1	30,779	16.9
6	Stony plains with acacia shrublands	2	23,091	12.7
8	Stony plains with spinifex grasslands	1	25,295	13.9
10	Sandplains and occasional dunes with spinifex grasslands	1	11,358	6.2
11	Wash plains on hardpan with mulga shrublands	1	30,979	17.0
12	Wash plains and sandy banks on hardpan, with mulga shrublands and wanderrie grasses or spinifex	2	21,940	12.1
17	River plains with grassy woodlands and tussock grasslands	1	756	0.4
19	Calcrete plains with shrublands or spinifex grasslands	1	2,149	1.2

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	17	River	756	0.4	34
Moderate	12	Cadgie	1	<0.1	0
Moderate	3	Laterite	5,339	2.9	72
Low	5	Collier	30,779	16.9	362
Low	8	Egerton	25,295	13.9	211
Low	6	Ethel	1,161	0.6	11
Low	11	Jamindie	30,979	17.0	344
Low	6	Tangadee	21,930	12.1	209
Low	12	Three Rivers	21,939	12.1	209
Low	19	Warri	2,149	1.2	24
Very low	1	Augustus	18,542	10.2	81
Very low	1	Charley	6,943	3.8	56
Very low	10	Divide	11,358	6.2	81
Very low	1	Mulgul	631	0.4	3
Very low	3	Table	4,187	2.3	33
			181,989		1,730

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **1,730**

TUREE CREEK STATION

PASTORAL LEASE 3114/937

Area: About 277,609 ha (legal); 277,688 ha (computed)

Land Conservation District: Gascoyne Headwaters

Shire(s): Meekatharra/Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	3	58,551	21.1
2	Hills and ranges with spinifex grasslands	3	20,679	7.4
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	2	11,615	4.2
6	Stony plains with acacia shrublands	2	6,554	2.4
8	Stony plains with spinifex grasslands	3	22,832	8.2
10	Sandplains and occasional dunes with spinifex grasslands	1	12,281	4.4
11	Wash plains on hardpan with mulga shrublands	2	78,059	28.1
12	Wash plains and sandy banks on hardpan, with mulga shrublands and wanderrie grasses or spinifex	1	1,403	0.5
14	Alluvial plains with halophytic shrublands	1	9,749	3.5
16	Alluvial plains with tussock grasslands	1	31,620	11.4
17	River plains with grassy woodlands and tussock grasslands	1	10,711	3.9
18	Calcrete plains with shrublands or spinifex grasslands	1	13,634	4.9

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	17	River	10,711	3.9	487
Moderately high	14	Edward	9,749	3.5	295
Moderately high	6	Paraburdoo	4,958	1.8	99
Moderately high	16	Turee	31,620	11.4	878
Moderate	12	Cadgie	1,403	0.5	20
Moderate	1	Kooline	17,266	6.2	243
Moderate	3	Laterite	297	0.1	4
Low	8	Egerton	13,775	5.0	115
Low	6	Ethel	1,596	0.6	15
Low	11	Jamindie	55,069	19.8	612
Low	11	Nooingnin	22,990	8.3	242
Low	18	Warri	13,634	4.9	151
Very low	8	Boolgeeda	1,293	0.5	10
Very low	2	Capricorn	9,387	3.4	48
Very low	1	Charley	107	<0.1	1
Very low	10	Divide	12,281	4.4	88
Very low	1	Kunderong	41,178	14.8	317
Very low	2	Newman	7,868	2.8	30
Very low	8	Platform	7,764	2.8	60
Very low	2	Rocklea	3,424	1.2	15
Very low	3	Table	11,318	4.1	91
			277,688		3,821

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **3,820**

UAROO STATION

PASTORAL LEASE 3114/580

Area: About 246,875 ha (legal); 246,553 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	2	55,937	22.7
2	Hills and ranges with spinifex grasslands	2	58,057	23.5
4	Mesas, breakaways and stony plains with spinifex grasslands	1	161	0.1
5	Low hills and stony plains with acacia-eremophila shrublands	2	6,894	2.8
6	Stony plains with acacia shrublands	1	19,525	7.9
8	Stony plains with spinifex grasslands	2	5,428	2.2
10	Sandplains and occasional dunes with spinifex grasslands	2	89,577	36.3
16	Alluvial plains with tussock grasslands	1	10,974	4.5

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
High	16	Rous	10,974	4.5	578
Moderately high	6	Mundong	19,525	7.9	434
Moderate	1	Kooline	34,003	13.8	479
Moderate	5	Prairie	591	0.2	8
Low	2	Boolaloo	3,795	1.5	33
Low	5	Collier	6,303	2.6	74
Low	10	Giralia	5,300	2.1	62
Low	4	Nanutarra	161	0.1	2
Low	8	Stuart	4,962	2.0	55
Low	10	Uaroo	84,277	34.2	936
Very low	1	Augustus	21,934	8.9	95
Very low	8	Boolgeeda	466	0.2	4
Very low	2	Capricorn	54,262	22.0	278
			246,553		3,038

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **3,040**

ULLAWARRA STATION

PASTORAL LEASE 3114/1249

Area: About 268,333 ha (legal); 267,960 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	4	209,135	78.0
2	Hills and ranges with spinifex grasslands	1	22,177	8.3
3	Mesas, breakaways and stony plains with mulga and halophytic shrublands	1	1,546	0.6
5	Low hills and stony plains with acacia-eremophila shrublands	1	6,096	2.3
6	Stony plains with acacia shrublands	1	4,904	1.8
7	Stony plains with acacia shrublands and halophytic shrublands	1	4,744	1.8
8	Stony plains with spinifex grasslands	2	8,527	3.2
11	Wash plains on hardpan with mulga shrublands	1	3,284	1.2
14	Alluvial plains with halophytic shrublands	1	24	<0.1
16	Alluvial plains with tussock grasslands	1	625	0.2
17	River plains with grassy woodlands and tussock grasslands	3	6,712	2.5
18	Calcrete plains with shrublands or spinifex grasslands	1	186	0.1

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	2,627	1.0	263
High	17	River	3,998	1.5	182
Moderately high	16	Bibbingunna	625	0.2	13
Moderately high	14	Edward	24	<0.1	1
Moderately high	17	Gascoyne	87	<0.1	2
Moderate	1	Kooline	9,606	3.6	135
Moderate	18	Nadarra	186	0.1	3
Moderate	7	Scoop	4,744	1.8	68
Low	5	Collier	6,096	2.3	71
Low	8	Egerton	5,749	2.1	48
Low	6	Ethel	4,904	1.8	45
Low	11	Jamindie	3,284	1.2	36
Very low	1	Augustus	112,341	42.0	488
Very low	8	Boolgeeda	2,778	1.0	22
Very low	2	Capricorn	22,177	8.3	114
Very low	1	Charley	12,045	4.5	96
Very low	3	Table	1,546	0.6	12
Very low	1	Ullawarra	75,143	28.0	538
			267,960		2,137

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **2,140**

URALA STATION

PASTORAL LEASE 3114/765

Area: About 55,978 ha (legal); 54,212 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
10	Sandplains and occasional dunes with spinifex grasslands	1	1,872	3.5
20	Coastal plains, dunes, mudflats and beaches	3	52,340	96.5

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Moderately high	20	Dune	1,704	3.1	34
Moderately high	20	Onslow	21,752	40.1	621
Moderately high	10	Yankagee	1,872	3.5	43
Very low	20	Littoral	28,884	53.3	52
			54,212		750

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **750**

WYLOO STATION

PASTORAL LEASE 3114/647

Area: About 191,734 ha (legal); 189,273 ha (computed)

Land Conservation District: Ashburton

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
1	Hills and ranges with acacia shrublands	2	62,326	32.9
2	Hills and ranges with spinifex grasslands	4	66,001	34.9
5	Low hills and stony plains with acacia-eremophila shrublands	1	4,002	2.1
6	Stony plains with acacia shrublands	2	26,013	13.7
7	Stony plains with acacia shrublands and halophytic shrublands	1	134	0.1
8	Stony plains with spinifex grasslands	2	7,118	3.8
14	Alluvial plains with halophytic shrublands	1	7,168	3.8
17	River plains with grassy woodlands and tussock grasslands	1	16,511	8.7

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	17	Ashburton	16,511	8.7	1,651
Moderately high	14	Edward	7,168	3.8	217
Moderately high	6	Paraburdoo	17,301	9.1	346
Moderate	6	Dollar	8,712	4.6	158
Moderate	1	Kooline	59,791	31.6	842
Moderate	5	Prairie	4,002	2.1	56
Moderate	7	Scoop	134	0.1	2
Low	2	Boolaloo	1,173	0.6	10
Low	8	Stuart	2,444	1.3	27
Very low	1	Augustus	2,535	1.3	11
Very low	8	Boolgeeda	4,674	2.5	37
Very low	2	Capricorn	29,605	15.6	152
Very low	2	Newman	2,941	1.6	11
Very low	2	Rocklea	32,282	17.1	143
			189,273		3,663

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **3,660**

YANREY STATION

PASTORAL LEASE 3114/477

Area: About 250,793 ha (legal); 251,648 ha (computed)

Land Conservation District: Lyndon

Shire(s): Ashburton

Table 1. Summary of land types

No.	Land type	No. of land systems	Area (ha)	% of station
2	Hills and ranges with spinifex grasslands	2	2,087	0.8
4	Mesas, breakaways and stony plains with spinifex grasslands	1	225	0.1
8	Stony plains with spinifex grasslands	1	185	0.1
10	Sandplains and occasional dunes with spinifex grasslands	3	113,731	45.2
13	Alluvial plains with snakewood or mulga shrublands	2	65,758	26.1
16	Alluvial plains with tussock grasslands	3	67,340	26.8
20	Coastal plains, dunes, mudflats and beaches	3	2,322	0.9

Table 2. Land system summary and potential carrying capacity (pcc) in cattle units (cu)

Pastoral potential	Land type	Land system	Area (ha)	% of station	pcc (cu)
Very high	16	Yanrey	11,295	4.5	869
High	16	Cheetara	30,860	12.3	1,543
High	13	Globe	27,605	11.0	986
High	13	Minderoo	38,153	15.1	1,659
High	16	Rous	25,185	10.0	1,326
Moderately high	20	Dune	1,997	0.8	40
Moderately high	20	Onslow	164	0.1	5
Moderately high	10	Yankagee	26,690	10.6	607
Low	2	Boolaloo	1,838	0.7	16
Low	8	Egerton	185	0.1	2
Low	10	Giralia	60,544	24.0	712
Low	2	Nanutarra	249	0.1	2
Low	4	Robe	225	0.1	2
Low	10	Uaroo	26,497	10.5	294
Very low	20	Littoral	161	0.1	0
			251,648		8,063

Potential carrying capacity (cu) over the dry season assuming all land systems are in good condition and that the entire station is adequately developed for the effective management of livestock. **8,060**

Acknowledgements

The authors would like to thank pastoralists in the survey area for sharing their knowledge and for their hospitality.

We also thank Phil Goulding for preparation of the figures in this report.

References

Mitchell, A.A. and Leighton, K.A. (1997). Report on damage caused by the flood of the Ashburton River in February 1997. Department of Land Administration publication.

Payne A.L. Curry, P.J. and Spencer, G.F. (1987). An inventory and condition survey of rangelands in the Carnarvon Basin, Western Australia. Western Australian Department of Agriculture, Technical Bulletin No. 73.

Payne, A.L., Mitchell, A.A. and Holman, W.F. (1988). An inventory and condition survey of rangelands in the Ashburton River catchment, Western Australia. Western Australian Department of Agriculture, Technical Bulletin No. 62 (revised edition).

Payne, A.L. and Mitchell, A.A. (2002). Pasture condition guides for the Pilbara. Department of Agriculture, Western Australia, Miscellaneous Publication No. 19/02.

Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004). An inventory and condition survey of the Pilbara region, Western Australia. Department of Agriculture, Western Australia, Technical Bulletin No. 92.

Wilcox, D.G. and McKinnon, E.A. (1972). A report on the condition of the Gascoyne catchment. Western Australian Department of Agriculture, Technical Bulletin No. 2.