PASTORAL
LAND BOARD
NORTHERN TERRITORY

ANNUAL REPORT 2022

depws.nt.gov.au/pastorallandboard

LETTER OF TRANSMITTAL

Hon Eva Lawler MLA
A/Minister for Environment, Climate Change and Water Security
Parliament House
GPO Box 3146
DARWIN NT 0801

Dear Minister

In accordance with section 29(a) of the *Pastoral Land Act 1992*, I hereby submit for your information and presentation to Parliament, the Pastoral Land Board Annual Report on the land condition of the NT Pastoral Estate for the period 1 January to 31 December 2022.

Yours sincerely

Julie Ross
Chairperson

EXECUTIVE SUMMARY

The Board is a statutory authority under the *Pastoral Land Act 1992* appointed by the Minister for Environment, Climate Change and Water Security (the Minister). The Board reports annually to the Minister on the NT Pastoral Estate, which is held over 224 pastoral leases in eleven pastoral districts.

This Annual Report covers 12 months from 1 January to 31 December 2022. To make this Annual Report on-ground field data, remote sensing satellite monitoring and first-hand accounts from land managers are compiled to assess the land condition at the property, district and regional scales.

Total rainfall in 2022 was average to very much below average in the northern pastoral districts and average to very much above average in the southern pastoral districts. In 2022, general total vegetation cover followed the rainfall pattern in the Northern and Southern Alice Springs Pastoral Districts with average to above average cover when compared to the longer-term baseline. The Plenty Pastoral District received similar above average rainfall to the Northern and Southern Alice Springs Pastoral Districts but the total vegetation cover was average to very much below average total vegetation cover for spring 2022. The Barkly Pastoral District displayed similar vegetation cover to the Plenty Pastoral District, with average to very much below average vegetation cover despite the central and eastern of the District receiving average and above average rainfall.

The Tennant Creek, Darwin, Katherine and northern Sturt Plateau Pastoral Districts had above average total vegetation cover for Spring 2022 despite average to very much below average rainfall. The total vegetation cover of the rest of the Sturt Plateau, VRD, Roper and Gulf Pastoral Districts varied significantly from very much below average to very much above average.

Fires affected areas in the Darwin, Katherine, VRD and Roper Pastoral Districts in 2022. However, much of the widespread and intensive fire activity was not recorded on the pastoral leases in these pastoral districts. Fire in the northern pastoral districts in April and May reflected managed early dry season burns.

On-ground monitoring was undertaken at 226 sites on 30 pastoral leases in nine pastoral districts; seven sites were assessed as Excellent, 75 as Good, 106 as Fair and 38 as Poor condition. Two pastoral leases had overall land condition ratings of Poor, with all other leases rated either Good or Fair.

This Annual Report includes a trend analysis on whether the overall land condition rating of a pastoral lease in a pastoral district has changed since it was visited previously. The land condition rating of 26 pastoral leases improved, did not change or transitioned to a single rating (i.e. Good/Fair to Fair). Four pastoral leases in the Southern Alice Springs Pastoral District exhibited the most improved ratings. Conservative herd management, sustainable land practices following rainfall and adequate erosion and sediment control measures were cited as positive and effectual land management practices implemented by land managers in this District.

Three pastoral leases in the Barkly Pastoral District and a lease in the Plenty Pastoral District showed declined land condition from Good to Fair or Poor. The on-ground inspections of these leases, and others in these Districts, showed signs of ongoing and potentially prolonged grazing pressures coupled with inadequate fencing. The Board is working with the land managers on the need to implement active recovery measures.

CONTENTS

CHAIRPERSON'S FOREWORD

I am pleased to present the 2022 Annual Report of the Pastoral Land Board.

Marking a year of improvements to regulatory processes through legislative reform, the Board has worked to increase transparency for the public, increase certainty for stakeholders and create efficiencies for the Department and Industry.

In March 2022, the *Pastoral Land Act 1992* was amended to introduce a statutory permit as part of the approval process for clearing pastoral land. This contemporary permitting scheme formalised existing processes, by requiring land clearing applications to be publicly exhibited and for submissions received to be considered by the Board before determining an application. Supported by comprehensive compliance and enforcement tools, these provisions include powers for the Board to direct a person to stop land clearing, require rehabilitation of unauthorised clearing, and prosecute breaches of land clearing requirements.

The Board released new Pastoral Land Clearing Guidelines (version 10) and Non-Pastoral Use Guidelines (version 3) to coincide with the introduction of the amended Act. For the first time, it also defined the circumstances where clearing of pastoral land is permitted without a clearing permit, which was published in the *Gazette*. In making this notice, the Board recognised the need for certain clearing activities to occur on a pastoral lease as part of regular day-to-day operations, by specifying circumstances that are fit for purpose and reflect current expectations of reasonable clearing to support a pastoral enterprise. The Board also made another *Gazette* later in the year to allow for the clearing of limited areas of pastoral land for gravel pit extraction and a temporary workers camp, enabling the Department of Infrastructure, Planning and Logistics to undertake necessary road expansions on the Carpentaria Highway.

The Board had two compliance matters referred to it in 2022. The Board received investigation reports from the Rangelands Division and heard from the pastoral lessees. Both matters were resolved through direct cautions and referrals to Minister.

In late 2022, David James resigned from the Board. After joining the Board in 2015, David played a key role in the development and implementation of the current integrated rangeland monitoring program. David was a strong advocate for Industry and the sustainable use of pastoral land and on behalf of all members, I sincerely thank David for his contribution to the Board.

Sadly, as my tenure as Chair will be concluding in late 2023, this will be my last Annual Report to present to the Minister. I am grateful for the rewarding role my tenure has provided over the past four years and wish the continuing Board and incoming Chairperson all the very best.

I finish by giving thanks to the Rangelands Division staff who provide the Board with highly professional and tireless administrative and technical support each year, pastoral lessees who participated in the 2022 Rangeland monitoring program and lastly, my fellow Board members for all your knowledge and dedication.

Julie Ross

MEMBERSHIP

CHAIRPERSON

MS JULIE ROSS
Commenced with the Board
on 22 November 2019

MEMBERS

DR LEIGH HUNT
Commenced with the Board
on 28 September 2015

MR ALASTAIR SHIELDS
Commenced with the Board
on 19 June 2019

MR STEVEN CRAIG
Commenced with the Board
on 25 June 2002

MR ROY CHISHOLM
Commenced with the Board
on 28 August 2019

MR DAVID JAMES
28 September 2015 –
17 November 2022

EXECUTIVE OFFICERS

- **Ms Ashlee Pope**
- **Ms Tammy Smart**

FUNCTIONS OF THE BOARD

Section 29 of the *Pastoral Land Act 1992* outlines the function of the Board:

a. to report regularly to, and as directed by, the Minister, but in any case not less than once a year, on the general condition of pastoral land and the operations of the Board

b. to consider applications for the subdivision or consolidation of pastoral land and make recommendations to the Minister in relation to them

c. to plan, establish, operate and maintain systems for monitoring the condition and use of pastoral land on a District or other basis

d. to assess the suitability of proposed new pastoral leases over vacant Crown land

e. to direct the preparation, and monitor the implementation, of remedial plans

f. to monitor, supervise or cause to be carried out work in relation to the rectification of degradation or other damage to pastoral land

g. to monitor the numbers and effect of stock and feral and other animals on pastoral land

h. to monitor and administer the conditions to which pastoral leases are subject

ha. to consider and determine applications for permission to use pastoral land for a non-pastoral purpose in accordance with Part 7

j. to make recommendations to the Minister on any matter relating to the administration of this Act

k. to hear and determine all questions, and consider and make recommendations on all matters, referred to it by the Minister

m. such other functions as are imposed on it by or under this or any other Act or as directed by the Minister.

Other functions outlined in the Act include:

- to determine applications for clearing pastoral land
- to determine applications for non-pastoral use of pastoral land
- to consider breaches of conditions referred by the Minister
- to consider and make recommendations to the Minister on applications for conversion of term pastoral leases to perpetual tenure
- to consider and make recommendations to the Minister on applications for consent to transfer a pastoral lease or sub-lease should the advice of the Board be sought
- to administer the access provisions of the Act, including nomination of access routes under Part 6.

LAND CONDITION

Land condition is an assessment of vegetation and soil health as indicated by ground cover species composition, tree and shrub density, abundance of invading plants (native and exotic), soil surface condition and soil erosion. These attributes are assessed relative to land in near-pristine condition.

The main influences on land condition are rainfall, grazing by domestic, native and feral grazers and fire. Grazing is managed by manipulating stocking rates, stock water distribution, feral grazing control and fire. Fire on its own can change land condition by being too frequent or too infrequent over a long period, but its main effect on land condition is through changing the distribution of grazing as grazers prefer younger grass.

RECOVERY PLANS TO ADDRESS LAND CONDITION ISSUES

In cases where land condition issues are identified on a pastoral lease, the Board may request the lessee to prepare and submit a voluntary recovery or remedial plan detailing actions to be taken to address the land management issues. It is the expectation that pastoral lessees acknowledge their duty to adopt sound management practices and their responsibility to address any land condition issues that may arise. In line with this philosophy, the Board seeks voluntary collaboration with pastoral lessees to address land condition issues.

While voluntary management plans are preferred in the first instance, if the Board believes that where pastoral land has been degraded or otherwise damaged it may require a remedial management plan detailing the proposed management of the pastoral land over a specified period. Remedial plans need to be endorsed by the Board and are registered on the title.

There are currently no statutory remedial plans in place.

PASTORAL LAND MONITORING PROGRAM

The Department of Environment, Parks and Water Security assesses and monitors land condition for the Pastoral Land Board.

INTEGRATED MONITORING PROGRAM

The integrated monitoring program was introduced in 2013 to provide objective, whole-of-landscape reporting of changes in land cover. It comprises a network of ground-based sites, incorporating the existing Tier 1 sites, where suitable, with newly established sites appropriate to validate and inform satellite data and products.

New sites are established at or near existing Tier 1 sites to maintain consistency in the photographic and data records. In some cases, it is not appropriate to locate a site nearby due to factors such as proximity to infrastructure, land system boundaries and changes in vegetation structure and type. Where Tier 1 sites are not appropriate for inclusion in the integrated monitoring program, sites continue to be photographed to expand the Tier 1 photo archive.

The integrated monitoring program relies on the Rangeland Monitoring Officers working with the knowledge and experience of land managers and lessees. Both the ground data collected and information products produced from satellite data require on-ground local knowledge and understanding to explain changes and gain a further understanding of landscape dynamics. Measured field data are used to better calibrate Landsat-derived products to the NT conditions and then validate their accuracy for specific locations. The two sources of information (ground-based and remote sensing) are then interpreted about the knowledge and experience of practical land managers to enable reporting of land condition at property, landscape and regional scales.

As the number of revisits increase at a site, the expanding monitoring record will allow changes in the vegetation and soils, and their probable causes, to be documented, in a similar way to that which is now possible for vegetation cover using remote sensing.

REMOTE SENSING OF THE DYNAMICS OF VEGETATION COVER

The remote sensing or satellite-based data component of the integrated monitoring program was developed through a collaborative research program between the Northern Territory and Queensland Governments. Data from the program is used to contribute to an internationally recognised method for systematically monitoring change in vegetation cover and its converse, bare ground, at a range of spatial and temporal scales. The 30-m pixel size of Landsat imagery allows change in vegetation cover to be analysed at the site level (1ha) through to pastoral districts (~10 000 km^2 to >130 000 km^2) and the entire NT (~1 346 500km2). Reporting interval can be as short as two weeks over 35 years (1988 to current).

FRACTIONAL COVER

Analysis of the dynamics of vegetation cover within this Annual Report is based on fractional cover. This is an estimate of the three components of land cover that can be distinguished from the spectral data and collected by the Thematic Mapper instrument carried on the Landsat satellite (i.e. Landsat TM). The three components are bare ground (comprising soil, rocks and gravels), actively growing (photosynthetic) vegetation and senescent (non-photosynthetic) vegetation (including litter and hayed-off grass) (Figure 1).

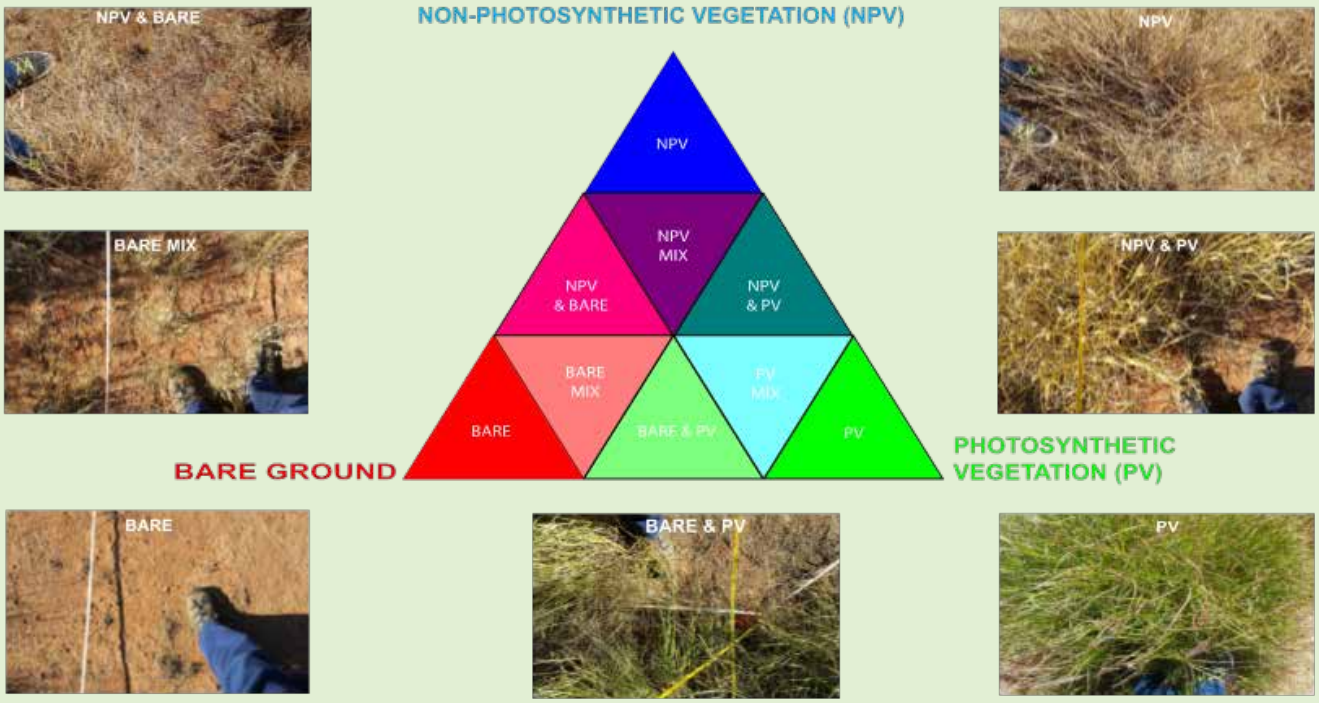


Figure 1. The three main fractions of cover and their mixtures or combinations as illustrated in fractional cover imagery.

The level of vegetation cover or bare ground present and its change over time is reported in two ways:

1. As the actual amount present during a specified period. For this report, this is September to November 2022, termed 'spring composite', coinciding with the latter part of the Dry season for central and northern pastoral districts and the time when early summer storms may promote pasture growth in the southern NT.
2. As a decile rank of vegetation cover present in late 2022 (winter or spring composite) compared with that present at similar times back to 1988.

RAINFALL

The amount, timing and effectiveness of rainfall is a major driver of the quantity, composition and quality of pastures. Monitoring data collected using ground and remote sensing-based methods must account for the effects of variable rainfall in understanding the impacts of stocking rates and grazing management on the vegetation resource.

Due to the large variation in annual rainfall across the Northern Territory, a comparison of location-specific rainfall against its longer-term history is a useful way of illustrating recent seasonal conditions (Figure 2).

FIRE

Fire and its effect on vegetation cover across the Northern Territory cannot be understated. This can be seasonal in the savannah landscapes of the central and northern parts of the Northern Territory or relatively infrequent and episodic in the southern arid region.

WOODY COVER

The density of trees and shrubs changes over time in many rangeland environments but generally at a slower rate than changes in the pasture layer. A particular issue facing the long-term sustainability of the pastoral industry in some landscapes is woody thickening, which can suppress pasture growth and reduce opportunities to use fire for broad-scale control of problem tree or shrub species. Two remote sensing products are being adapted to Northern Territory conditions to improve monitoring of vegetation cover dynamics. The first is a foliage projective cover product that discriminates woody cover from ground cover. The second is a probability-based model that allows ground cover under trees to be estimated. Both will allow improved monitoring of cover dynamics in woodland/savannah environments when suitably refined and validated, and therefore may be of use in the future.

SEASONAL QUALITY

'Seasonal quality' describes the relative value of recent rainfall in producing forage for livestock. It is judged with reference to the historical record. Total rainfall is compared with the long-term median. Descriptors of seasonal quality provide useful context for interpreting various measures of land condition. However, to the extent possible, land condition is assessed independently of seasonal conditions.

Pixel (grid cell) values are calculated from rainfall amounts at recognised Bureau of Meteorology recording stations. Rainfall is measured from 1 May 2021 to 30 April 2022 and therefore incorporates an entire growing season. Due to the considerable north-south transition in long-term median rainfall for the VRD and Barkly Pastoral Districts, rainfall statistics are reported based on an arbitrary split of the region into two sub-districts to report on seasonal quality.

CRITERIA USED TO ASSESS LAND CONDITION

ASSESSING LAND CONDITION

Table 1 summarises how the pasture and woody layers, soil surface features and presence of any weeds are considered to assess land condition.

Table 1. Factors to assess land condition.

Land condition	Soil	Pasture	Weeds	Woodland and shrubland
A (Excellent) All of these features	No erosion and good surface condition	Good coverage of palatable perennial grasses in the north and annual forage species in the south, minimal bare ground in most years	No weeds	No signs of woody thickening
B (Good) At least one or more of these features	Minimal evidence of previous erosion or current erosion risk	Some decline in the presence of palatable grasses and other forage species, a small increase in bare ground	Small infestations of weeds	Some thickening in the density of woody plants
C (Fair) One or more of these features	Evidence of past erosion and/or current susceptibility to erosion	General decline in palatable perennial and annual grasses, an obvious increase in the amount of bare ground	Obvious presence of weeds	General thickening in the density of woody plants
D (Poor) One or more of these features	Severe erosion, scalding or compaction resulting in a hostile environment for plant growth	General lack of palatable forage species	Large weed infestations covering significant areas	Thickets of woody plants that cover a significant area

2022 MONITORING SEASON AND PASTORAL DISTRICTS

SEASONAL CONDITIONS

Rainfall from 1 May 2021 to 30 April 2022 compared to the long-term record was (Figure 2):

- Below average to lowest on record for large parts of the northern pastoral districts.
- Above average to highest on record for large parts of the southern pastoral districts.
- The VRD, Katherine, Roper, Sturt Plateau, Gulf, Darwin and northern Barkly Pastoral Districts had average to lowest recorded rainfall.
- The Northern Alice Springs, Southern Alice Springs and most of the Plenty Pastoral Districts had above average rainfall.
- The Tennant Creek Pastoral District had average rainfall, with patchy areas in the south that received above average rainfall.
- The Barkly Pastoral Districts had the greatest variability of rainfall, with very much below average to below average in the north, average in the centre and above average to very much above average to the southeast.

LAND CONDITION

Land condition was assessed using a combination of remotely sensed (satellite), field (site) data and lease inspections. Landsat data was used to indicate the proportions of vegetation cover (photosynthetic and non-photosynthetic) and bare ground in each pixel covering an area of 0.09ha. Change in each component has been examined since 1988, providing important information on cover dynamics over the last 35 years.

Figure 3 shows the relative levels of vegetation cover across the NT between 1 September 2022 and 30 November 2022. Vegetation cover is typically influenced strongly by rainfall and the extent and intensity of fire. Grazing effects are usually more subtly reflected in changes in vegetation cover.

In 2022, general total vegetation cover followed the rainfall pattern in the Northern and Southern Alice Springs Pastoral Districts with average to above average cover when compared to the longer-term baseline. The Plenty Pastoral District received similar above average rainfall to the Northern and Southern Alice Springs Pastoral Districts but the total vegetation cover was average to very much below average total vegetation cover for spring 2022. The Barkly Pastoral District displayed similar vegetation cover to the Plenty Pastoral District, with average to very much below average vegetation cover despite the central and eastern of the District receiving average and above average rainfall (Figure 3).

The Tennant Creek, Darwin, Katherine and northern Sturt Plateau Pastoral Districts had above average total vegetation cover for spring 2022 (Figure 3) despite average to very much below average rainfall (Figure 2). The total vegetation cover of the rest of the Sturt Plateau, VRD, Roper and Gulf Pastoral Districts varied significantly from very much below average to very much above average (Figure 3).

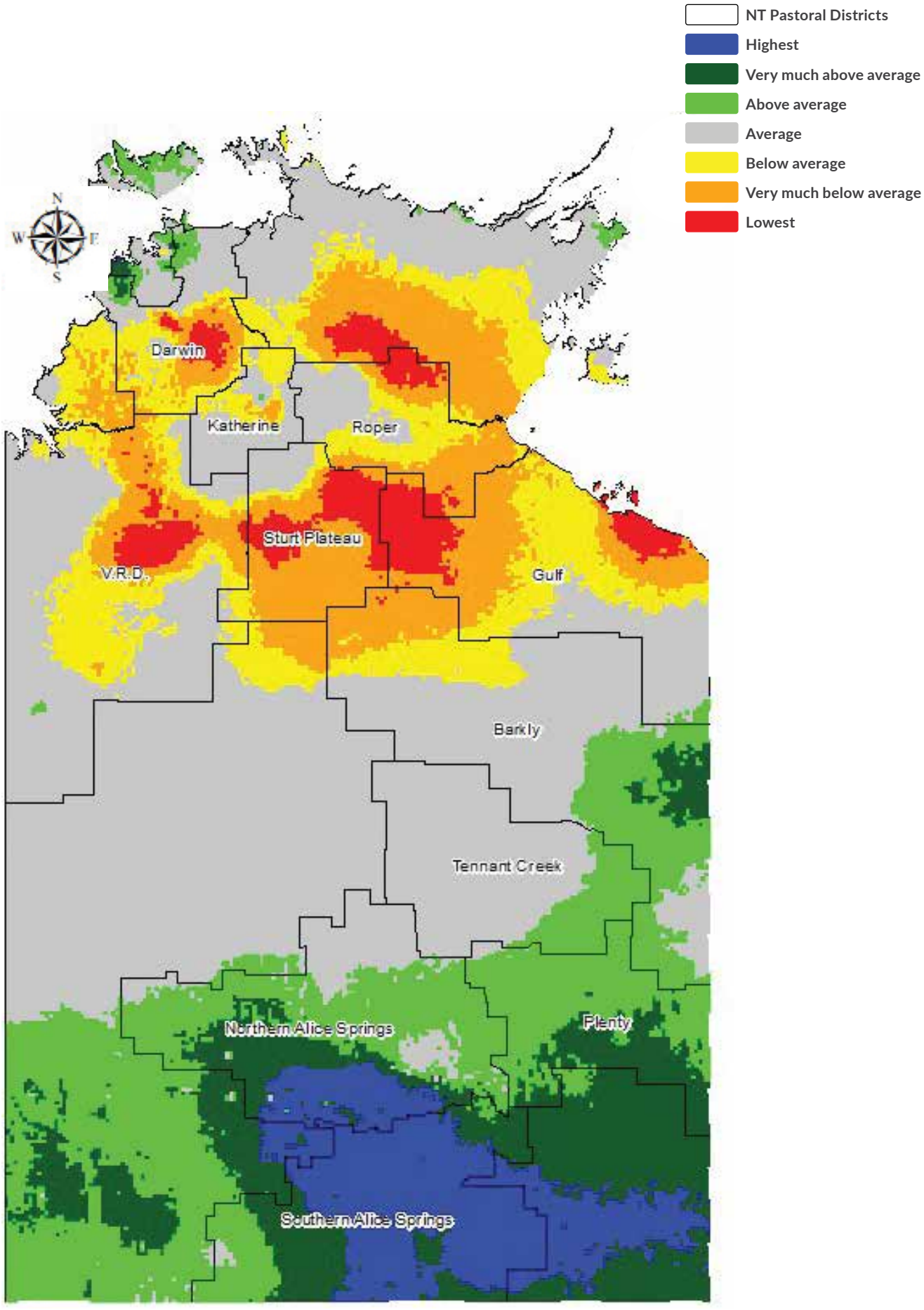


Figure 2. Decile ranked rainfall for May 2021 to April 2022.

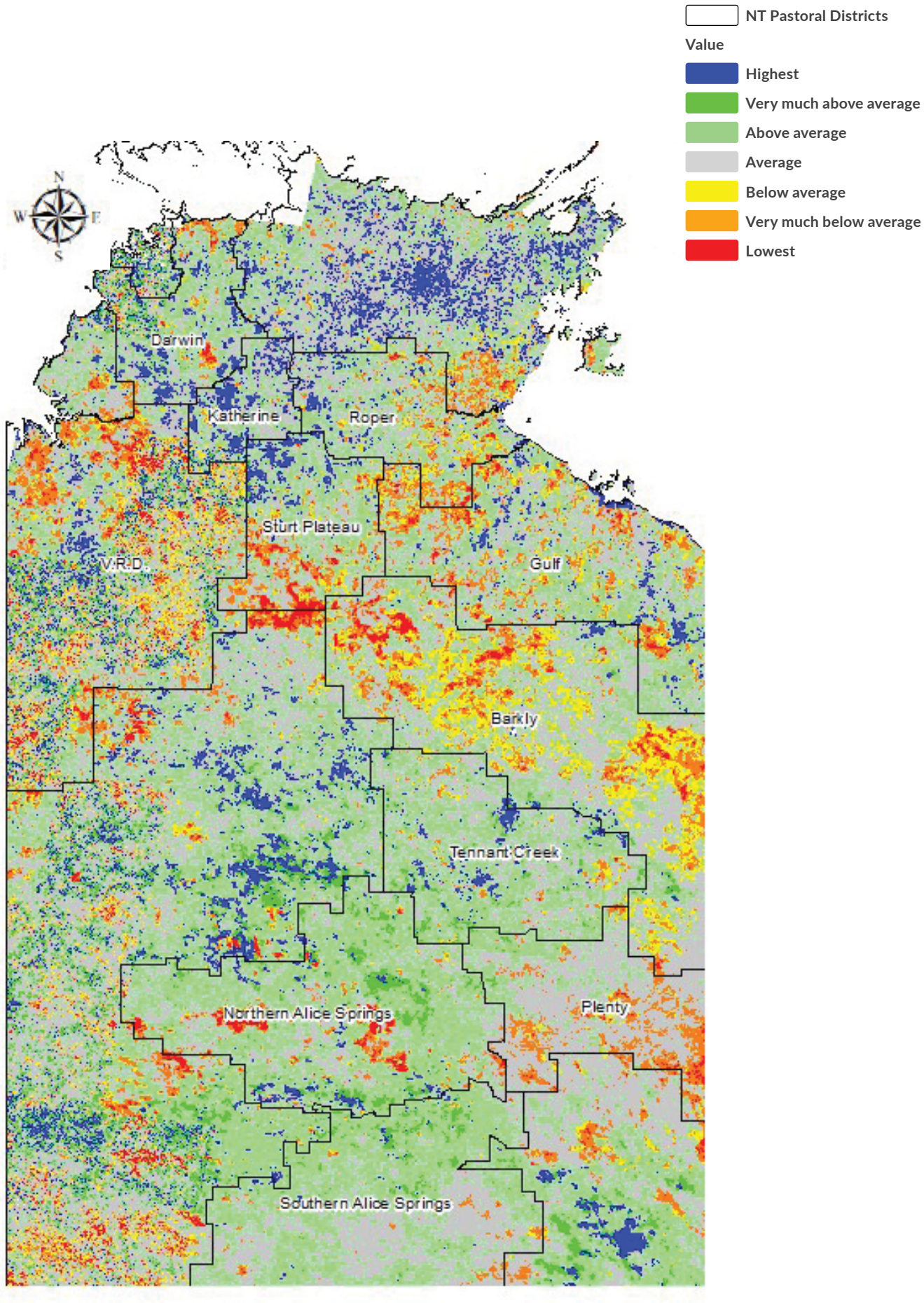


Figure 3. Decile ranked total vegetation cover for spring 2022 seasonal composite image.

LAND CONDITION TREND

The integrated monitoring program was introduced in 2013 and most pastoral leases have been monitored using this method twice. Table 2 shows land condition trends from the on-ground site inspections over time. The land condition rating of 26 pastoral leases improved, did not change or transitioned to a single rating (i.e. Good/Fair to Fair).

A pastoral lease in the Darwin Pastoral District and two pastoral leases in the Barkly Pastoral District declined in land condition from Good to Fair. A pastoral lease in the Barkly Pastoral District and a pastoral lease in the Plenty Pastoral District showed a significant decline in land condition from Good to Poor since they were inspected previously.

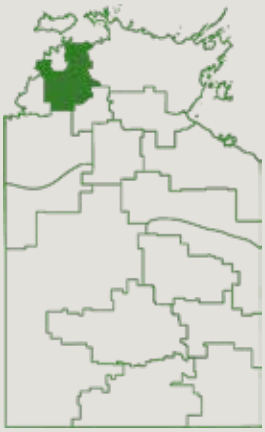
Table 2 should be read in conjunction with the detailed comments on the inspection of each pastoral lease in each district, which provides for factors and accounts contributing to a change in land condition rating.

Table 2. Land condition trend of leases in pastoral districts in 2022 and the change since the lease was last monitored.

Pastoral lease	Land condition at previous inspection	2022 land condition	Land condition trend
Darwin Pastoral District			
1	Good (2017)	Good	Steady
2	Good/Fair (2017)	Fair	Transitioned to a single rating
3	Good (2016)	Good	Steady
4	Good/Fair (2016)	Good	Transitioned to a single rating
5	Good (2016)	Good	Steady
VRD Pastoral District			
1	Fair (2017)	Fair	Steady
Sturt Plateau Pastoral District			
1	Good (2017)	Good	Steady
Roper Pastoral District			
1	Fair (2017)	Fair	Steady
2	Fair (2017)	Fair	Steady

Pastoral lease	Land condition at previous inspection	2022 land condition	Land condition trend
Gulf Pastoral District			
1	Fair (2017)	Fair	Steady
2	Good/Fair (2016)	Good	Transitioned to a single rating
Barkly Pastoral District			
1	Good/Fair (2017)	Fair	Transitioned to a single rating
2	Good (2016)	Fair	Decline
3	Fair (2017)	Fair	Steady
4	Good (2016)	Fair	Decline
5	Good (2016)	Poor	Significant decline
Plenty Pastoral District			
1	Good/Fair (2017)	Fair	Transitioned to a single rating
2	Fair (2017)	Fair	Steady
3	Fair (2017)	Fair	Steady
4	Fair (2017)	Fair	Steady
5	Good/Fair (2017)	Poor	Significant decline
6	Fair (2018)	Fair	Steady
Northern Alice Springs Pastoral District			
1	Fair (2017)	Fair	Steady
Southern Alice Springs Pastoral District			
1	Good/Poor (2017)	Fair	Transitioned to a single rating
2	Poor (2018)	Fair	Improve
3	Fair/Poor (2018)	Good	Improve
4	Poor (2018)	Fair	Improve
5	Poor (2018)	Fair	Improve
6	Good/Poor (2016)	Good	Transitioned to a single rating
7	Good/Poor (2017)	Good	Transitioned to a single rating

DARWIN PASTORAL DISTRICT



The Darwin Pastoral District covers 37 000 km^2 over 23 pastoral leases.

Rainfall was average to below average across the Darwin Pastoral District (Table 3). Average rainfall occurred across 31% of the District, while 61% recorded below average to very much below average rainfall. Rainfall distribution varied but was generally below average across the central and southern District and small coastal areas in the northern District received average to very much above average rainfall.

The Darwin Pastoral District experienced extensive and frequent fire in 2022 (Figure 4). Approximately 20 500 km^2 of the District was burnt in 2022. The extent of the District impacted by fire was highest in May and June 2022, where over 17.5% and 12.5% of the District was burnt, respectively (Figure 4).

Table 3. Rainfall for the Darwin Pastoral District.

Rainfall (mm)	
2022	1068
Long-term median (1900–2021)	1268

DARWIN PASTORAL DISTRICT

FIRE

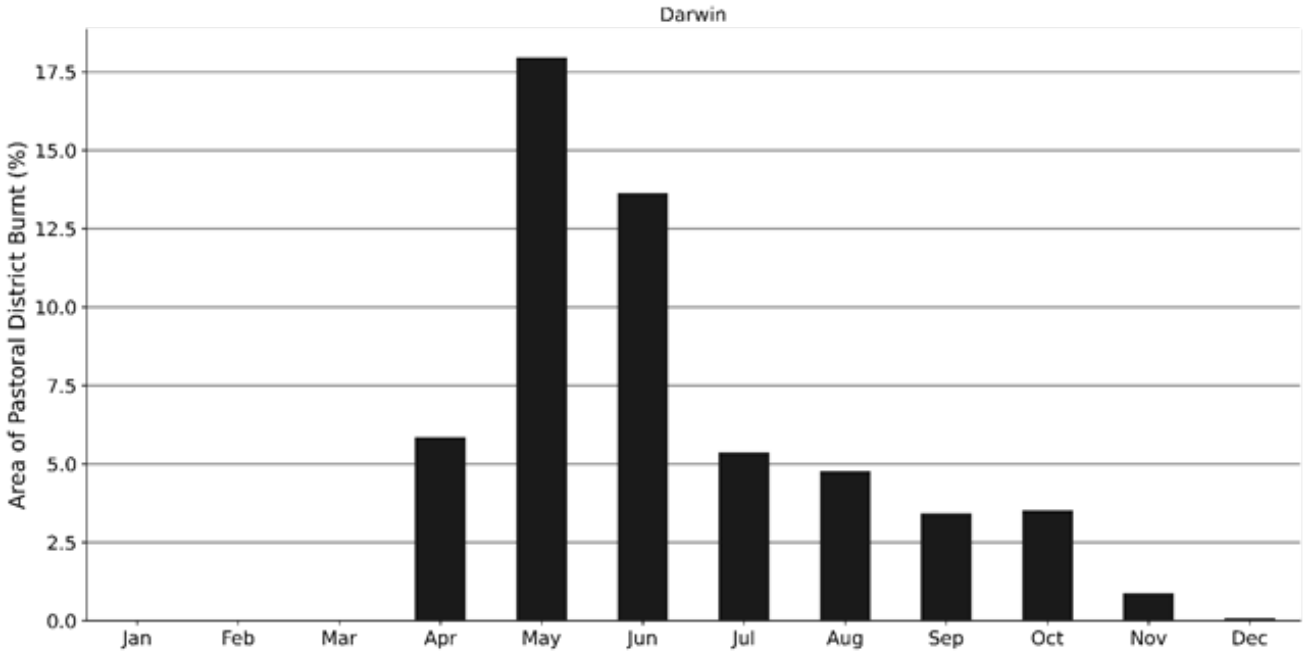


Figure 4. Percentage of the area burnt each month in 2022 in the Darwin Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Vegetation cover was average to very much above average across most of the Darwin Pastoral District in 2022 (Figure 5). Approximately 40% of the District was average, 13% was above average, 13% was much above average and 18% was very much above average. Approximately 15% of the District was ranked as having vegetation cover below to very much below average, which was generally correlated with the fires across the District.

Overall, vegetation cover in the Darwin Pastoral District in 2022 was very similar to 2021, despite much lower rainfall in 2022. The vegetation growth in the Darwin Pastoral District is not as responsive to rainfall as other pastoral districts, indicating that once rainfall is above a certain level, vegetation growth is likely to be similar.

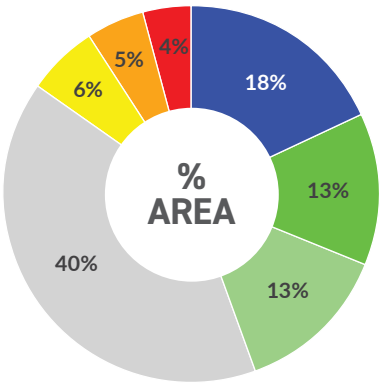
SIAM WEED (CHROMOLAENA ODORATA)

Siam weed (*Chromolaena odorata*) was first identified in the Darwin pastoral district in 2019. It has been monitored annually since it was first detected, with large surveys undertaken in 2021 and 2022. The surveys indicated that the extent of the Siam population covers an area of approximately 9500 km^2 in the Darwin pastoral district, over different land tenures, including three pastoral leases.

Siam weed is one of the most aggressive and damaging tropical weed species. It is toxic to cattle with pyrrolizidine alkaloids and high levels of nitrate; moderate levels of consumption can lead to aborted calves and in extreme incidences death. It poses a major threat to large scale rangeland operations where the plant can remain relatively obscured until infestations are well-established.

More information on Siam weed can be found at **nt.gov.au/siam**

DARWIN PASTORAL DISTRICT



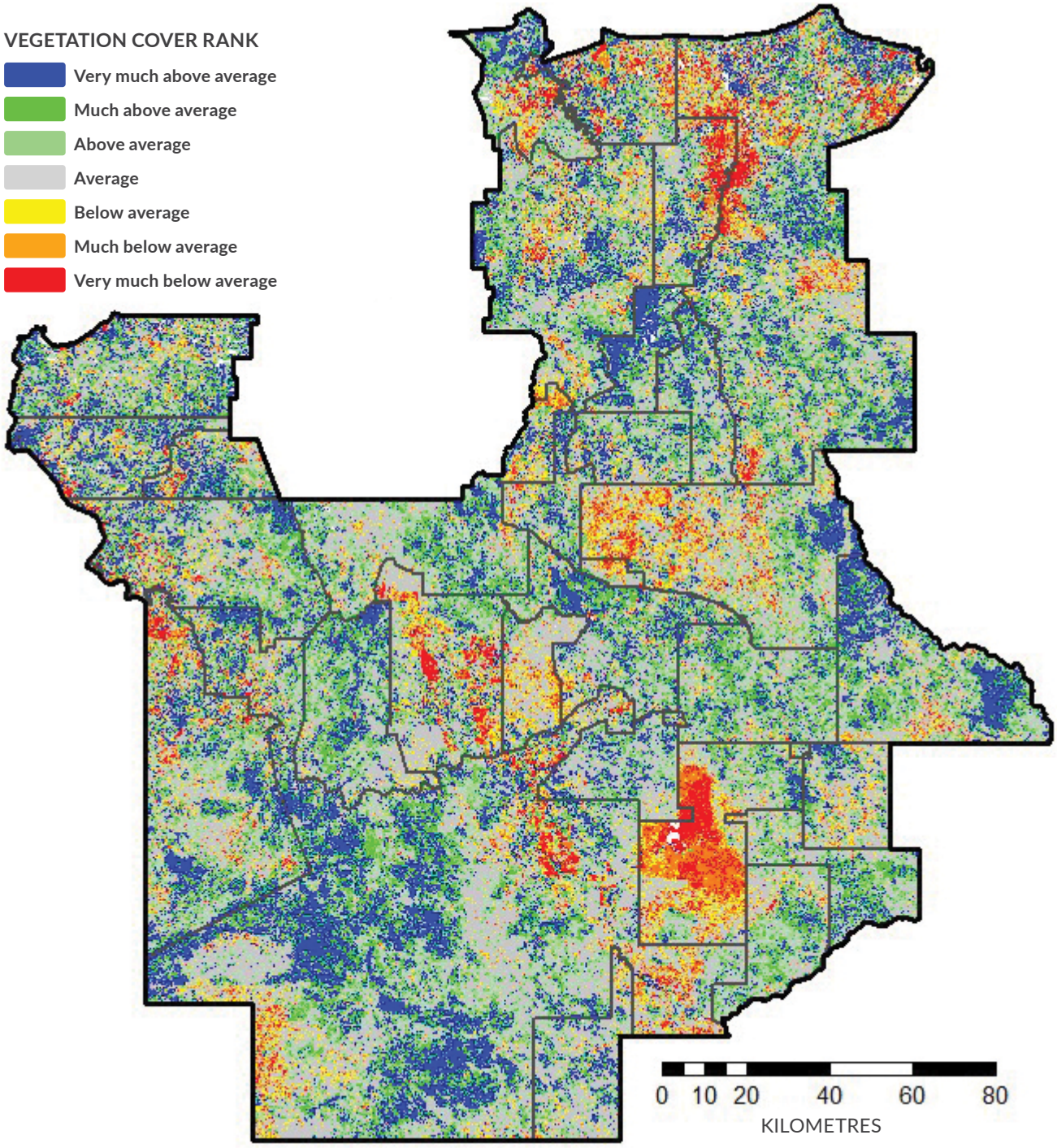


Figure 5. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Darwin Pastoral District against previous years back to 1988. Pie chart shows the percentage of the area of each vegetation cover rank.

DARWIN PASTORAL DISTRICT

SITE-BASED MONITORING

Five pastoral leases in the Darwin Pastoral District were visited in 2022.

Vegetation cover of the ground layer was measured at 20 sites over these leases.

Good vegetation cover and low bare ground are common in the Darwin Pastoral District. Vegetation cover was generally good at all sites, except for one site that was impacted by fire (Table 4). Vegetation cover was dominated by perennial and annual grasses, while forb cover was very low. Litter cover was variable but generally at moderate levels.

Table 4. Summary of average values of key variables at monitoring sites for each land condition score in the Darwin Pastoral District.

Land condition	No. of sites	Bare ground (%)	Veg cover (%)	Litter cover (%)	Perennial grass cover (%)	Annual grass cover (%)	Forb & herb cover (%)
A	2	1	98	2	76	22	0
B	13	9	71	19	53	14	5
C	2	21	48	32	42	5	2
D	2	5	48	48	4	39	6
NA*	1	–	–	–	–	–	–

* 1 site was not assessed due to being affected by a very recent fire.

Most of the sites in the Darwin Pastoral District were in Good to Excellent condition (Table 4). These sites occurred in all vegetation types and had a very high vegetation cover that was mostly dominated by perennial grasses, including golden beard grass, ribbon grass, kangaroo grass and white grass. Weeds were not recorded at these sites.

Very few monitoring sites were in Fair to Poor condition. These sites had a lower proportion and diversity of perennial grasses of low grazing value. 3P grasses were very low in cover or they were absent altogether. This was likely due to the natural species composition of the area and the long-term grazing and fire history. Weeds, including hyptis, mission grass and sida were recorded at these sites.

Information from individual lease land condition reports is summarised in Table 5.

DARWIN PASTORAL DISTRICT

Table 5. Summary of land condition assessments in the Darwin Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
GOOD	GOOD	Excellent: –	Good: 4	Fair: –	Poor: –

GENERAL COMMENTS: The pastoral lease has low stocking rates, which is likely to have contributed to the Good land condition rating despite below average rainfall leading up to the inspection.

There are no management issues on the pastoral lease.

PASTURE: The land systems in the centre and south of the pastoral lease had a high abundance and diversity of 3P grasses, including golden beard grass, ribbon grass and kangaroo grass. The cover of grasses was high across most of the lease.

WEEDS: Small areas of rubber bush, mission grass, hyptis and sida species.

EROSION: Minor erosion on tracks near creeks.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: Some minor multi-species woody thickening.

Pastoral lease 2					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	GOOD/FAIR	Excellent: –	Good: –	Fair: 1	Poor: 2

GENERAL COMMENTS: A reduction in 3P grass cover was recorded at some monitoring sites, which was likely due to the below average wet season and grazing pressure. The northern paddock is mostly in very good condition but is dominated by naturally occurring unpalatable grasses.

There are management issues regarding the extent and abundance of weeds and grazing.

PASTURE: The productive paddocks that contain the majority of the 3P grasslands showed signs of decline due to grazing pressure. Limited kangaroo grass, golden beard grass, plume sorghum and white grass were recorded. Many sites were dominated by black spear grass, a largely unpalatable species.

WEEDS: Hyptis, grader grass and spiny sida were common in the paddocks and large infestations along the main access roads. Control measures are required to manage the weeds.

EROSION: No erosion.

FERAL ANIMALS: No feral animals were recorded.

WOODY THICKENING: No woody thickening.

DARWIN PASTORAL DISTRICT

Pastoral lease 3

2022 land condition	Land condition at last inspection (2016)	Land condition rating of monitoring sites			
GOOD	GOOD	Excellent: 1	Good: 3	Fair: –	Poor: –

GENERAL COMMENTS: The pastoral lease received below average rainfall.

PASTURE: The sites in Excellent or Good condition contained valuable 3P grass pasture species and high vegetation cover, whereas the sites in Fair and Poor condition had weeds and a reduced diversity and/or abundance of 3P grasses.

WEEDS: Hyptis and mission grass were observed across the pastoral lease.

EROSION: No erosion.

FERAL ANIMALS: No feral animals were recorded.

WOODY THICKENING: No woody thickening.

Pastoral lease 4

2022 land condition	Land condition at last inspection (2016)	Land condition rating of monitoring sites			
GOOD	GOOD/FAIR	Excellent: –	Good: 3	Fair: –	Poor: 1

GENERAL COMMENTS: There are management issues regarding the extent and abundance of weeds.

PASTURE: Most areas contained high levels of ground cover and high levels of 3P grass abundance.

Most of the monitoring sites were in Good condition with high levels of desirable grass species, including white grass, kangaroo grass, plume sorghum and golden beard grass. One site was identified as Poor condition due to the abundance of annual sorghum and lack of perennial grasses.

WEEDS: Grader grass, hyptis and spiny sida were common along the main tracks and at the monitoring sites. Control measures are required to manage the weeds.

EROSION: Minor and isolated gully erosion along some tracks.

FERAL ANIMALS: No feral animals were recorded.

WOODY THICKENING: Woody thickening was recorded along the main access road and at some of the monitoring sites.

DARWIN PASTORAL DISTRICT

Pastoral lease 5					
2022 land condition	Land condition at last inspection (2016)	Land condition rating of monitoring sites			
GOOD	GOOD	Excellent: 1	Good: 2	Fair: –	Poor: 1

GENERAL COMMENTS: The pastoral lease was destocked. There was no excessive bare ground and satellite images of the property did not indicate a significant increase in bare ground in the recent past.

There are management issues regarding the extent and abundance of weeds.

PASTURE: Many measured sites were in good condition and had abundant 3P grass cover, including golden beard grass, kangaroo grass and ribbon grass, despite a reported below average wet season.

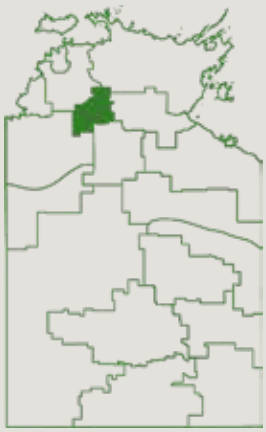
WEEDS: Hyptis, sida, mission grass, grader grass and gamba grass were identified across the pastoral lease, with large infestations along the main road, fence lines and in some paddocks. Control measures are required to manage the weeds.

EROSION: No erosion.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

KATHERINE PASTORAL DISTRICT



The Katherine Pastoral District covers 19 000 km^2 over nine pastoral leases.

Rainfall across the Katherine Pastoral District was below average and the spatially averaged rainfall for the District was below the long-term median (Table 6).

Table 6. Rainfall for the Katherine Pastoral District.

Rainfall (mm)	
2022	790
Long-term median (1900–2021)	859

The Katherine Pastoral District experienced extensive and frequent fire in 2022 (Figure 6). Approximately 7221 km^2 of the District was burnt between January and December 2022 (Figure 6). Fires occurred in every month of 2022, with the highest proportion of fires occurring in October 2022 where just under 16% of the District burnt.

KATHERINE PASTORAL DISTRICT

FIRE

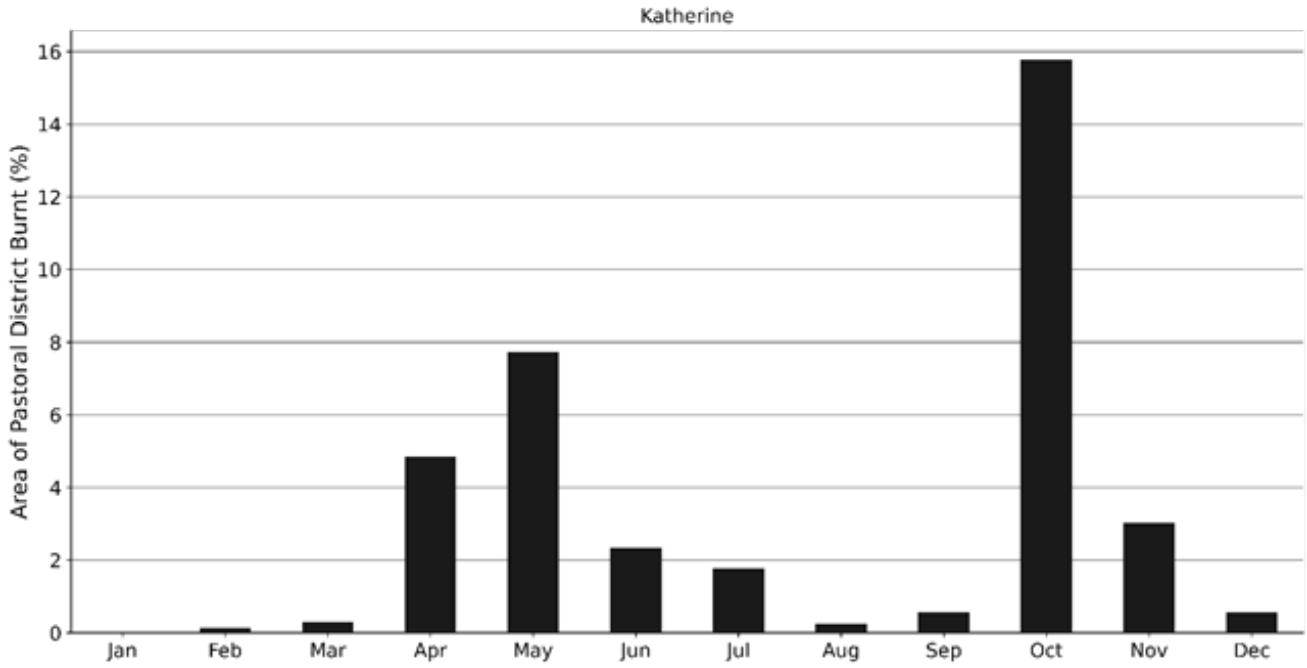


Figure 6. Percentage of the area burnt each month in 2022 in the Katherine Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Vegetation cover was average to very much above average across 90% of the Katherine Pastoral District in 2022 (Figure 7). Approximately 43% of the District was average, 47% above average to very much above average and 10% was below to very much below average.

Overall, vegetation cover in the Katherine Pastoral District was very similar to 2021, despite much lower rainfall in 2022. The vegetation growth in the Katherine Pastoral District does not correlate with the rainfall, indicating other factors likely contributed to good vegetation growth and cover in 2022.

No pastoral leases were monitored in the Katherine Pastoral District in 2022.

KATHERINE PASTORAL DISTRICT

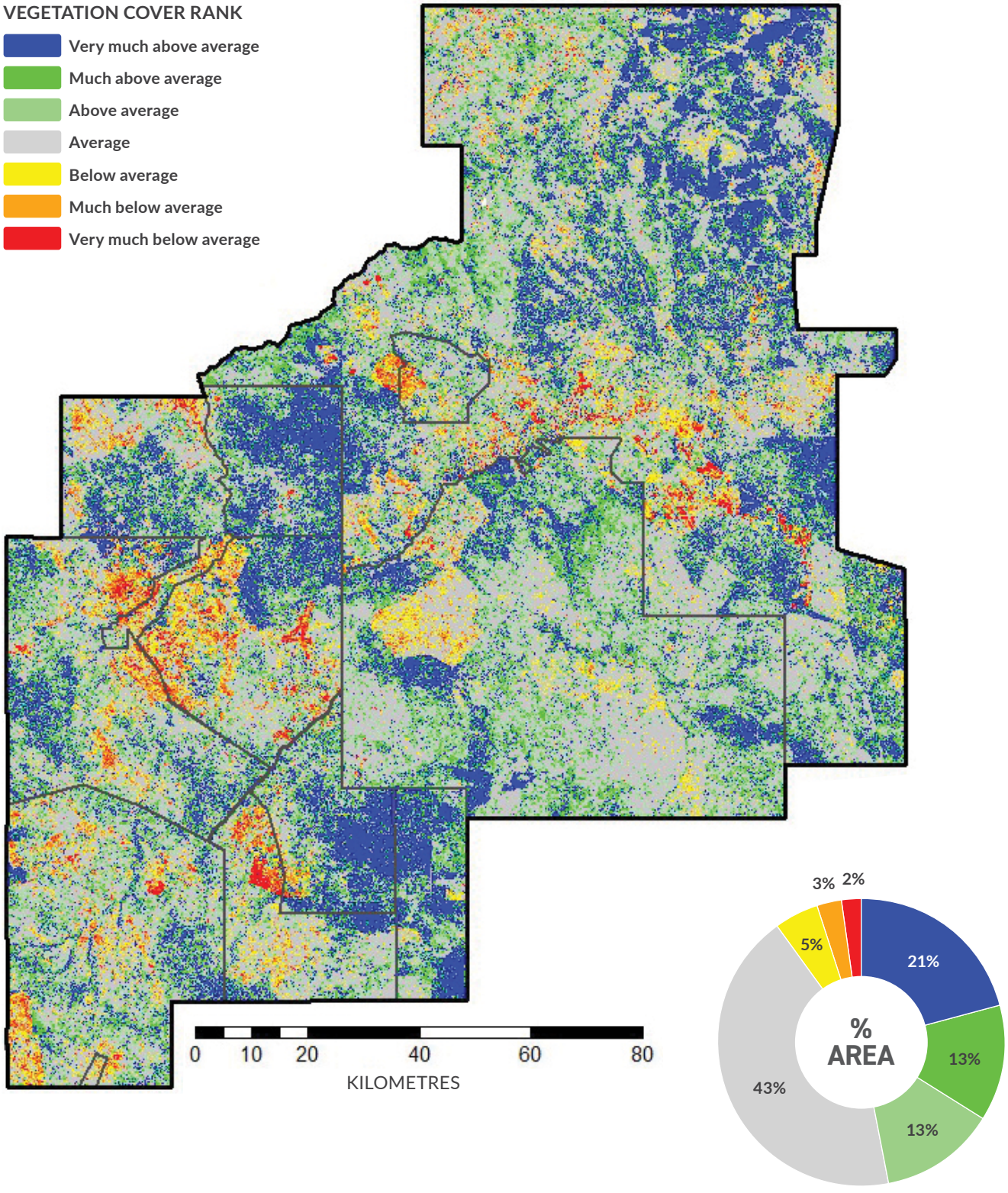
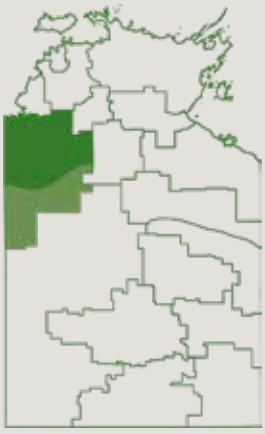


Figure 7. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Katherine Pastoral District against previous years back to 1988. Pie chart shows the percentage of the area of each vegetation cover rank.

VRD PASTORAL DISTRICT



VRD north
VRD south

The VRD Pastoral District covers 134 000 km² over 25 pastoral leases.

Rainfall was average to near lowest on record across the VRD Pastoral District. Due to the considerable north-south transition in long-term median rainfall for the VRD Pastoral District, rainfall is reported as sub-districts (Table 7). Spatially averaged rainfall for the north and south sub-districts of the VRD Pastoral District were both below the long-term median (Table 7). In the north, rainfall was average to near the lowest on record and, in the south, rainfall was predominately average.

The VRD Pastoral District experienced extensive and regular fire in 2022 (Figure 8). Approximately 30 249 km² of the District was burnt between January and December 2022 (Figure 8). Fires occurred in every month of 2022.

Table 7. Rainfall for the VRD Pastoral District.

Rainfall (mm)	VRD North	VRD South
2022	590	416
Long-term median (1900–2021)	718	479

VRD PASTORAL DISTRICT

FIRE

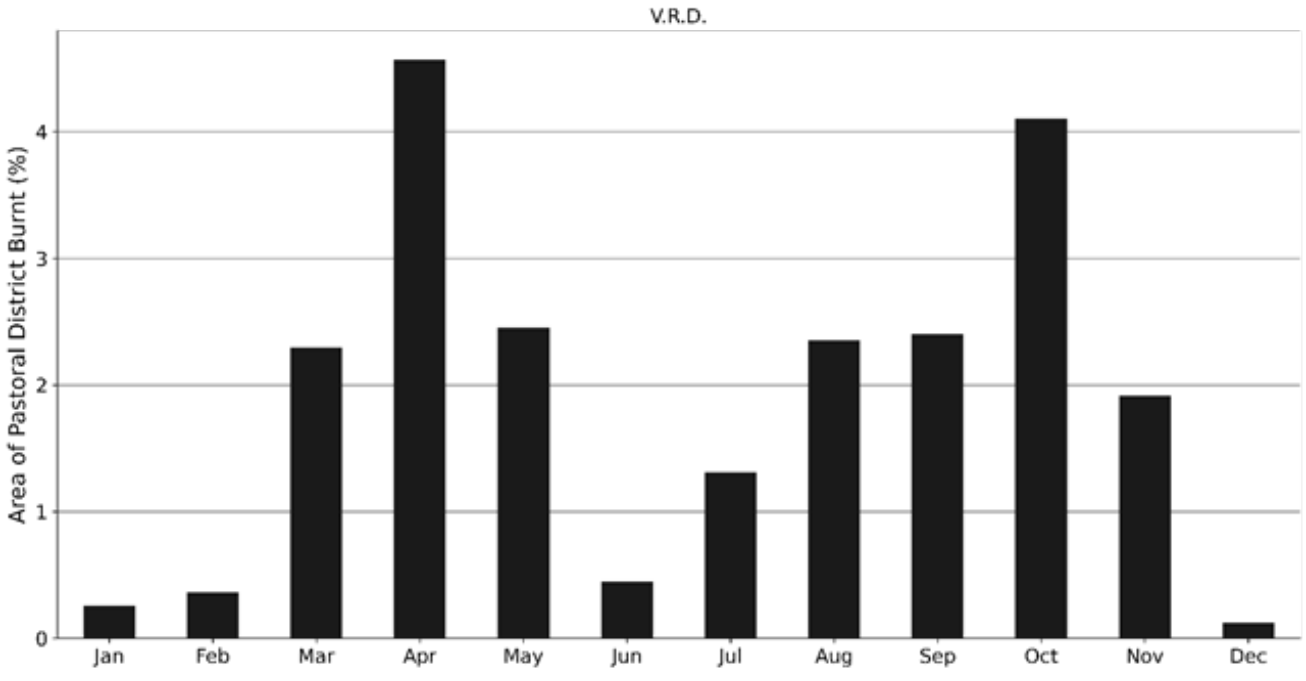


Figure 8. Percentage of the area burnt each month in 2022 in the VRD Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Vegetation cover was highly variable across the VRD Pastoral District (Figure 9). Approximately 38% of the District was as average, approximately 30% was above average to very much above average and approximately 30% was below average to very much below average.

Overall, vegetation cover in the VRD Pastoral District largely reflects fire, rainfall and grazing pressures.

VRD PASTORAL DISTRICT

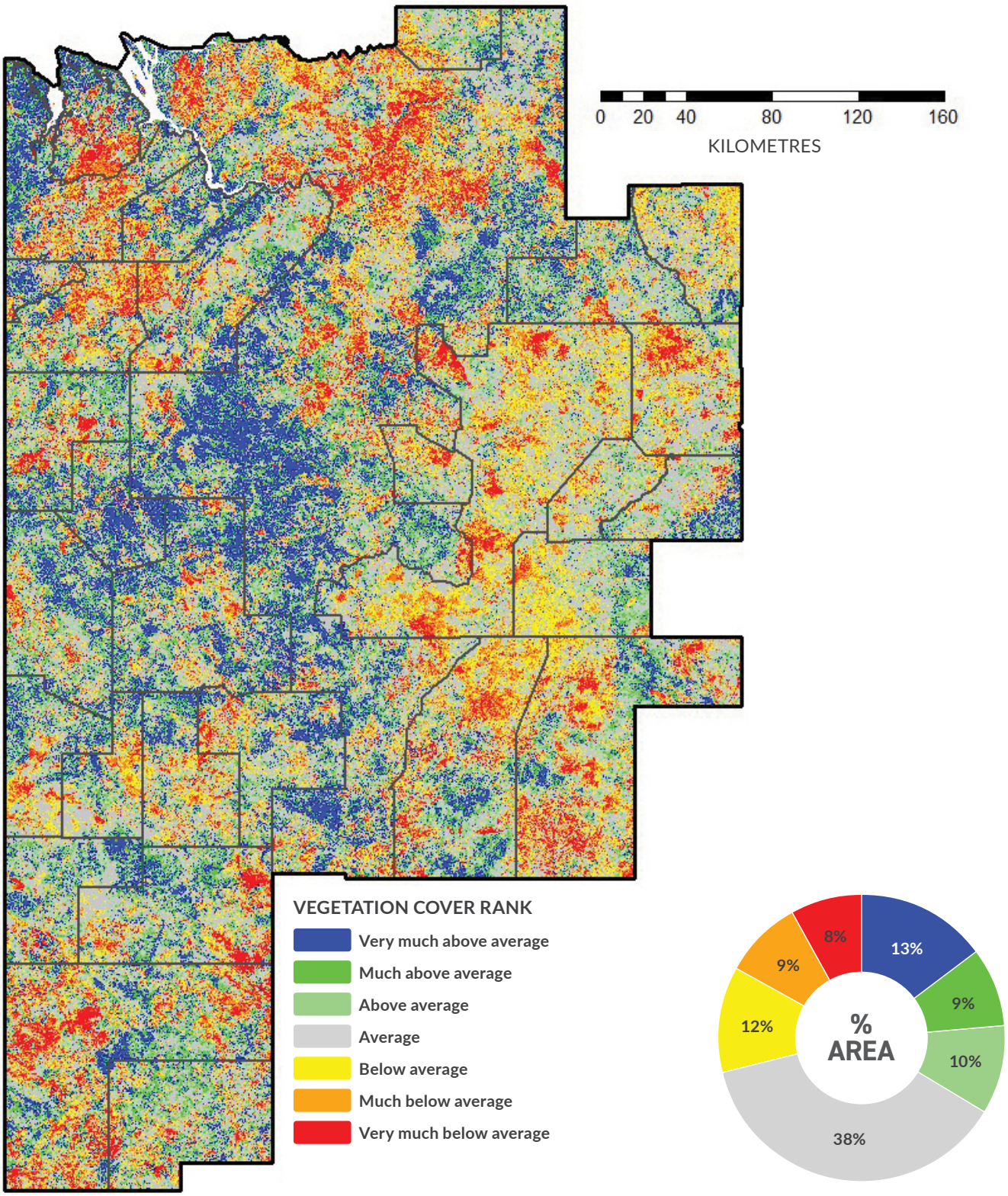


Figure 9. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the VRD Pastoral District against previous years back to 1988. Pie chart shows the percentage of the area of each vegetation cover rank.

VRD PASTORAL DISTRICT

SITE-BASED MONITORING

One pastoral lease in the VRD Pastoral District was visited in 2022.

Vegetation cover of the ground layer was measured at five sites on this lease (Table 8).

Table 8. Summary of land condition assessment in the VRD Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: –	Good: 2	Fair: 2	Poor: 1

GENERAL COMMENTS: The pastoral lease received below average rainfall before the 2022 inspection. Grazing and weeds are an issue in riparian areas.

PASTURE: Paddocks had good diversity and abundance of 3P grass species, including golden beard grass and native millet.

WEEDS: Parkinsonia and rubber bush were identified in and around riparian areas.

EROSION: Minor gully erosion and rilling along the riverbanks and creeks.

FERAL ANIMALS: Feral donkeys were observed in the large unfenced southern section of the pastoral lease.

WOODY THICKENING: No woody thickening.

STURT PLATEAU PASTORAL DISTRICT

The Sturt Plateau Pastoral District covers 43 000 km^2 over 31 pastoral leases.

Rainfall across the Stuart Plateau Pastoral District was average to near lowest on record and the spatially averaged rainfall for the District was well below the long-term median (Table 9).

Fire was patchy across the Sturt Plateau Pastoral District in 2022 (Figure 10). Approximately 3000 km^2 of the District was burnt in March and between September and December 2022 (Figure 10).

Table 9. Rainfall for the Sturt Plateau Pastoral District.

Rainfall (mm)	
2022	410
Long-term median (1900–2021)	621

STURT PLATEAU PASTORAL DISTRICT

FIRE

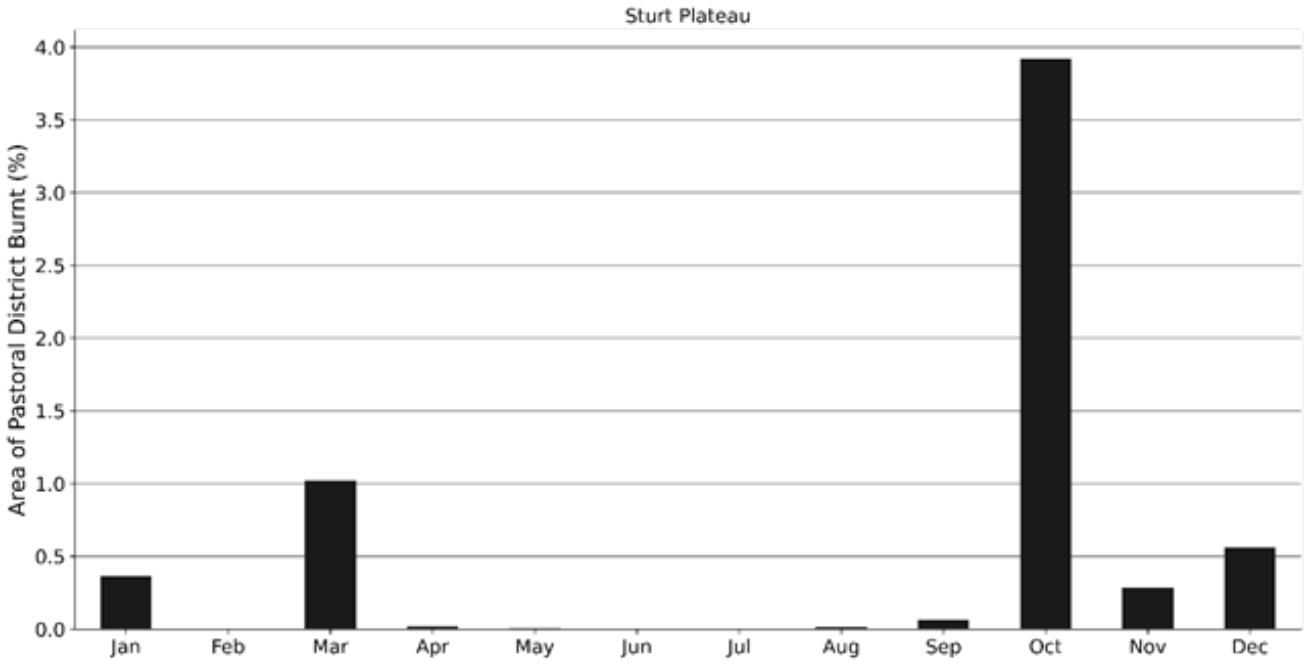


Figure 10. Percentage of the area burnt each month in 2022 in the Sturt Plateau Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Vegetation cover was highly variable across the Sturt Plateau Pastoral District in late 2022 (Figure 11). Approximately 38% of the District was as average, approximately 35% was above average to very much above average and approximately 25% was below average to very much below average.

Overall, vegetation cover in the Sturt Plateau Pastoral District in late 2022 largely correlated with rainfall.

STURT PLATEAU PASTORAL DISTRICT

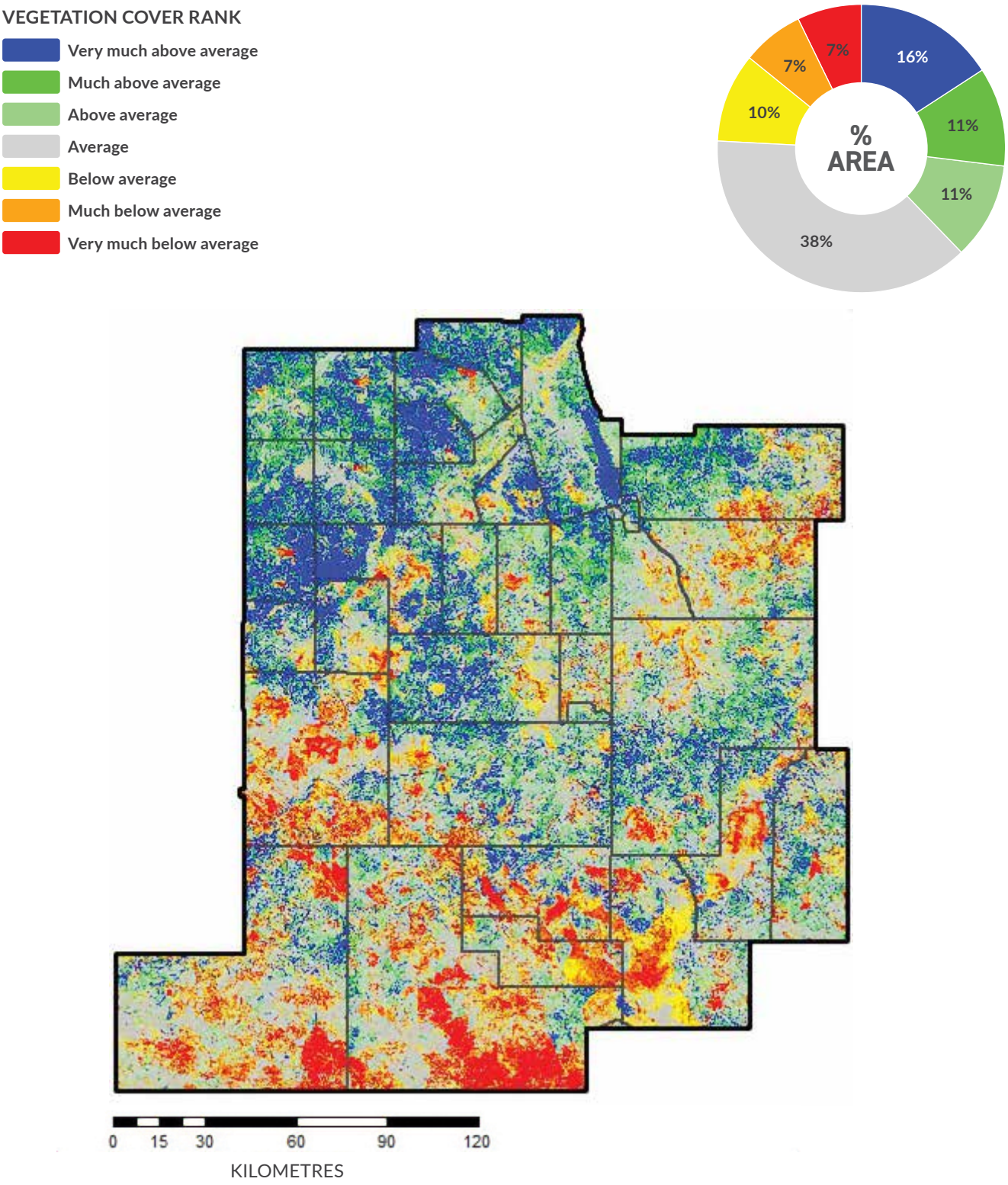


Figure 11. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Sturt Plateau Pastoral District against previous years back to 1988. Pie chart shows the percentage of the area of each vegetation cover rank.

STURT PLATEAU PASTORAL DISTRICT

SITE-BASED MONITORING

One pastoral lease in the Sturt Plateau Pastoral District was visited in 2022.

Vegetation cover of the ground layer was measured at eight sites on this lease (Table 10).

Table 10. Summary of land condition assessment in the Sturt Plateau Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
GOOD	GOOD	Excellent: –	Good: 2	Fair: 4	Poor: 2

GENERAL COMMENTS: The pastoral lease received below average rainfall before the 2022 inspection.

The 3P grasses in many areas of the pastoral lease following poor rainfall indicated prudent and sustainable management of pastures on this pastoral lease.

PASTURE: Despite the poor rainfall received in the preceding wet season, the pastoral lease contained abundant 3P grass species, which included golden beard grass, silky brown top, white grass and kangaroo grass.

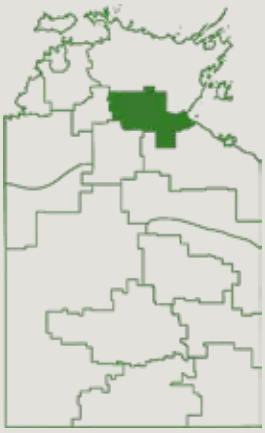
WEEDS: Isolated small infestations of sida and rubber bush near roads and yards.

EROSION: No erosion.

FERAL ANIMALS: One group of feral pigs was observed.

WOODY THICKENING: No woody thickening.

ROPER PASTORAL DISTRICT



The Roper Pastoral District covers 42 000 km^2 over 11 pastoral leases.

Rainfall across the Roper Pastoral District was below average to very much below average and the spatially averaged rainfall for the District was well below the long-term median (Table 11). Below average to very much below average rainfall occurred across 72% of the District, covering the northeast, east and south.

The Roper Pastoral District experienced regular fire in 2022 (Figure 12). Approximately 8800 km^2 of the District was burnt between January and December 2022 (Figure 12). Fires occurred in every month of 2022. However, most of the burnt areas across the District were not on pastoral leases and there was a significant drop in fire extent between 2021 and 2022 (49% burnt in 2021; 21% burnt in 2022).

Table 11. Rainfall for the Roper Pastoral District.

Rainfall (mm)	
2022	547
Long-term median (1900–2021)	775

ROPER PASTORAL DISTRICT

FIRE

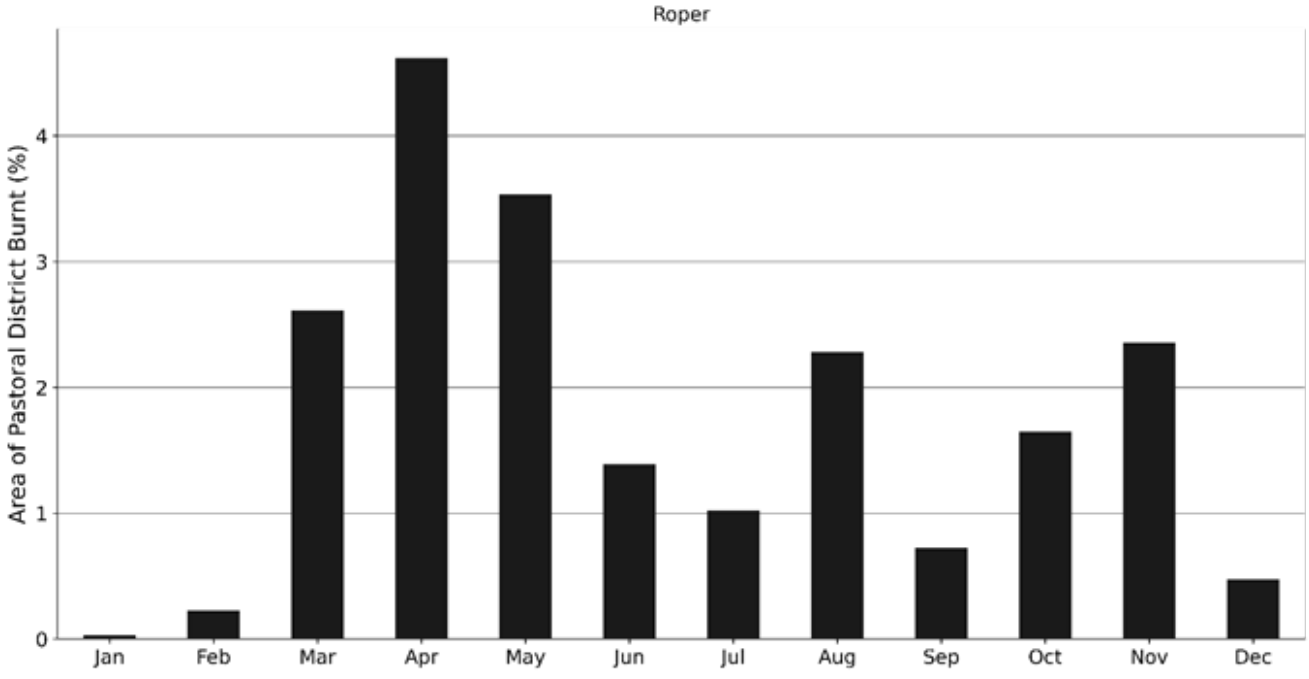


Figure 12. Percentage of the area burnt each month in 2022 in the Roper Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Vegetation cover has reduced across the Roper Pastoral District during late 2022.

Approximately 40% of the Roper Pastoral District was above average and 38% was average (Figure 13). The above average to average vegetation cover was distributed more extensively in the north and west. Areas of below average vegetation cover were more extensive in non-pastoral areas in the south-east of the District. This is a significant increase in the area of below average vegetation cover from the previous year.

ROPER PASTORAL DISTRICT

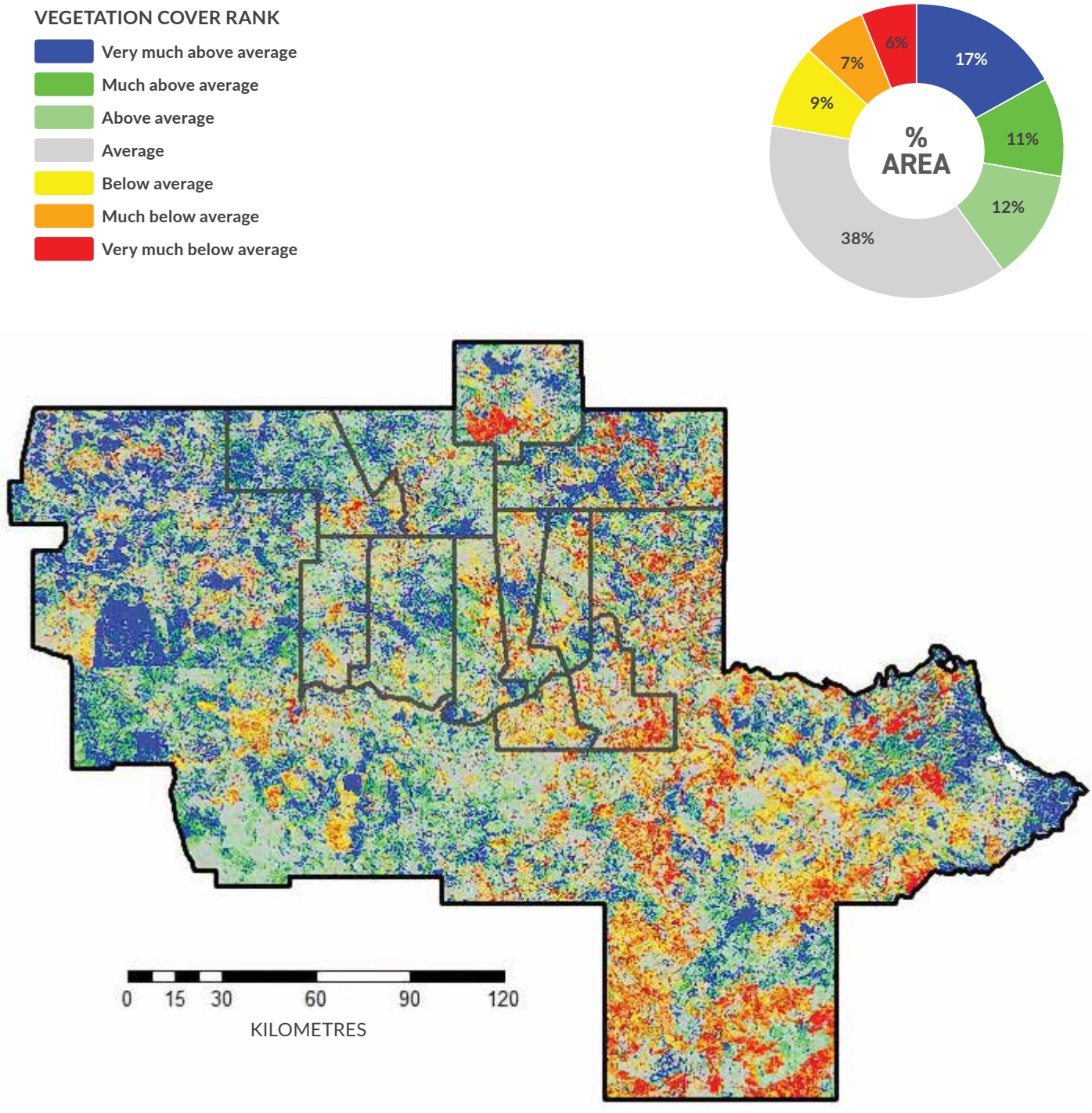


Figure 13. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Roper Pastoral District against previous years back to 1988. Pie chart shows the percentage of the area of each vegetation cover rank.

ROPER PASTORAL DISTRICT

SITE-BASED MONITORING

Two pastoral leases in the Roper Pastoral District were visited in 2022.

Vegetation cover of the ground layer was measured at eight sites over these two leases.

Vegetation cover was good at all sites (Table 12). Vegetation cover was dominated by perennial grass, followed by annual grasses, while forb cover was extremely low. Bare ground was high at 60% at one site and low at all other sites, ranging between 2 and 24%. Litter cover was generally low to moderate.

Table 12. Summary of average values of key variables at monitoring sites for each land condition score in the Roper Pastoral District.

Land condition	No. of sites	Bare ground (%)	Veg cover (%)	Litter cover (%)	Perennial grass cover (%)	Annual grass cover (%)	Forb & herb cover (%)
A	1	7	92	1	87	5	0
B	1	24	62	14	61	1	0
C	6	22	48	30	33	14	2
D	–	–	–	–	–	–	–
NA*	1	–	–	–	–	–	–

Monitoring sites considered to be in Excellent to Good condition had a high vegetation cover (77%) that was dominated by a diversity of 3P grasses. Undesirable grass, forb species and weed species were not recorded at these sites and bare ground levels were low.

Monitoring sites were considered to be in Fair condition, when had lower levels of vegetation cover (48%), higher leaf litter cover (30%) and bare ground (22%). The species composition was different, with a much lower cover of desirable perennial grasses, with the replacement by less desirable annual grasses and forbs. In some instances, weed species were also present.

Information from individual lease land condition reports is summarised in Table 13.

ROPER PASTORAL DISTRICT

Table 13. Summary of land condition assessments in the Roper Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: –	Good: –	Fair: 4	Poor: –

GENERAL COMMENTS: Vegetation cover was moderate with low bare ground.

There are management issues regarding the extent and abundance of weeds and feral animal management.

PASTURE: 3P grass cover was low with many areas containing less desirable species of perennial grass and some dominated by litter, annual grasses and forbs. Due to the low fire frequency, the low abundance of 3P pasture was likely from grazing pressure.

WEEDS: Hyptis and grader grass across the pastoral lease. Control measures are required to manage the weeds.

EROSION: No erosion.

FERAL ANIMALS: Feral donkeys and buffalo were recorded in large numbers across the pastoral lease.

WOODY THICKENING: Minor wattle woody thickening in the northwestern of the pastoral lease.

Pastoral lease 2					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: 1	Good: 1	Fair: 2	Poor: –

GENERAL COMMENTS: There are management issues regarding the extent and abundance of weeds and feral animal management.

PASTURE: The southern paddocks in general had low 3P grass abundance, moderate levels of bare ground and contained less desirable increaser species such as black spear grass. Other less utilised areas in the northern and south-eastern sections of the pastoral lease contained much more abundant 3P grass cover, including golden beard grass and plume sorghum.

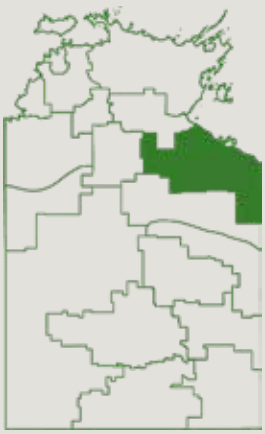
WEEDS: Hyptis and grader grass in paddocks and along fence lines, roadways and other disturbed areas of the pastoral lease.

EROSION: Minor gully erosion along creeks and tracks.

FERAL ANIMALS: Feral donkeys and buffalo were recorded in large numbers across the pastoral lease.

WOODY THICKENING: No woody thickening.

GULF PASTORAL DISTRICT



The Gulf Pastoral District covers 92 000 km^2 over 16 pastoral leases.

Rainfall across the Gulf Pastoral District was below average to the lowest on record and the spatially averaged rainfall for the District was below the long-term median (Table 14).

The Gulf Pastoral District experienced regular fire in 2022 (Figure 14). Approximately 20 745 km^2 of the District was burnt between January and December 2022 (Figure 14). Fires occurred in every month of 2022, including significant fires in November 2022.

Table 14. Rainfall for the Gulf Pastoral District.

Rainfall (mm)	
2022	526
Long-term median (1900–2021)	659

GULF PASTORAL DISTRICT

FIRE

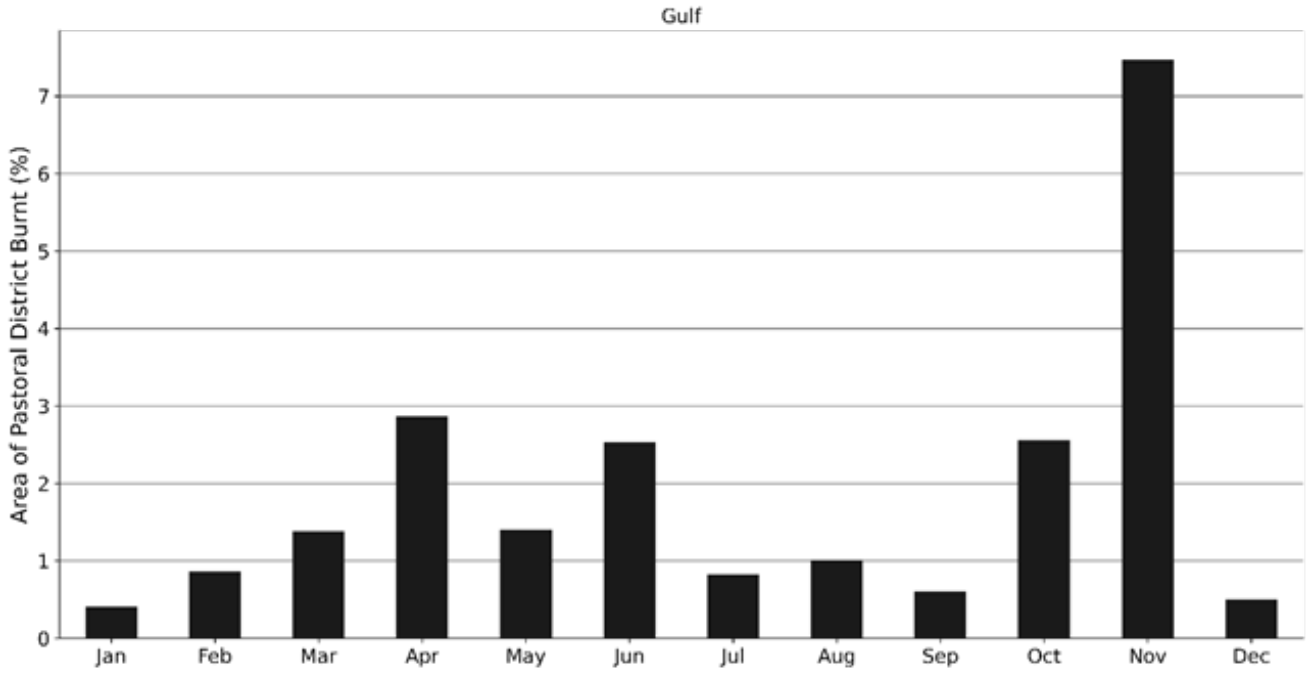


Figure 14. Percentage of the area burnt each month in 2022 in the Gulf Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Approximately 37% of the Gulf Pastoral District had cover values well above the long-term average, while 39% of the District recorded average values (Figure 15). Around 25% of the District had below average cover values, and these regions were often, but not always, related to the dry season fires.

GULF PASTORAL DISTRICT

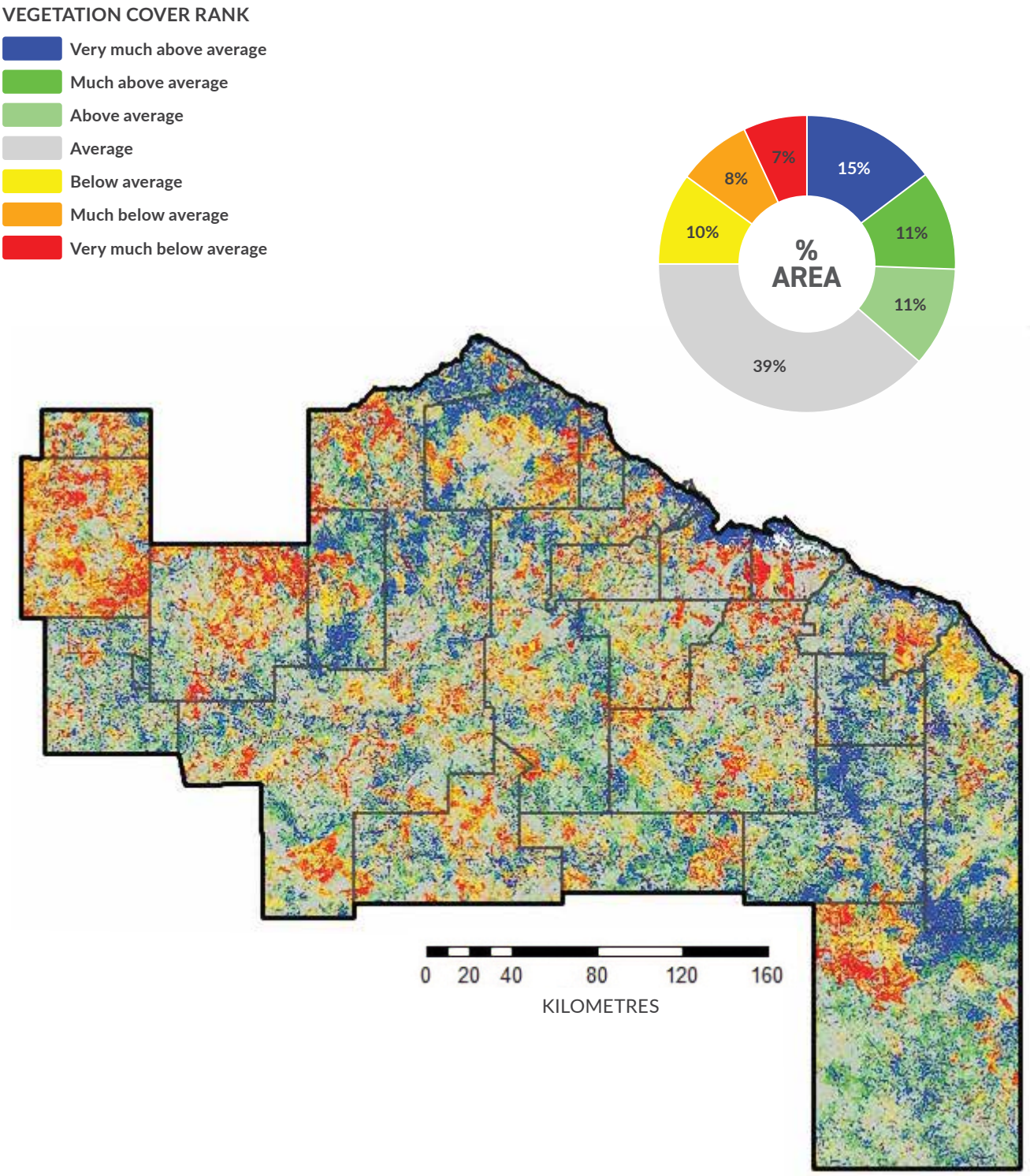


Figure 15. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Gulf Pastoral District against previous years back to 1988. Pie chart shows the percentage of the area of each vegetation cover rank.

GULF PASTORAL DISTRICT

SITE-BASED MONITORING

Two pastoral leases in the Gulf Pastoral District were visited in 2022.

Vegetation cover of the ground layer was measured at 14 sites over these leases.

Vegetation cover was generally good at all sites, except one site where vegetation cover was low and the site was rated in Poor condition (Table 15). Vegetation cover ranged from 12 to 80%. Bare ground was highly variable across the sites ranging from 7 to 73%.

Vegetation cover was dominated by a mixture of perennial and annual grasses, depending on the land system. 3P grasses were not as prevalent at the monitoring sites and this is also considered to be a natural part of these land systems, although in some instances grazing pressure and fire may have been responsible for a shift in species composition. The Forb cover was extremely low. Litter cover was generally at low to moderate levels.

Table 15. Summary of average values of key variables at monitoring sites for each land condition score in the Gulf Pastoral District.

Land condition	No. of sites	Bare ground (%)	Veg cover (%)	Litter cover (%)	Perennial grass cover (%)	Annual grass cover (%)	Forb & herb cover (%)
A	–	–	–	–	–	–	–
B	8	26	43	31	36	7	2
C	5	31	43	29	25	14	1
D	1	15	20	65	11	8	1

Woodland land systems dominated the leases that were monitored in the Gulf Pastoral District, with grasslands being absent. Monitoring sites considered to be in Good condition had a moderate vegetation cover, with this cover mostly being dominated by a mixture of perennial and annual grasses. These grasses were not always high in 3P grasses, and the diversity of these species was often low, with often only a couple of species occurring. The species were typical of the land systems in that they occurred. The bare ground was low. Forbs had a very low cover and leaf litter cover was at low to moderate levels.

Monitoring sites considered to be in Fair to Poor condition when compared to the higher condition sites, had a lower vegetation cover and only slightly higher bare ground levels. The main difference at these sites was in the species composition where 3P grasses were largely absent and annual grasses and undesirable pasture grasses (e.g. wire grasses) were often the dominant species. Leaf litter was slightly higher and forb cover remained about the same.

Weeds and erosion issues were generally not observed at any of the monitoring sites.

Overall land condition at the two leases inspected during the 2022 monitoring season were rated as either Good or Fair. One lease improved in condition, with the other lease maintaining its overall land condition rating since the previous inspection.

Information from individual lease land condition reports is summarised in Table 16.

GULF PASTORAL DISTRICT

Table 16. Summary of land condition assessments in the Gulf Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: –	Good: 3	Fair: 3	Poor: –

GENERAL COMMENTS: The pastoral lease received several consecutive below average wet seasons before the inspection.

PASTURE: Soft spinifex grass dominates large parts of the pastoral lease. 3P grasses, including silky brown top, occur in patches, while non-3P grasses feathertop and black spear grass dominated the productive areas.

WEEDS: No weeds.

EROSION: Very minor erosion along roads and fence lines.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

Pastoral lease 2					
2022 land condition	Land condition at last inspection (2016)	Land condition rating of monitoring sites			
GOOD	GOOD/FAIR	Excellent: –	Good: 5	Fair: 2	Poor: 1

GENERAL COMMENTS: The small managed cattle on the pastoral lease are restricted to the south-west of the lease. There is little fencing and limited 3P grasses.

PASTURE: Large areas of the pastoral lease are dominated by curly spinifex and annual grasses that are not high-value pastures for grazing.

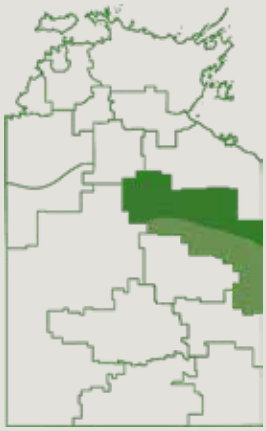
WEEDS: Hyptis, sida and bellyache bush across the pastoral lease.

EROSION: Minor erosion along roads.

FERAL ANIMALS: Feral pigs were recorded.

WOODY THICKENING: Woody thickening in some riparian areas.

BARKLY PASTORAL DISTRICT



Barkly north
Barkly south

The Barkly Pastoral District covers 134 000 km^2 over 32 pastoral leases.

The Barkly Pastoral Districts had the greatest variability of rainfall in 2022, with very much below average to below average in the north, average in the centre and above average to very much above average to the southeast. Due to the considerable north-south transition in long-term median rainfall for the Barkly Pastoral District, rainfall is reported as sub-districts (Table 17). Spatially averaged rainfall for the north was below the long-term median and for the south was above the long-term median.

There were very few fires in the Barkly Pastoral District in 2022 (Figure 16). Less than 2% of the District was sporadically impacted by fire between January and December 2022 (Figure 16).

Table 17. Rainfall for the Barkly Pastoral District.

Rainfall (mm)	Barkly North	Barkly South
2022	350	356
Long-term median (1900–2021)	416	318

BARKLY PASTORAL DISTRICT

FIRE

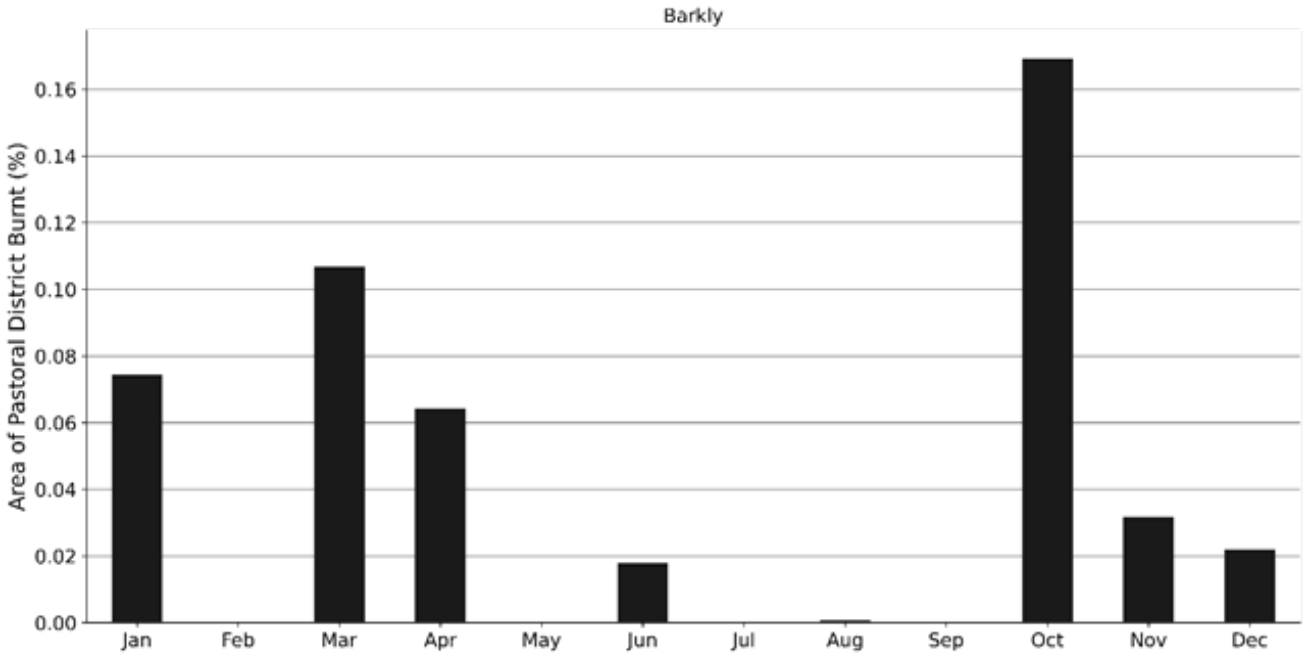


Figure 16. Percentage of the area burnt each month in 2022 in the Barkly Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Vegetation cover across the Barkly Pastoral District was variable with approximately 47% recording average cover in late 2022 (Figure 17). Below average vegetation cover occurred across 40% of the District, an increase from the previous year's level of 27%. This below average cover was widely distributed across the District. Only 12% of the District recorded above average vegetation cover, a drop from last year's 23%. Above average vegetation cover was very patchily distributed across the District and is an indication of those areas that did receive adequate rainfall.

BARKLY PASTORAL DISTRICT

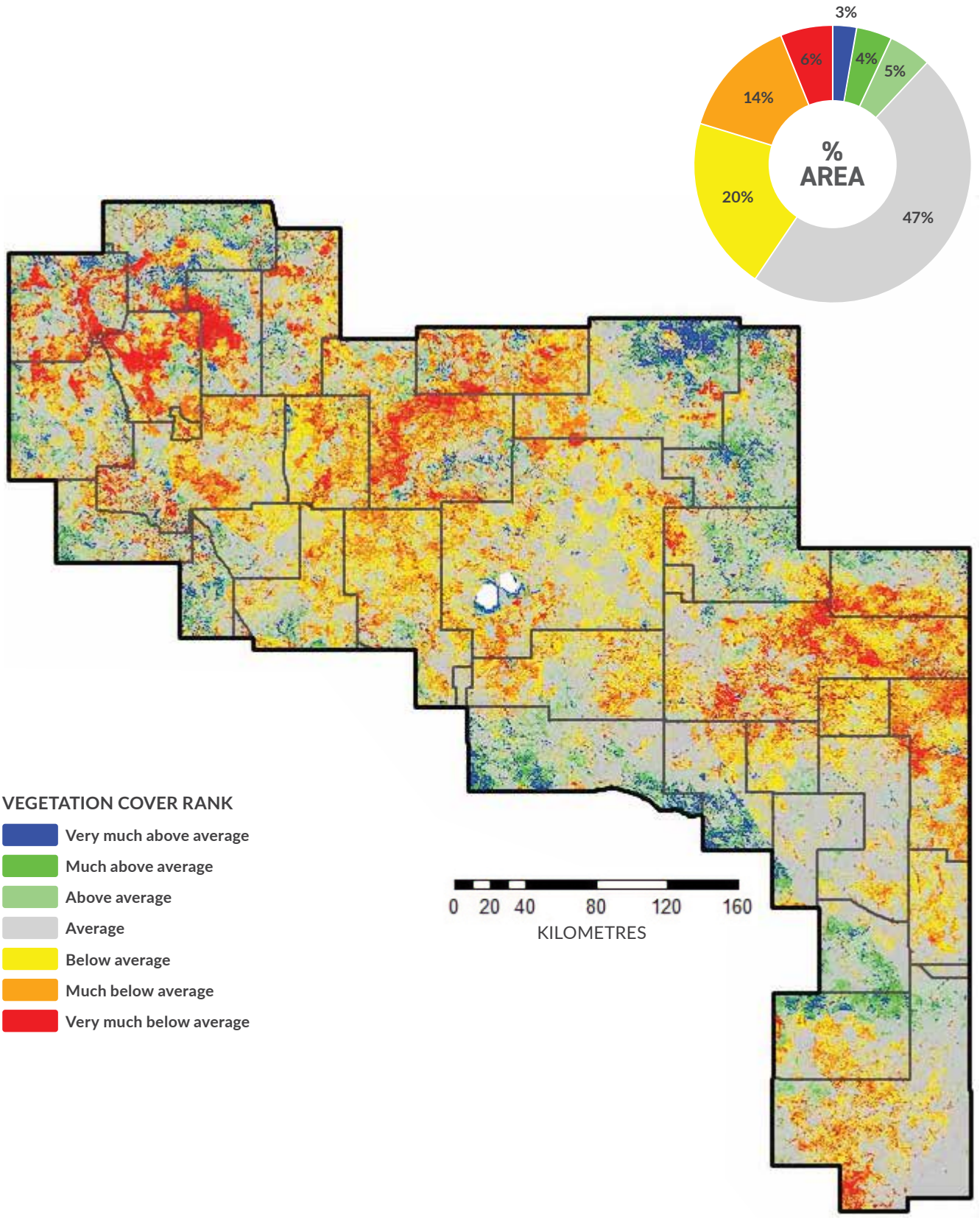


Figure 17. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Barkly Pastoral District against previous years back to 1988. Pie chart shows the percentage of the area of each vegetation cover rank.

BARKLY PASTORAL DISTRICT

SITE-BASED MONITORING

Five pastoral leases in the Barkly Pastoral District were visited in 2022.

Vegetation cover of the ground layer was measured at 51 monitoring sites over these leases.

Bare ground and vegetation cover varied considerably across sites in line with the condition ratings (Table 18). Leaf litter was at low to moderate levels and did not influence land condition ratings.

Species composition of the pasture and the abundance and proportions of perennial and annual grasses, forbs and herbs varied considerably across the sites. Species composition and level of bare ground were therefore a large factor in determining land condition. The change in species composition (since the last site visit) away from perennial grasses to a dominance by less palatable grasses, and also forbs and herbs was noted at several sites. Forb and herb cover generally increased as the condition declined. Similarly, bare ground increased and vegetation cover decreased as the condition declined.

Table 18. Summary of average values of key variables at monitoring sites for each land condition score in the Barkly Pastoral District.

Land condition	No. of sites	Bare ground (%)	Veg cover (%)	Litter cover (%)	Perennial grass cover (%)	Annual grass cover (%)	Forb & herb cover (%)
A	1	15	62	23	16	40	6
B	9	32	54	14	30	16	8
C	31	42	42	16	16	16	10
D	10	56	23	21	3	4	17

Only one site, an ungrazed woodland site, was rated as being in Excellent condition. It was characterised by low bare ground (15%), good vegetation cover (62%) and a diversity of perennial grasses, annual grasses, forbs and herbs.

Nine sites were rated as being in Good condition. These sites had high vegetation cover (54%), low bare ground levels (32%) and a good species composition of perennial grasses (including 3P species), annual grasses, forbs and herbs.

Thirty-one sites were rated as being in Fair condition. When compared to the sites in better condition, these sites generally had lower vegetation cover (42%) and higher bare ground levels (42%). The pasture species composition had generally declined (since the last visit) with a reduction in perennial grasses, particularly 3P species, and an increase of less palatable perennial grasses like feathertop wire grass, and annual grasses, forbs and herbs.

BARKLY PASTORAL DISTRICT

Ten sites were rated as being in Poor condition. When compared to the sites in Fair condition, these sites generally had a further decline in vegetation cover (23%) and higher bare ground levels (56%). The pasture species composition had declined further (since the last visit) often with a total absence of 3P grasses, very low perennial grass cover, and a further increase in less palatable perennial grasses like feathertop wire grass, or the dominance by annual grasses, forbs and herbs.

Woody thickening was only observed at one grassland site.

Information from individual lease land condition reports is summarised in Table 19.

Table 19. Summary of land condition assessments in the Barkly Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	GOOD/FAIR	Excellent: –	Good: 4	Fair: 5	Poor: 3

GENERAL COMMENTS: Cattle have naturally concentrated on the preferred Mitchell grass country. These areas were providing palatable perennial pasture grasses, but showed heavy utilisation and had been severely depleted.

PASTURE: Areas in the Mitchell grass grasslands, which encompasses the largest area of the station, had been heavily utilised.

WEEDS: Parkinsonia and mesquite around water points and along the main river system in the north and northwest of the property.

EROSION: No erosion.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

BARKLY PASTORAL DISTRICT

Pastoral lease 2

2022 land condition	Land condition at last inspection (2016)	Land condition rating of monitoring sites			
FAIR	GOOD	Excellent: –	Good: 2	Fair: 11	Poor: 2

GENERAL COMMENTS: The southern pastoral lease was in Good condition due to the generally good to the excellent cover of the 3P grasses hoop, barley and bull Mitchell grass, and a good coverage of Flinders grass and a diversity of herbs. The northern pastoral lease was in Fair condition, with patchy cover of Mitchell grasses, golden beard grass and spear grasses and a lower diversity of species.

PASTURE: Mitchell grass away from water points was high.

WEEDS: Prickly acacia, parkinsonia and rubber bush across the pastoral lease.

EROSION: No erosion.

FERAL ANIMALS: Feral donkeys were recorded.

WOODY THICKENING No woody thickening.

Pastoral lease 3

2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: 1	Good: –	Fair: 3	Poor: 3

GENERAL COMMENTS: This pastoral lease had good ground cover and moderate bare ground.

PASTURE: The best pasture occurs on the Mitchell grass grasslands in the north-east of the pastoral lease.

WEEDS: No weeds.

EROSION: No erosion.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

BARKLY PASTORAL DISTRICT

Pastoral lease 4

2022 land condition	Land condition at last inspection (2016)	Land condition rating of monitoring sites			
FAIR	GOOD	Excellent: –	Good: 1	Fair: 8	Poor: –

GENERAL COMMENTS: The paddocks showed bare ground that was elevated before the 2022 inspection.

PASTURE: Many monitoring sites retained low levels of 3P grass cover and there was some evidence of regeneration following unseasonal rainfall.

WEEDS: No weeds.

EROSION: Minor gully erosion along the main roadway and some minor sheet and gully erosion across the pastoral lease.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

Pastoral lease 5

2022 land condition	Land condition at last inspection (2016)	Land condition rating of monitoring sites			
POOR	GOOD	Excellent: –	Good: 2	Fair: 4	Poor: 2

GENERAL COMMENTS: There currently is concern about ongoing persistent bare ground and decline in 3P pastures across the pastoral lease. These impacts reflect the consecutive poor wet seasons that preceded the 2022 inspection, combined with ongoing grazing pressure.

Land condition in the northern section of the pastoral, containing poorer grazing country, is largely unutilised and is in better condition.

PASTURE: 3P grass cover in the southern section of the pastoral lease that contains most of the productive clay plain grasslands was heavily depleted. Some areas and monitoring sites had less than 10% remaining perennial grass cover.

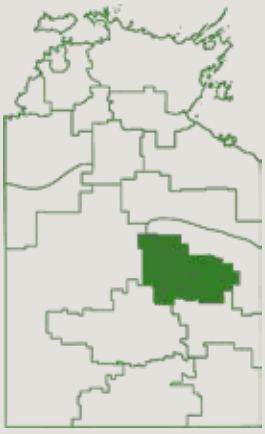
WEEDS: Thornapple at a single location.

EROSION: No erosion.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: A small area of woody thickening in the western pastoral lease.

TENNANT CREEK PASTORAL DISTRICT



The Tennant Creek Pastoral District covers 69 200 km^2 over eight pastoral leases.

Rainfall across the Tennant Creek Pastoral District was average to above average and the spatially averaged rainfall for the District was above the long-term median (Table 20).

There were very few fires in the Tennant Creek Pastoral District in 2022 (Figure 18). Less than 0.2% of the District was impacted by fire during May, June and August 2022 (Figure 18).

Table 20. Rainfall for the Tennant Creek Pastoral District.

Rainfall (mm)	
2022	327
Long-term median (1900–2021)	284

TENNANT CREEK PASTORAL DISTRICT

FIRE

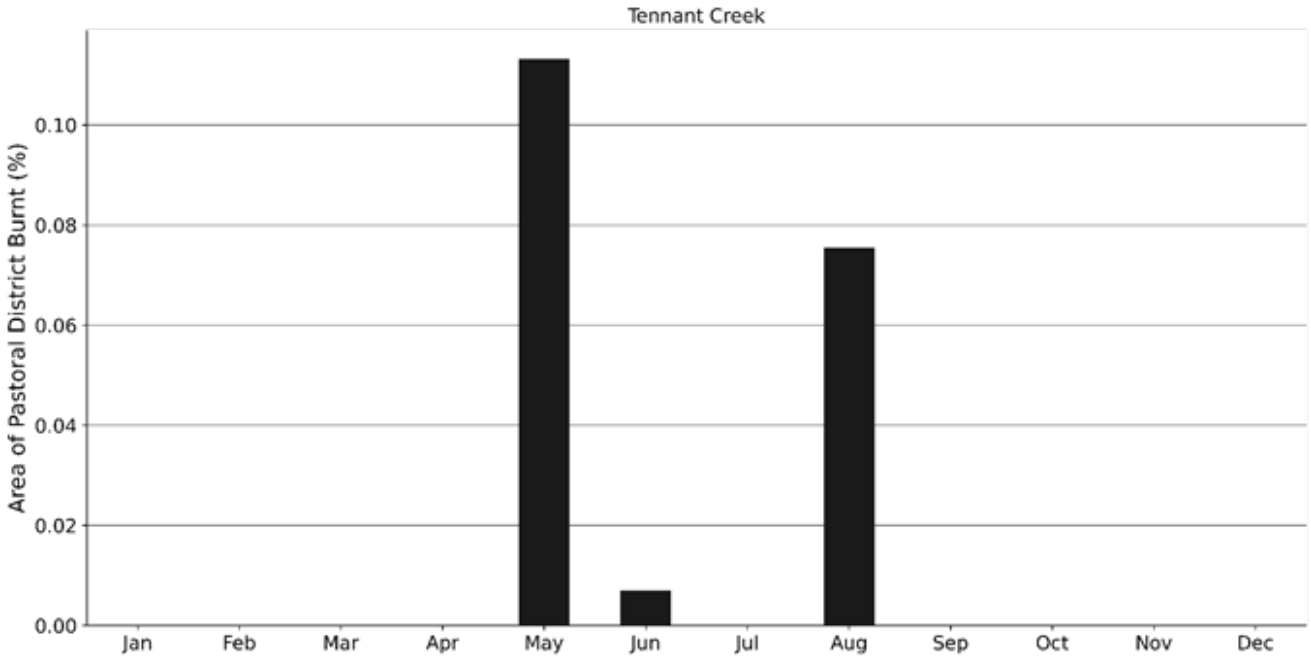


Figure 18. Percentage of the area burnt each month in 2022 in the Tennant Creek Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Vegetation cover levels in the Tennant Creek District were very similar to 2021. Approximately 41% of the District recorded vegetation cover above average or very much above average. Just under half (45%) of the District had average levels of vegetation cover when compared to the long-term record since 1988. Around 14% of the District had vegetation cover below to very much below average when compared with the long-term average (Figure 19).

No pastoral leases were monitored in the Tennant Creek Pastoral District in 2022.

TENNANT CREEK PASTORAL DISTRICT

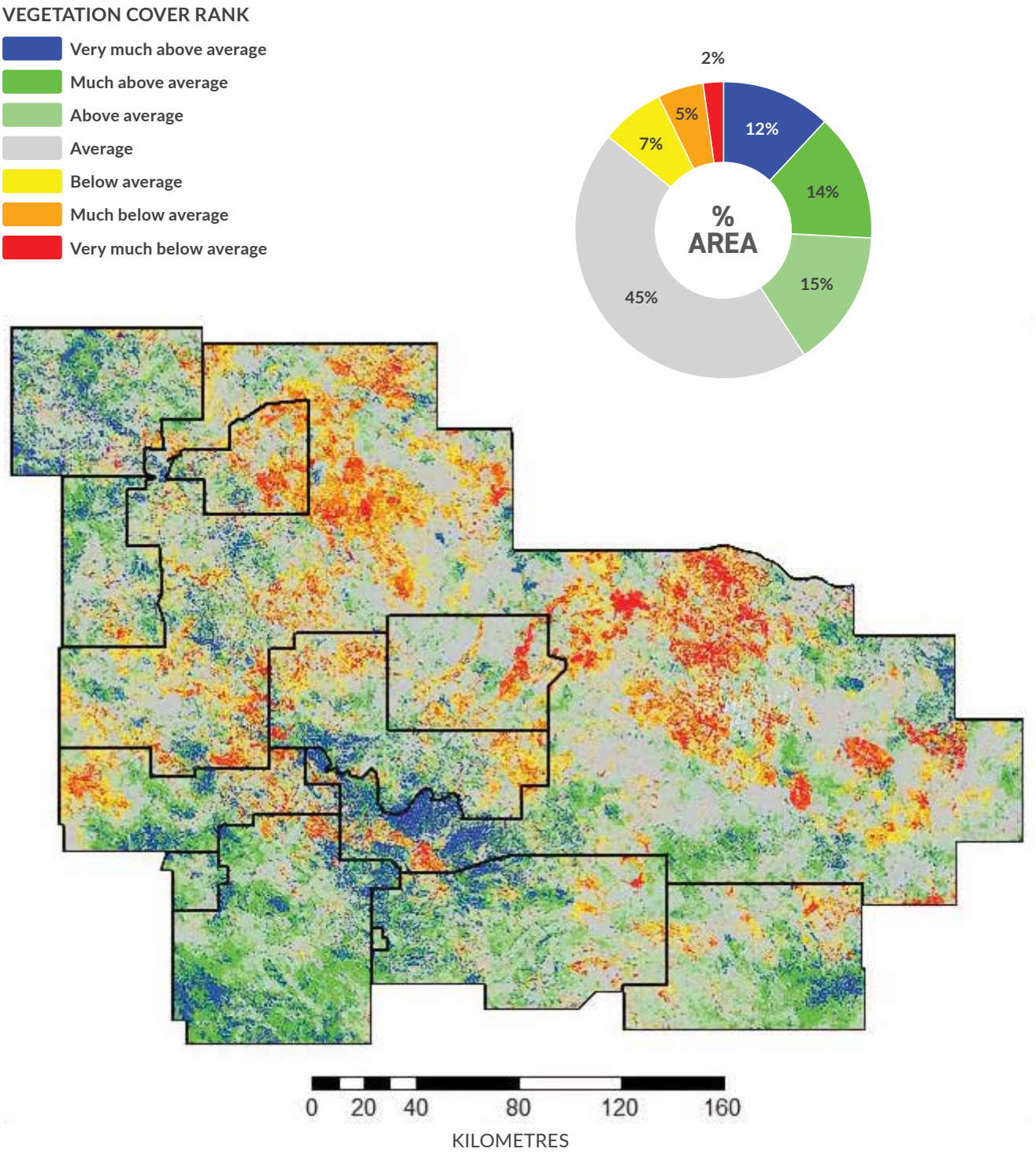
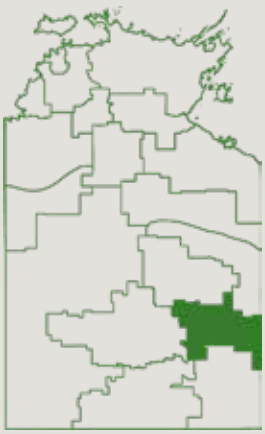


Figure 19. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Tennant Creek Pastoral District against previous years back to 1988. Pie chart shows the percentage of area of each vegetation cover rank.

PLENTY PASTORAL DISTRICT



The Plenty Pastoral District covers 52 242 km² over 14 pastoral leases.

Rainfall across the Plenty Pastoral District was above average to very much above average and the spatially averaged rainfall for the District was above the long-term median (Table 21).

There were very few fires in the Plenty Pastoral District in 2022 (Figure 20). Less than 0.1% of the District was impacted by a single fire in April 2022 (Figure 20).

Table 21. Rainfall for the Plenty Pastoral District.

Rainfall (mm)	
2022	300
Long-term median (1900–2021)	199

PLENTY PASTORAL DISTRICT

FIRE

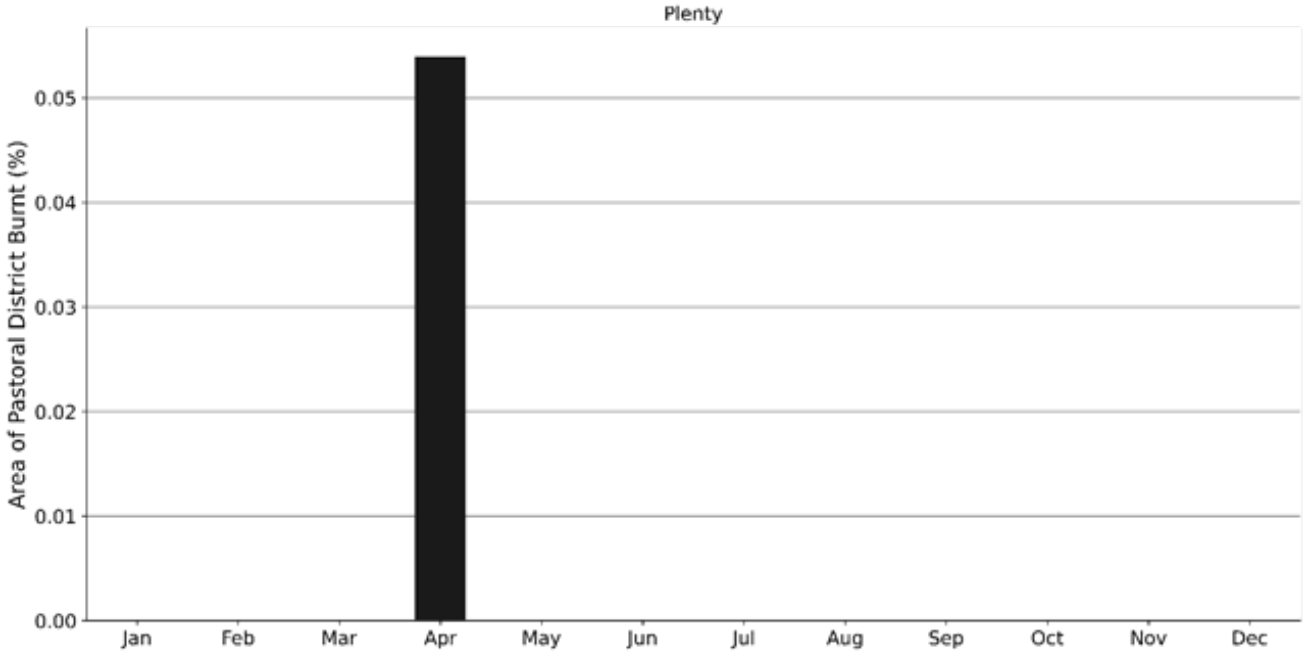


Figure 20. Percentage of the area burnt each month in 2022 in the Plenty Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Approximately 54% of the Plenty Pastoral District had average vegetation cover in late 2022 (Figure 21). Vegetation cover was above average for 11% of the District, occurring mostly in the north-western part of the District. Below average vegetation cover occurred mostly in the south and east of the District covering 34% of the area. This decrease in vegetation cover was not expected, as it coincided with the areas that received the most rainfall (above average to very much above average) for the District, and no fires were recorded in the areas with below average vegetation cover.

PLENTY PASTORAL DISTRICT

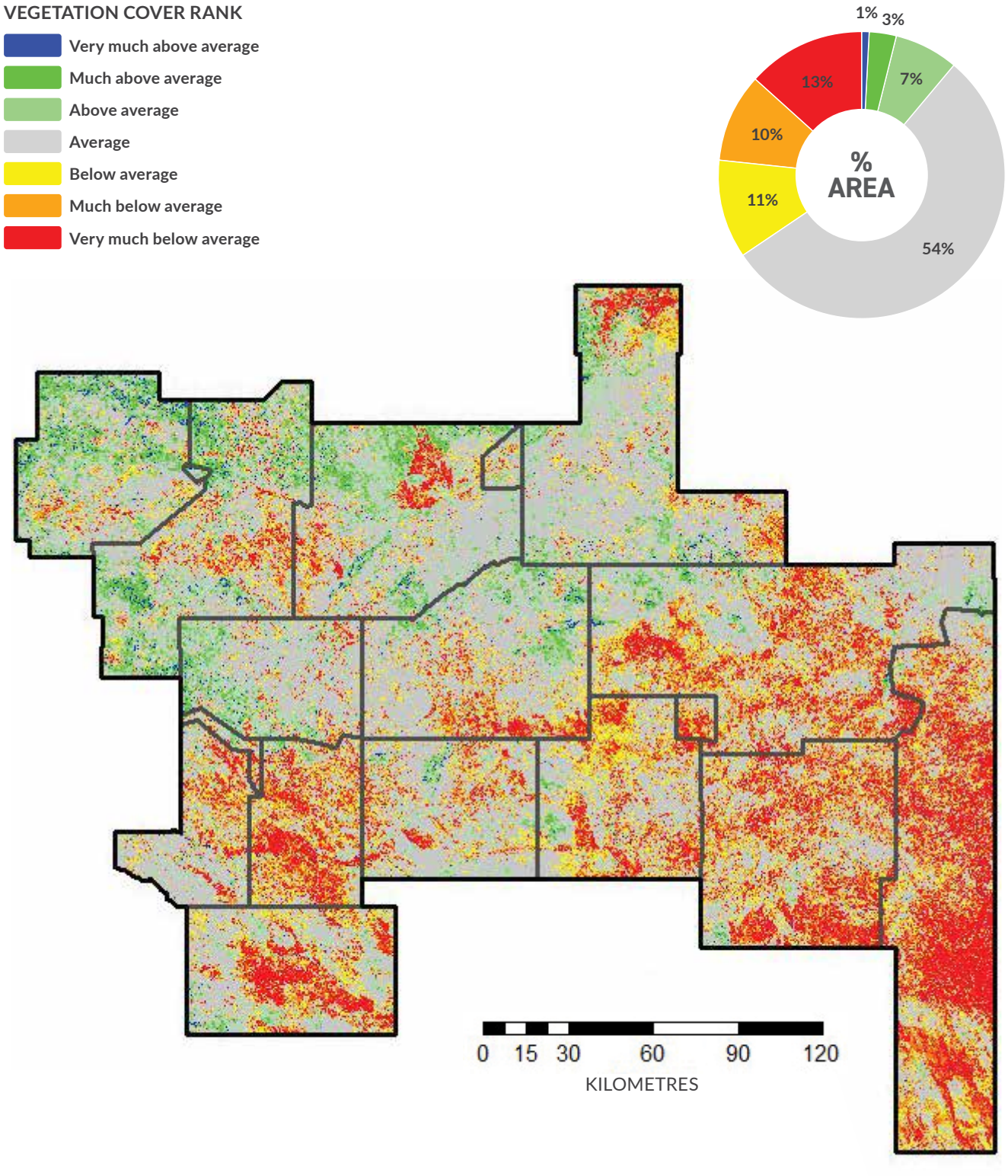


Figure 21. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Plenty Pastoral District against previous years back to 1988. Pie chart shows the percentage of area of each vegetation cover rank.

PLENTY PASTORAL DISTRICT

SITE-BASED MONITORING

Six pastoral leases in the Plenty Pastoral District were visited in 2022.

Vegetation cover of the ground layer was measured at 52 monitoring sites over these leases.

Bare ground and vegetation cover varied considerably across sites in line with the condition rating received (Table 22). Leaf litter was low across most sites, while annual grass cover and forb cover were very low and none of these variables varied much in line with their land condition ratings. Species composition of the pasture and the abundance and proportions of perennial grasses did however vary considerably. This and the level of bare ground were therefore key factors in determining land condition.

Table 22. Summary of average values of key variables at monitoring sites for each land condition score in the Plenty Pastoral District.

Land condition	No. of sites	Bare ground (%)	Veg cover (%)	Litter cover (%)	Perennial grass cover (%)	Annual grass cover (%)	Forb & herb cover (%)
A	1	0	81	19	76	2	3
B	15	27	52	21	36	7	9
C	21	46	33	21	18	7	8
D	15	58	15	23	8	5	2

Only one site was rated as being in Excellent condition. It was characterised by low bare ground (0%), good vegetation cover (81%) and diversity and high cover of 3P grasses. By contrast, annual grasses, forbs and herbs were very low in cover.

Fifteen sites were rated as being in Good condition. These sites had high vegetation cover (52%), low bare ground levels (27%) and a good species composition of perennial grasses (including 3P species), annual grasses, forbs and herbs.

Twenty-one sites were rated as being in Fair condition. When compared to the sites in better condition, these sites generally had much lower vegetation cover (av. 33%) and higher bare ground levels (46%). The pasture species composition had generally declined (since the last visit) with a reduction in perennial grasses, particularly 3P species. Weeds and erosion issues were noted at some sites.

Fifteen sites were rated as being in Poor condition. When compared to the sites in Fair condition, these sites generally had a further decline in vegetation cover (av. 15%) and higher bare ground levels (58%). The pasture species composition had declined further (since the last visit), consisting of very low 3P grass cover and very low perennial grass cover in general. Weeds and erosion issues were noted at some sites.

Information from individual lease land condition reports is summarised in Table 23.

PLENTY PASTORAL DISTRICT

Table 23. Summary of land condition assessments in the Plenty Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	GOOD/FAIR	Excellent: –	Good: 3	Fair: –	Poor: 4

GENERAL COMMENTS: Land condition was either Good or Poor and productive areas had decreased in ground cover from extended dry conditions and grazing pressure. The productive alluvial country had been utilised more than other areas.

PASTURE: Pasture cover varied across the pastoral lease. Pasture species were dominated by eight-day grass, five-minute grass, golden beard grass and buffel grass.

WEEDS: Rubber bush across the pastoral lease.

EROSION: Moderate erosion along vehicle tracks.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

Pastoral lease 2					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: –	Good: 5	Fair: 4	Poor: 1

GENERAL COMMENTS: Areas valuable for grazing were generally in fair condition with a good range of species and 3P grasses prevalent. Little evidence of pasture recovery from grazing pressure with cattle preferentially targeting new growth.

PASTURE: Mitchell grass areas were in good condition.

WEEDS: No weeds.

EROSION: Some areas of scalding and gullying at the monitoring sites.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

PLENTY PASTORAL DISTRICT

Pastoral lease 3

2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: 1	Good: 2	Fair: 1	Poor: 2

GENERAL COMMENTS: Cattle production was focused in the central area of the pastoral lease along the main river system. Since 2017, bare ground and litter recorded similar levels across integrated monitoring sites with a minor increase in vegetation cover.

PASTURE: Native oat grass and buffel grass across the pastoral lease.

WEEDS: Rubber bush was recorded at two locations.

EROSION: Severe and active erosion south of the old homestead.

FERAL ANIMALS: No feral animals.

Pastoral lease 4

2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: –	Good: –	Fair: 5	Poor: 4

GENERAL COMMENTS: There was limited fencing across the pastoral lease and cattle grazing was concentrated in the alluvial country.

PASTURE: The alluvial country provided palatable annual pasture grasses, including native oatgrass.

WEEDS: Rubber bush was recorded in the main creek systems.

EROSION: Gully erosion along old roads, predominantly in the broken limestone country with witchetty bush or gidgee. Active erosion and sediment control measures are in place on roads closer to the homestead.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

PLENTY PASTORAL DISTRICT

Pastoral lease 5

2022 land condition	Land condition at last inspection (2017)	land condition rating of monitoring sites			
POOR	GOOD/FAIR	Excellent: –	Good: 2	Fair: 5	Poor: 4

GENERAL COMMENTS: The pastoral lease showed a significant decline in land condition. Ongoing grazing pressures and fire have limited the ability of the pastures to adequately regenerate and land condition recover.

There are grazing and erosion and sediment control and soil stabilisation management issues.

PASTURE: 3P grasses were not abundant but species that were present included buffel grass and golden beard grass. Other recorded perennial grasses included eight-day grass, curly windmill grass and five-minute grass.

WEEDS: No weeds.

EROSION: Widespread and extensive active erosion along roadsides, drainage lines and open bare. Many sites showed evidence of sheet erosion with the resultant topsoil loss reducing the ability of perennial and annual grasses to establish.

Control measures are required to manage soil stabilisation and erosion.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

Pastoral lease 6

2022 land condition	Land condition at last inspection (2018)	land condition rating of monitoring sites			
FAIR	FAIR	Excellent: –	Good: 3	Fair: 6	Poor: –

GENERAL COMMENTS: Spinifex grasslands in the south-west of the pastoral lease were in good condition. The remainder of the pastoral lease, in particular the important grazing areas, were in fair condition with recovery following recent above average rainfall and reduced stocking rates.

There are erosion and sediment control and soil stabilisation management issues.

PASTURE: Buffel grass was the most common 3P grass recorded on the pastoral leases.

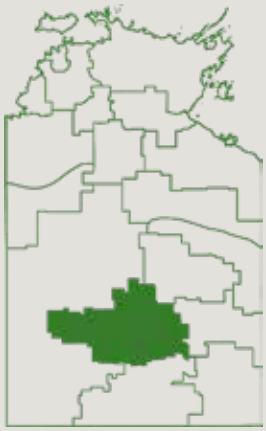
WEEDS: No weeds.

EROSION: Severe active erosion along old station tracks. Control measures are required to manage soil stabilisation and erosion.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

NORTHERN ALICE SPRINGS PASTORAL DISTRICT



The Northern Alice Springs Pastoral District covers 103 000 km² over 28 pastoral leases.

Rainfall across the Northern Alice Springs Pastoral District was above average to the highest on record and the spatially averaged rainfall for the District was above the long-term median (Table 24).

The Northern Alice Springs Pastoral District experienced regular fire in 2022 (Figure 22). Approximately 7200 km² of the District was burnt between January and December 2022 (Figure 22). Fires occurred in every month of 2022.

Table 24. Rainfall for the Northern Alice Springs Pastoral District.

Rainfall (mm)	
2022	344
Long-term median (1900-2021)	257

NORTHERN ALICE SPRINGS PASTORAL DISTRICT

FIRE

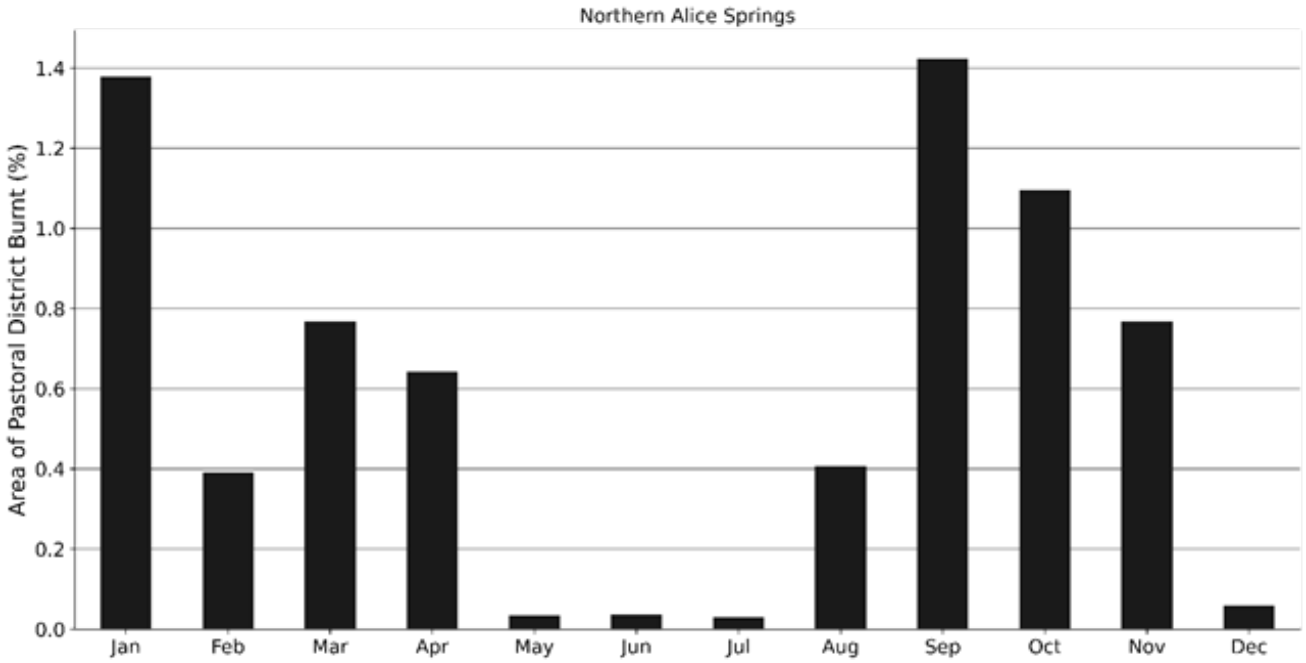


Figure 22. Percentage of the area burnt each month in 2022 in the Northern Alice Springs Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Vegetation cover was above average across a large proportion (51%) of the Northern Alice Springs District in late 2022 (Figure 23). Approximately 37% of the District had average vegetation cover, while areas with below average cover were low (12%). The above average vegetation cover reflects the high rainfall totals across the Northern Alice Springs Pastoral District. Areas affected by fire had a very strong correlation with the very much below average vegetation cover areas shown in Figure 23.

NORTHERN ALICE SPRINGS PASTORAL DISTRICT

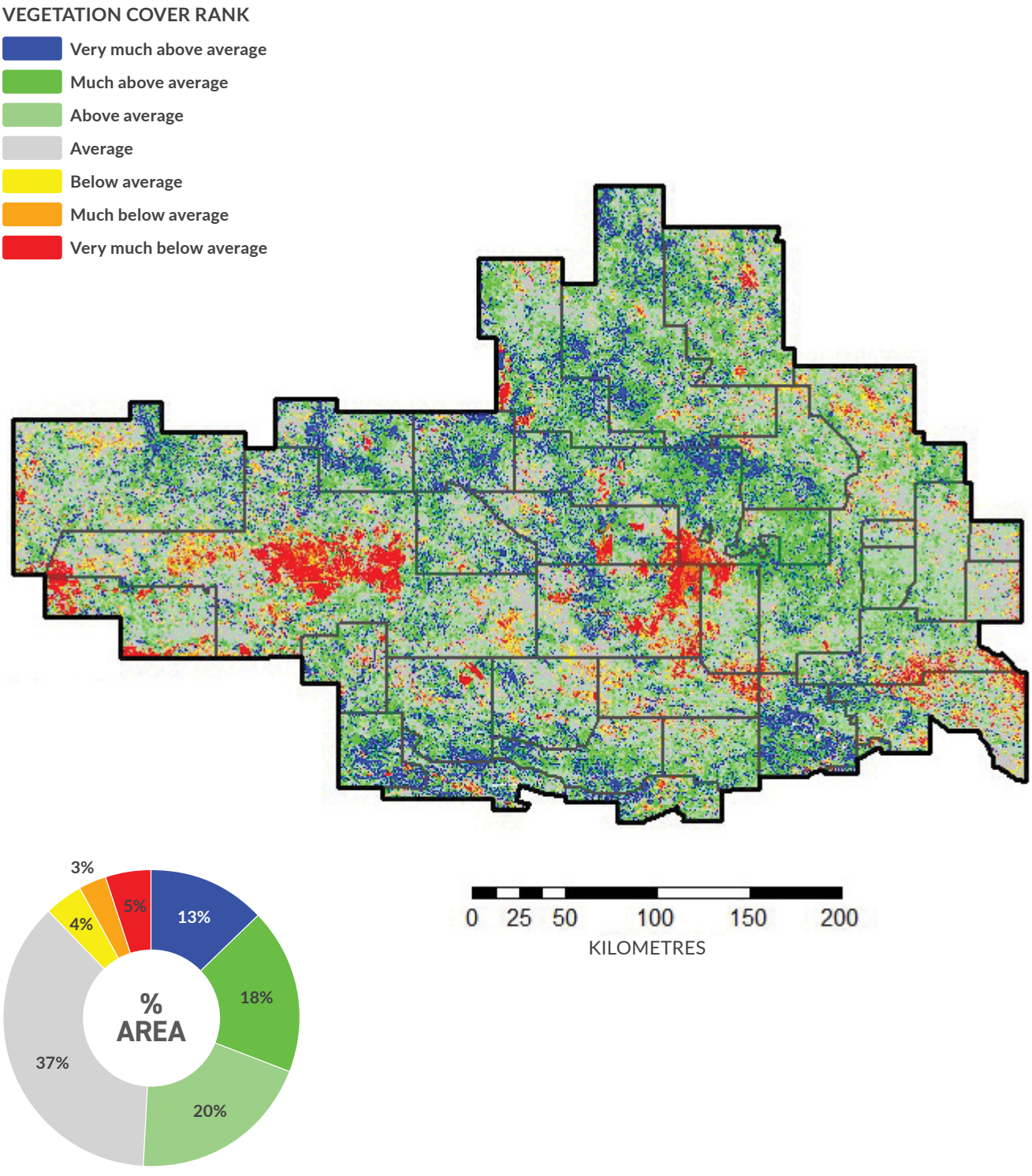


Figure 23. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Northern Alice Springs Pastoral District against previous years back to 1988. Pie chart shows the percentage of the area of each vegetation cover rank

NORTHERN ALICE SPRINGS PASTORAL DISTRICT

SITE-BASED MONITORING

One pastoral lease in the Northern Alice Springs Pastoral District was visited in 2022.

Vegetation cover of the ground layer was measured at nine sites on this lease (Table 25).

Table 25. Summary of land condition assessment in the Northern Alice Springs Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	FAIR	Excellent: –	Good: 3	Fair: 6	Poor: –

GENERAL COMMENTS: The wildfires of 2018 were evident across the spinifex-dominated areas in the north. The important grazing areas through the centre of the pastoral lease were in Good to Fair condition with buffel grass beginning to be established.

PASTURE: Buffel grass was beginning to be established across the pastoral lease.

WEEDS: A single athel pine and a small infestation of rubber bush were recorded in the north of the pastoral lease.

EROSION: No erosion.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

SOUTHERN ALICE SPRINGS PASTORAL DISTRICT

The Southern Alice Springs Pastoral District covers 92 500 km^2 over 25 pastoral leases.

Rainfall was above average for the Southern Alice Springs Pastoral District. Spatially averaged rainfall for the District was well above the long-term median (Table 26) and over 60% of the District recorded very much above average rainfall. The remainder of the District had average too much above average rainfall.

The Southern Alice Springs Pastoral District had very low fire activity between January and December 2022 (Figure 24), with 4% of the District impacted by fire.

Table 26. Rainfall for the Southern Alice Springs Pastoral District.

Rainfall (mm)	
2022	324
Long-term median (1900–2021)	165

SOUTHERN ALICE SPRINGS PASTORAL DISTRICT

FIRE

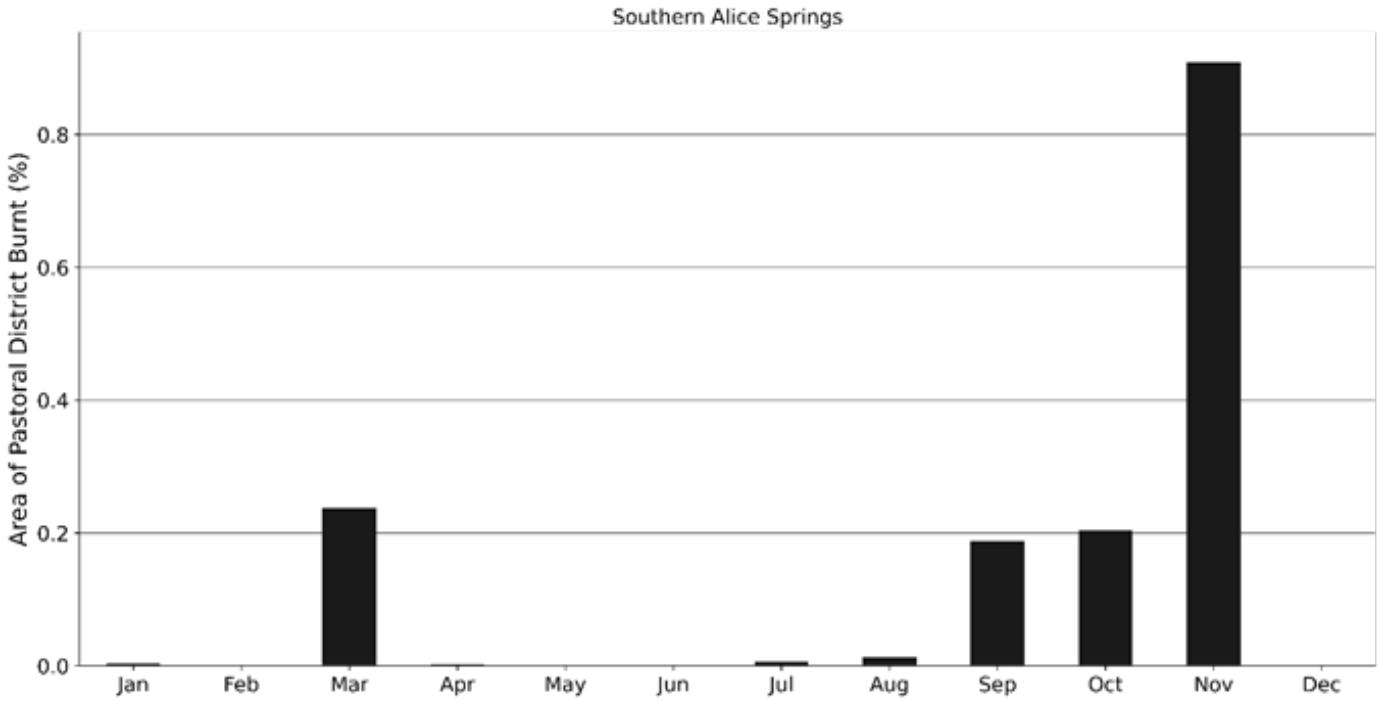


Figure 24. Percentage of the area burnt each month in 2022 in the Southern Alice Springs Pastoral District.

TOTAL VEGETATION COVER AND BARE GROUND DYNAMICS

Approximately 46% of the Southern Alice Springs Pastoral District had above average vegetation cover in late 20228 (Figure 25). This correlated with the very much above average rainfall across the District. Average vegetation cover was recorded in 47% of the District, while 8% was considered below average. Fires did not have a big impact on vegetation cover across the District as a whole.

Very high bare ground levels were not recorded in 2022 and is likely a reflection of the above average rainfall received throughout the Southern Alice Springs Pastoral District. Annual grass cover was higher than perennial grass cover. Perennial grass cover was relatively low although this did increase in the higher condition sites. Leaf litter levels were low to moderate across most sites. Forb cover was generally very low. Species composition of the pasture and the abundance and proportions of perennial and annual grasses did vary considerably.

SOUTHERN ALICE SPRINGS PASTORAL DISTRICT

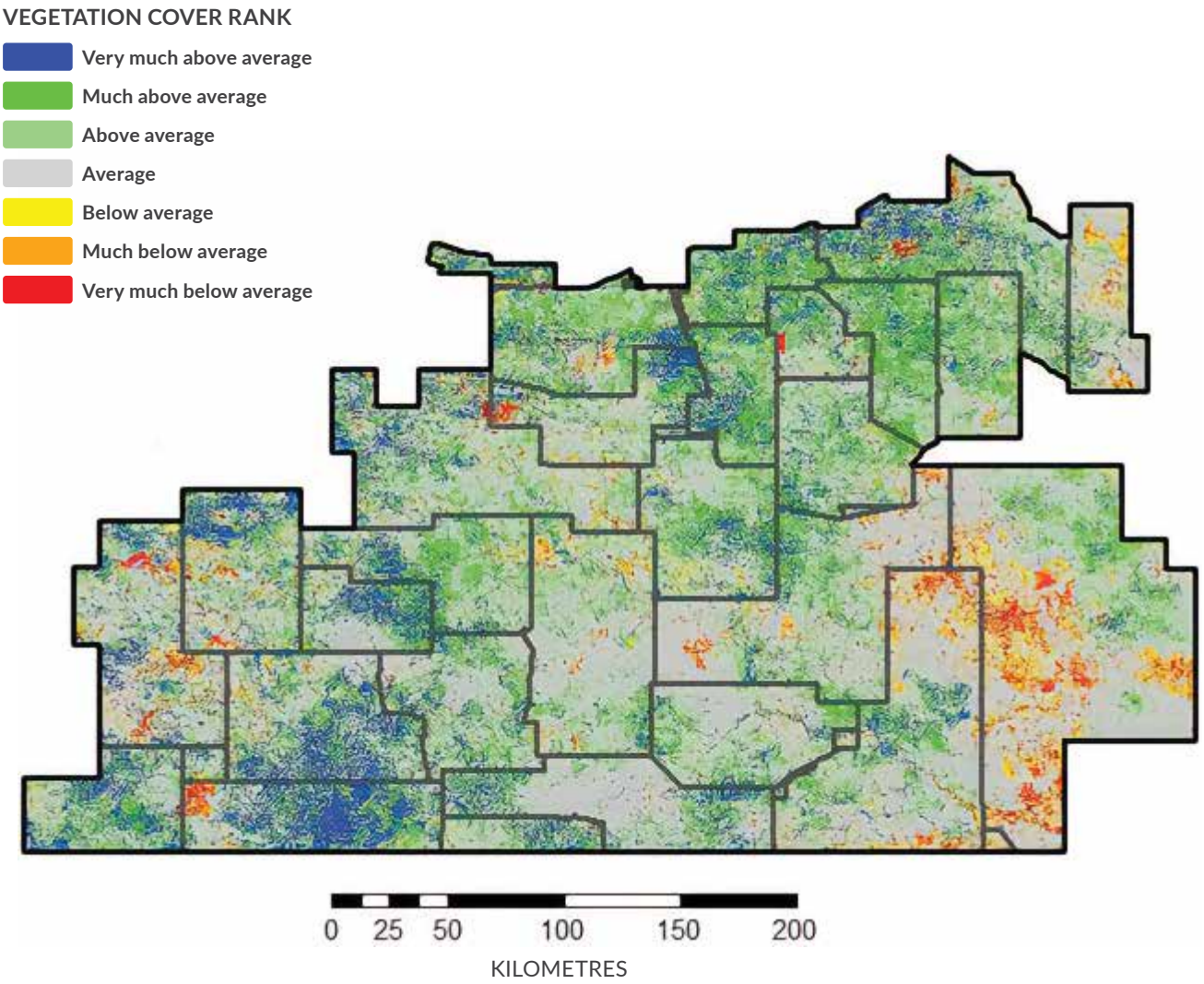


Figure 25. Rank of the amount of remotely-sensed vegetation cover present in late 2022 in the Southern Alice Springs Pastoral District against previous years back to 1988. Pie chart shows the percentage of area of each vegetation cover rank

SOUTHERN ALICE SPRINGS PASTORAL DISTRICT

SITE-BASED MONITORING

Seven pastoral leases in the Southern Alice Springs Pastoral District were visited in 2022.

Vegetation cover of the ground layer was measured at 60 sites over these leases.

Bare ground and vegetation cover varied considerably across sites in line with the condition rating (Table 27). Very high bare ground levels were not recorded in 2022 and is likely a reflection of the above average rainfall throughout the District. Annual grass cover was higher than perennial grass cover for all condition scores. This is typical of the District where land systems tend to be more annual grass-dominated. Perennial grass cover was relatively low although this did increase in the higher condition sites. Leaf litter levels were low to moderate across most sites. Forb cover was generally very low. Species composition of the pasture and the abundance and proportions of perennial and annual grasses did vary considerably. This and the level of bare ground were therefore key factors in determining land condition.

Two sites were rated as being in Excellent condition, characterised by low bare ground (9%), good vegetation cover (53%) and a diversity and high cover of annual and perennial grasses. Buffel grass was the only 3P grass recorded (Table 27). Litter cover was at moderate levels and forbs and herbs were very low in cover.

Table 27. Summary of average values of key variables at monitoring sites for each land condition score in the Southern Alice Springs Pastoral District.

Land condition	No. of sites	Bare ground (%)	Veg cover (%)	Litter cover (%)	Perennial grass cover (%)	Annual grass cover (%)	Forb & herb cover (%)
A	2	9	53	38	16	33	5
B	23	15	61	23	21	27	13
C	30	43	41	16	7	20	14
D	5	54	27	20	2	10	15

Twenty-three sites were rated as being in Good condition. These sites had high vegetation cover (av. 61%), very low bare ground levels (av. 15%) and a good species composition of perennial grasses (including 3P species), annual grasses, forbs and herbs.

Thirty sites were rated as being in Fair condition. When compared to the sites in better condition, these sites generally had much lower vegetation cover (av. 41%) and higher bare ground levels (av. 43%). The pasture species composition had lower cover of both annual and perennial grasses and was particularly low in 3P species. Undesirable perennial grass and forb species were sometimes dominant at these sites, and litter cover was relatively low. Erosion issues were noted at some of these sites.

Five sites were rated as being in Poor condition. When compared to the sites in Fair condition, these sites generally had a further decline in vegetation cover (av. 27%) and higher bare ground levels (av. 54%). The pasture species composition had declined, with extremely low perennial grass cover and no 3P grasses at all. Annual grasses were more dominant but also very low in cover. Forbs and herbs had their highest level of cover at these sites, generally an indicator of poor condition.

Erosion issues and woody thickening were noted at some sites, while weeds were not recorded.

SOUTHERN ALICE SPRINGS PASTORAL DISTRICT

Overall land condition at the seven leases inspected during the 2022 monitoring season were rated as Good or Fair. All 7 leases improved in land condition since their previous inspections.

Information from individual lease land condition reports is summarised in Table 28.

Table 28. Summary of land condition assessments in the Southern Alice Springs Pastoral District.

Pastoral lease 1					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
FAIR	GOOD/POOR	Excellent: –	Good: 3	Fair: 4	Poor: –

GENERAL COMMENTS: Most land systems on the pastoral lease were in Fair condition. There was a very good cover of buffel grass on the west of the lease in the desert dune fields. The central part of the lease had a good cover of spinifex and woollybutt grass with an overstorey of desert oak trees.

PASTURE: Buffel grass was the most common 3P grass recorded. Other common grasses included spinifex, woollybutt grass, oat grass and kerosene grass.

WEEDS: No weeds.

EROSION: No erosion.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

Pastoral lease 2					
2022 land condition	Land condition at last inspection (2018)	Land condition rating of monitoring sites			
FAIR	POOR	Excellent: –	Good: 4	Fair: 6	Poor: 1

GENERAL COMMENTS: There are erosion and sediment control and soil stabilisation management issues.

PASTURE: Buffel grass was widespread and is helping to stabilise the soil.

WEEDS: No weeds.

EROSION: Historic and active severe erosion along the main east/west road.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

SOUTHERN ALICE SPRINGS PASTORAL DISTRICT

Pastoral lease 3

2022 land condition	Land condition at last inspection (2018)	Land condition rating of monitoring sites			
GOOD	FAIR/POOR	Excellent: –	Good: 3	Fair: 3	Poor: 1

GENERAL COMMENTS: The pastoral lease has been stocked conservatively for several consecutive years coupled with the rotational spelling of productive areas. As a result, a regeneration and resurgence of native pastures, mostly annuals, was observed across the pastoral lease, including in the more productive land systems.

Almost 70% of the pastoral lease is made up of pastorally less productive country (spinifex dunes or sandplains). These areas were generally classed in Fair condition.

PASTURE: Annual grasses were dominant across the pastoral lease, in particular the oat grasses and kerosene grass. Small areas of valuable 3P pastures, particularly buffel grass, were also observed and preferentially grazed.

WEEDS: No weeds.

EROSION: Minor actively managed erosion along the access tracks.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

Pastoral lease 4

2022 land condition	Land condition at last inspection (2018)	Land condition rating of monitoring sites			
FAIR	POOR	Excellent: –	Good: 3	Fair: 4	Poor: 1

GENERAL COMMENTS: The pastoral lease has been stocked conservatively for several consecutive years.

There are erosion and sediment control and soil stabilisation management issues.

PASTURE: The pastoral management efforts and rainfall have resulted in regeneration and resurgence of native pastures, mostly annuals, with a small increase in perennial grasses.

WEEDS: No weeds.

EROSION: Moderate to severe active erosion along the access tracks.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

SOUTHERN ALICE SPRINGS PASTORAL DISTRICT

Pastoral lease 5

2022 land condition	Land condition at last inspection (2018)	Land condition rating of monitoring sites			
FAIR	POOR	Excellent: 1	Good: 1	Fair: 8	Poor: 1

GENERAL COMMENTS: There was a notable increase of intermediate perennial and annual grasses over the pastoral lease and a general reduction of bare ground.

PASTURE: Annual grasses were dominant, in particular oat grasses, kerosene grass and five-minute grass. Perennial grasses and 3P grasses were not common.

WEEDS: No weeds.

EROSION: Moderate active erosion along the access tracks.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: No woody thickening.

Pastoral lease 6

2022 land condition	Land condition at last inspection (2016)	Land condition rating of monitoring sites			
GOOD	GOOD/POOR	Excellent: 1	Good: 3	Fair: 3	Poor: 1

GENERAL COMMENTS: The vegetation cover across the pastoral lease doubled since the previous visit in 2016.

There are erosion and sediment control and soil stabilisation management issues.

PASTURE: A regeneration and resurgence of native pastures of both perennial and annual grasses recorded in many of the sites in the more productive land systems were providing palatable pasture grasses. Small areas of valuable 3P pasture, including buffel grass, were observed in most sites and were preferentially grazed.

WEEDS: No weeds.

EROSION: Severe erosion along tracks and paddocks.

FERAL ANIMALS: No feral animals.

WOODY THICKENING: Some areas of woody thickening were observed.

SOUTHERN ALICE SPRINGS PASTORAL DISTRICT

Pastoral lease 7					
2022 land condition	Land condition at last inspection (2017)	Land condition rating of monitoring sites			
GOOD	GOOD/POOR	Excellent: –	Good: 6	Fair: 2	Poor: –

GENERAL COMMENTS: Buffel grass was well established.

PASTURE: Annual grasses were generally more dominant over the pastoral lease, with perennial grasses more dominant in certain land systems. Oat grasses, kerosene grass, woollybutt grass and eight-day grass were the dominant annual grass species. Buffel grass and native millet were the most common 3P grass species.

WEEDS: No weeds.

EROSION: Minor actively managed gully erosion at two locations.

FERAL ANIMALS: Two wild horses were observed.

WOODY THICKENING: No woody thickening.

SUPPLEMENTARY INFORMATION

MEETINGS OF THE BOARD

The Board held seven meetings between 1 January and 31 December 2022. At each meeting, it considered standing items on the status of pastoral applications, correspondence and general functions of the Board.

The Board made the following decisions at its meetings in 2022:

MEETING 144 – 8 FEBRUARY 2022

- Endorsed the perpetuity report for Wongalara
- Endorsed the plan of development for Shenandoah East

MEETING 145 – 23 MARCH 2022

- Issued variation permit PLC08/01A for Avago
- Endorsed the Pastoral Land Board Delegations
- Endorsed the Instrument of Permitted Clearing for Gazette under 91D
- Approved Pastoral Land Clearing Guidelines (version 10)
- Endorsed Non-Pastoral Use Guidelines (version 3)

MEETING 146 – 10 MAY 2022

- Issued clearing permit PLC22/02 for Vermelha
- Issued variation permit PLC16/09D for Banjo

MEETING 147 – 14 JULY 2022

- Issued clearing permit PLC22/04 for Dry River

MEETING 148 – 9 AUGUST 2022

- Issued clearing permit PLC22/05 for Legune
- Issued clearing permit PLC22/03 for Mount Ringwood
- Refused pastoral land clearing application for Hidden Valley
- Endorsed the perpetuity report for Shenandoah East
- Approved Pastoral Land Clearing Guidelines (version 10.1)
- Endorsed Non-Pastoral Use Guidelines (version 3.1)

MEETING 149 – 6 SEPTEMBER 2022

- Issued clearing permit PLC22/06 for Newcastle Waters
- Endorsed Gazette for permitted clearing to allow for clearing of 272.76ha of pastoral land (Kalala, Shenandoah and Shenandoah East) for gravel pit extraction and a temporary workers camp

MEETING 150 – 8 NOVEMBER 2022

- Endorsed the perpetuity report for Katherine Downs
- Endorsed the plan of development for Mary River West
- Issued clearing permit PLC22/09 for Mount Ringwood
- Endorsed the 2023 Rangeland Monitoring Schedule
- Published the 2023 meeting dates

PERMITS ISSUED

LAND CLEARING

Clearing permits issued in 2022:

Lease	Application	Purpose	Consent	Area (ha)	Permit
Gilnockie^	Standard	Pastoral purposes	Pastoral Land Board	6397.51ha	PLC22/01
Vermelha	Standard	Pastoral purposes	Pastoral Land Board	3691.91ha	PLC22/02
Dry River	Standard	Pastoral purposes	Pastoral Land Board	660.96ha	PLC22/04
Mt Ringwood	Standard	Pastoral purposes	Pastoral Land Board	257.59ha	PLC22/03
Legune	Standard	Pastoral purposes	Pastoral Land Board	1005.86ha	PLC22/05
Newcastle Waters	Standard	Pastoral purposes	Pastoral Land Board	3729.34ha	PLC22/06
Mt Ringwood	Standard	Pastoral purposes	Pastoral Land Board	864.85ha	PLC22/09
Auvergne*	Simplified	Pastoral purposes	Delegate	923.33ha	PLC22/10
Newry	Simplified	Pastoral purposes	Delegate	526.15ha	PLC22/08

^ Permit approved in 2016 and issued in 2022 following settlement on the land title of the revised boundary.

* Permit revoked 19 May 2023.

NON-PASTORAL USE

The Board did not issue any non-pastoral use permits.

PASTORAL
LAND BOARD
NORTHERN TERRITORY

PO Box 496, Palmerston NT 0831
depws.nt.gov.au/pastorallandboard