

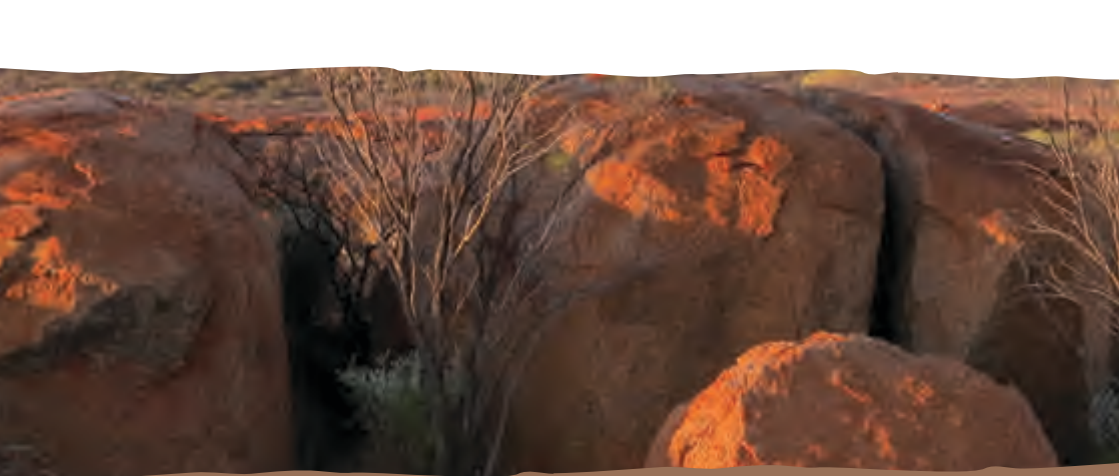


Rangelands NRM
Western Australia

Field Guide to Common Grasses of the Southern Rangelands

David Blood, Andrew Mitchell,
Jane Bradley (Ed) and Jim Addison





About this Guide

Authors

David Blood, Andrew Mitchell, Jane Bradley (Ed) and Jim Addison

Acknowledgements

The authors would like to thank John Stretch, Wayne Fletcher and PJ Waddell for their advice and support during the preparation of this publication. Thanks also to the pastoralists who provided advice and hospitality during photography and collecting expeditions. Kevin Thiele, Curator of the WA Herbarium for advice regarding sourcing of specimens. And our partners who tolerated periods of absence and distractedness.

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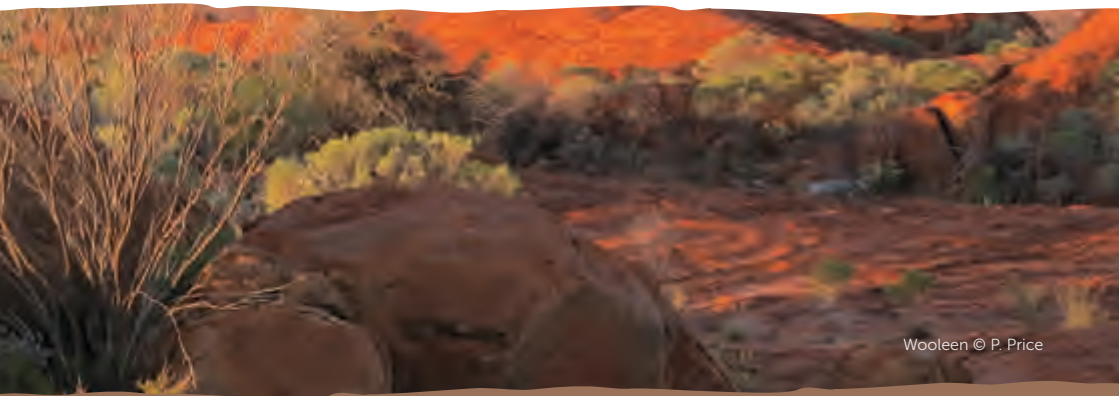
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ISBN: 978-0-9943781-0-1 - Cited as Rangelands NRM, 2015, *Field Guide to Common Grasses of the Southern Rangelands*, Rangelands NRM, Perth WA

Layout & Design: Swish Design

The production of this publication was supported by Rangelands NRM through funding from the Australian Government's National Landcare Programme.





Wooleen © P. Price

Contents

Foreword; Grasses of the Southern Rangelands 4

Introduction 6

 The Southern Rangelands 6

 The Gascoyne 7

 The Murchison 8

 The Goldfields — Nullarbor 9

The Role of Grasses in the Southern Rangelands 10

Monitoring Grass Pastures 13

Condition Classes of Common Grass Pasture Groups 14

Categories and Definitions 18

 Seasonal Response 18

 Palatability 18

 Grazing Indicator Value 19

 Grazing Response 20

Selection of Included Species 21

Conservation Codes 22

Species by Inflorescence Type 24

Grass Species 26

Glossary 130

References and Further Reading 132

Photo Credits 133

Index of Common and Scientific Names 134

Foreword; Grasses of the Southern Rangelands

Andrew Mitchell

This guide is recommended to all those with an interest in the Southern Rangelands. Grasses play an important role in the productivity and stability of these rangelands. The aim of this guide is to help land managers improve their understanding of their grasses and with this knowledge, help them improve the management of the country and the animals that depend on it.

Grasses have been long ignored or taken for granted, and we do this at our peril. The last significant book that took in the broad sweep of Western Australian grasses was Charles Gardner's 1951 *Flora of Western Australia, Gramineae*. Grasses are found by many to be a difficult group to identify and many avoid them. This guide seeks to redress the lack of information on grasses, making it easier to identify and understand the grasses in the landscape and the grazing system.

In the Southern Rangelands, sometimes grasses are in abundance and sometimes completely absent. My first experience of grasses in the Southern Rangelands was on the Nullarbor Plain in 1974, when good late summer and winter rains combined to grow so much grass that the bluebush and saltbush was, by September, hidden from view. The widespread bushfires in late 1974/5 were so bad from the Nullarbor to the Goldfields, that a ring of large (100 m+ wide) firebreaks were built on the east side of Kalgoorlie. These bushfires were possible because of the large amount of continuous grass fuel present.

Working in the Southern Rangelands for many years, I was always fascinated by the number of dead, standing mulgas. After examining some 40 year old monitoring sites, I have come to the conclusion that many of these mulgas have been killed by fire. The other culprits

are willy willies, hail and extreme drought. Mulga and many of the shrub species that grow with it, are exquisitely sensitive to fire. There are claims of mulgas in the Pilbara being able to resprout after fire but they are a rare event. So on the balance of probability, most of the Southern Rangelands have been burnt at one time or another! How can that be? It looks so dry and most of the time lacks enough fuel to carry a fire. The answer lies in the big rainfall years, especially when there has been summer rain, followed by winter rain, as in 1974. Most of the Southern Rangelands are remarkable in that a completely different suite of annuals appear in response to winter, as compared to summer rain. Good winter rain produces carpets of colourful paper daisies and other broad leaved annuals. Summer rains on the other hand grow mainly grass. However if a late summer rainfall event combines with a winter season, the summer growing grasses will continue to grow during winter, albeit slowly, until they either



Weld Range - D. Blood

run out of water or mature and die. This combination of seasons provides a large, continuous amount of fire-ready biomass going into summer. Grasses and the fires they support are a major driver in the long term dynamics of the vegetation in the Southern Rangelands.

This guide, I hope, will provide the impetus to understand the important aspects of the biology of the native grass species that we know little of. The perennial tussock grasses are the main stabilising species of the small pockets of cracking clay soils in the northern Southern Rangelands.

These grasslands are under grazing pressure throughout most of the year and we do not understand fully the population dynamics of these grasses. How long is seed viable for and the conditions required for recruitment and survival of seedlings? Anecdotal evidence to date says that these grass seeds are only viable for a few months and recruitment conditions are rare events! The effects of patch grazing are known, but how to manage it in the long term has not been fully demonstrated to my satisfaction given Western Australia's unreliable climate.



Eriachne mucronata - Doolgunna - D. Blood

Not all the grasses of the Southern Rangelands are represented here; as many as could be photographed in the time allotted or borrowed from others are included. The important species and a few lesser known are mostly represented. Fortunately there were good summer rains in 2014 and 2015 that have made this possible.

Introduction

The Southern Rangelands

The Southern Rangelands of WA is an area of some 1,526,300 square kilometres and covers the Gascoyne, Murchison and Goldfields-Nullarbor sub-regions. Each of these sub-regions is divided into a number of Interim Biogeographic Regions of Australia (IBRAs).

IBRAs classify Australia's landscapes into 89 large geographically distinct bioregions based on common climate, geology, landform, native vegetation and species information. For example, the Australian Alps, the Nullarbor Plain and the Wet Tropics are distinct bioregions. The 89 bioregions are further refined to form 419 IBRAs which are more localised and uniform geomorphological units in each bioregion.



THE GASCOYNE

The Gascoyne sub-region of the Western Australian rangelands covers an area of approximately 264,497 square kilometres. It is bordered by the Murchison sub-region in the south, the Pilbara sub-region in the north, the Indian Ocean to the west and the Desert sub-region to the east.

The Gascoyne contains two IBRA sub-regions — Carnarvon and Gascoyne.

The climate of the Gascoyne is semi-arid to arid, with hot summers and mild winters. Temperatures are highest between January and February, during this time inland average temperatures generally exceed 37°C. Due to sea breezes, coastal temperatures are kept well below those inland. Average winter temperatures range below 18°C in the far south to 23°C in the north. In July the overnight minimum averages about 10°C in coastal areas and 6°C in the far east.

The average annual rainfall of the Gascoyne is between 190 mm to 250 mm and is relatively uniform throughout most of the region; however, it is highly variable particularly in the central and eastern parts. Most of the rainfall occurs in two seasons — January to March and May to July. Summer rainfall is less reliable than the May to July rainfall, but it can be very significant especially when it is produced by tropical lows and cyclones.

Geomorphology and soils of the Gascoyne are dominated by extensive ranges of metamorphic hills of Achaean age and their detrital slopes and extensive stony plains.

The Gascoyne and Lyons River valleys are two major, though narrow floodplains that dissect the catchment. Vegetation of the Gascoyne is predominantly mixed acacia shrublands/woodlands with subordinate chenopod shrublands, however many other vegetation types can be found within this region. The

Gascoyne sub-region is described as the “mulga zone” though may comprise spinifex (*Triodia*), wattle (*Acacia*) and poverty bush (*Eremophila*) communities. The Carnarvon IBRA is primarily alluvial and lacks the mulga component.



Wanna Tabletop, Gascoyne - D. Blood

Introduction

THE MURCHISON

The Murchison sub-region of the Western Australian rangelands covers an area of approximately 331,775 square kilometres. It is bordered by the South West Region and Goldfields sub-region in the south, the Gascoyne sub-region in the north, the Indian Ocean to the west and the Desert sub-region to the east.

The Murchison contains two IBRA sub-regions — Murchison and Yalgoo.

The climate of the Murchison is semi-arid to arid, with hot summers and mild winters. Temperatures are highest between January and February. During this time inland average temperatures generally exceed 37°C. Due to sea breezes, coastal temperatures are kept well below those inland. Winter temperatures average below 18°C. The average annual rainfall of the Murchison is between 190 mm to 250 mm and is unreliable. Most of the rainfall occurs in winter, although the recent trend is more frequent summer rain and most years there is a dry period of four to six months.

Geomorphology of the Murchison is characterised by extensive almost flat or gently sloping plains underlain by a shallow hardpan ("Murchison cement") of semi impervious siliceous material. Topography is

subdued and is interrupted only by two major ranges — the Jack Hills and Weld Ranges. Many smaller metamorphic hills and younger "breakaways" characterise the landscape. The central floodplains possess deeper alluvial soils with halophytic shrubs and some grasslands. Vegetation is predominantly mulga-dominated acacia shrublands and woodlands with lesser areas of chenopod shrublands, wanderrie sandplains, lake associations found within the region. The Murchison sub-region is essentially Western Australia's mulga region.



Mulga Woodland, Meka Station - P. Russell

THE GOLDFIELDS - NULLARBOR

The Goldfields-Nullarbor sub-region of the Western Australian rangelands cover an area larger than 930,000 square kilometres. They are bordered by the South West Region and Southern Ocean in the south, the Murchison sub-region and Desert sub-region in the north, the South West Region to the west and South Australia to the east.

The climate in the Goldfields-Nullarbor sub-region is arid to semi-arid, with hot summers and mild winters. Summers in this sub-region are extremely variable; daily temperatures exceeding 40°C can be followed by cloudy days with temperatures in the low 20's. The mean summer maximum temperature is typically about 34°C with average minima of about 21 C. The mean winter temperature ranges from a maximum of about 17°C to a minima of about 6 C.

Within the Goldfields-Nullarbor there is a rainfall gradient; in the south-west area there is a winter rainfall regime of about 300 mm annual rainfall while in the northern Nullarbor area there is a non-seasonal regime of about 150 mm annual rainfall. Tropical cyclones influence the region in the form of rain-bearing depressions and can often result in large rainfall events. The average yearly evaporation exceeds the average yearly rainfall and is about 2400 to 2800 mm.

In the Goldfields-Nullarbor sub-region there are five broad types of vegetation community. The treeless Nullarbor Plain and its surroundings are dominated by low halophyte and saprophyte communities sometimes. The arid regions of the central north and north-east consist of areas of hummock grasslands with various tree and shrub associations as well as areas of low open mulga woodlands. The central west and north-west are predominantly

mulga woodlands with smaller areas of shrubland and hummock grasslands. The south west part of the sub-region has a complex mix of vegetation types that includes tall woodlands as well as areas of shrub-heath and tall shrubland. These woodlands are globally unique and are the largest remaining area of intact Mediterranean climate woodland on Earth.



Salmon Gum Woodland near Norseman © J. Bradley

The Role of Grasses in the Southern Rangelands

Jim Addison, Department of Agriculture and Food WA (Kalgoorlie)

The key ingredients to pastoral profitability are livestock reproduction and growth with minimal on-station mortalities — all of which are driven by adequate animal nutrition.

THE ROLE OF GRASSES IN NUTRITIONAL ENERGY SUPPLY

Plant energy and protein, together with water supply, are the major requirements for rangeland livestock production. Forage protein is generally not the limiting factor in the Southern Rangelands but energy is. **Perennial grasses** form a major source of ongoing nutritional energy, driving livestock reproduction and growth.

Grasses, while actively growing, provide a source of highly digestible energy. High digestibility stimulates a high level of forage ingestion resulting in higher rates of liveweight gain. When feed has “dried off” digestibility and protein content is reduced, but in the presence of forage protein from shrubs it can still generate positive weight gains.

Forage preferences of livestock are indicated below:

	Percent of diet		
	Grass	Forbs	Browse
Horses	90	4	6
Cattle	70	20	10
Sheep	60	30	10
Goats	30	40	30

Source: Managing Native Pastures, Information Series Q192009, Ian Partridge, DPI QLD. 1992

Figures quoted in the table assume that the supply of the three diet components is not limited. In the Southern Rangelands this is often not the case. During dry periods forbs and annual grasses (either green or dry) are often absent. Likewise, in degraded rangelands forage supply from perennial grasses is also largely absent. The table suggests that cattle in particular will perform better where a significant part of available forage consists of grass.

A prerequisite for energy production is the availability of soil moisture (and associated nutrients) for perennial grass establishment, maintenance and growth. This means managing rangeland pastures to maximise the time that root zone soil moisture is between field capacity and permanent wilting point. Maintaining soil moisture in this zone enhances the rainfall use efficiency of the low and variable annual rainfall received in the Southern Rangelands.

Intermittent “green pulses” of annual forbs and grasses, resulting from episodic rainfall events, on their own do not deliver a continuity of livestock production or “drought” resilience. Pastures with a significant perennial grass component spend less time in inter-pulse (with its associated low pasture productivity) and are able to vegetatively respond to small rainfall events.

Grasses, particularly perennials, play a critical role in supplying year-round nutritional energy, but they also have an important role in maintaining landscape function.

First, surface obstacles, including grass butts and litter, slow overland water flow. This increases infiltration as overland flow has extended contact with the soil surface and greater water depth increases downwards hydraulic pressure. Decayed root canals, also known as biopores, provide infiltration pathways. Vigorous perennial grass plants play an important role as their root systems have deep soil penetration. Micro-fauna activity (often associated with foliar grass cover and mulch/litter) likewise creates infiltration pathways and improves water storage capacity. It also has a role in nutrient cycling.

Secondly, mulch and litter restricts surface soil moisture loss by providing shade and reducing drying air flow. Vegetation canopy shade provides a block to solar radiation energy, reducing soil surface water molecule excitement that results in moisture loss to the adjacent air.

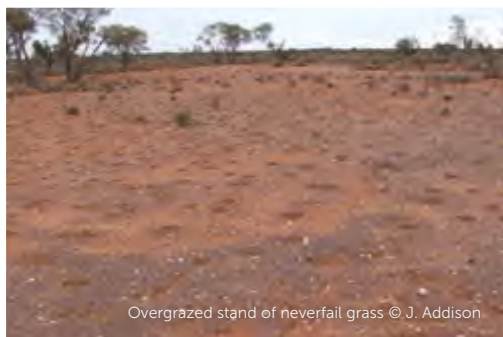
Plant height and spatial arrangement influences laminar air flow patterns. At any given plant height with matched plant density, a moisture saturated air stratum is maintained at the soil/air interface, minimising evaporation. Laminar flow is arrested where there is a spatial distribution of plants where no plant is more than "3.25 x plant height" distant from its neighbour. This is rarely the case in most Southern Rangelands landscapes, except in healthy stands of perennial grass, but any retardation of laminar flow will reduce evaporative losses.

Shading of the soil surface reduces oxidation of soil organic matter, and this organic matter enhances plant growth conditions.

It may be seen that grasses play an important role in the water cycle, and improving the water cycle delivers positive soil nutrient outcomes. The nutrient cycle is closely linked to the water cycle but operates more slowly. Nutrients are slowly absorbed and accumulated into biomass. They are recycled through plant death, decomposition, mineralisation, uptake, and other transformations.

Maintenance of perennial grass vegetation may be achieved by grazing no lower than 100 mm above the ground. Plant density and vigour will be maintained at this level. Heavy continuous utilisation of a neverfail stand shown below has caused high plant mortalities and significantly reduced pasture productivity.

Woody weeds are also more likely to establish under heavy than under conservative grazing, and can be associated with the drying of the soil associated with erosion head cuts draining the landscape.



Overgrazed stand of neverfail grass © J. Addison

We are prone to regard our natural assets as something available to us for immediate use, but it should be remembered that agriculture and pastoral practice without husbandry, is comparable to mining, and that uncontrolled exploitation with its attendant evils may lead to the conversion of valuable country into desert. Erosion, whether by wind or water, is accelerated by unwise stocking, and once its forces are allowed full play, little or nothing can be done towards the restoration of the status quo in areas too dry for cultivation. It is thus of the utmost importance, in our pastoral areas, to maintain, by careful stocking, that delicate balance between the plant and its environment which, once lost, may lead to the irreparable loss of a valued natural asset. There are important lessons to be learned from other lands in the connection.

C.A. Gardner

State Herbarium, Perth, W.A.,
17th December, 1951.

From: C.A.Gardner, Flora of Western Australia, Vol 1, Part 1. Gramineae, 1952.



The benefits of photo monitoring – photo on left taken in 1976 and photo on right taken in 2012 showing differences in species composition and distribution brought about by summer rainfall. Photos: © Andrew Mitchell

Monitoring Grass Pastures

Change in long-lived perennial plant populations in the rangelands is gradual and imperceptible and normally occurs at time scales well beyond our ability to process and make sense of. Managers need a process to inform themselves of these subtle changes in order to ensure their management does not result in loss of landscape health. Negative change can equally happen quicker than what we perceive as a result of an event such as flood, fire, hail etc and in order to avoid lasting loss of plant and landscape health, decisions about stocking need to be made sooner than what we might think.

Managers need an aid to provide comparative information of vegetation states to judge whether change is neutral, positive or negative. The simplest aid we have is comparison of two photographs at different periods, which provides an indication of volume and size. This is monitoring at its simplest, and is a powerful means of conveying change information between times. However, volume is only one of the attributes of a pasture — composition is also critical in determining how attractive a pasture is to animals – and how resilient. A typical rangeland pasture is comprised of many components — from tiny short-lived herbs to large long-lived trees and each of these has differing life cycles, nutritional requirement, resilience and palatability. Understanding the response of each element will help aid decision making that results in more prompt management responses that benefit the health of the pastures. Animal condition alone doesn't tell the story — grazing species differ in ability to convert dry forage and some will continue grazing low value material while degrading the pasture, while other animals will reject the same material and perish rather than consume sub-standard fodder.

The following pair of photographs are of a buffel and birdwood pasture in the Central Gascoyne, 14 years apart. The site in 2014 suggests a very dismal and depauperate landscape, unless the historical information was present to provide context.



Central Gascoyne buffel pasture in 2000 during much above average year under moderate stocking. Cover is almost optimal and plant butts are large and well established. ©WADA



This is the same site in late 2014 following two below average years and heavy continuous stocking. Few mature butts remain – and fewer will regrow after rain. © David Blood

Information on monitoring methods is available from the WA Department of Agriculture and Food (DAFWA) or local grower groups such as the Gascoyne Catchments Group or Land Conservation District Committees.

On the following pages, a number of common grass pasture types are represented in a range of condition states that may be useful in providing context for your own monitoring requirements.

Condition Classes of Common Grass Pasture Groups

BUFFEL



Central Gascoyne – good condition.
(WADA)

BROAD LEAF WANDERRIE



NE Goldfields – good condition. (DB)



Central Gascoyne – fair condition. (DB)



West Gascoyne – fair condition. (DB)



West Gascoyne – poor condition. (DB)



Murchison – poor condition. (DB)

ROEBOURNE PLAINS



West Gascoyne – good condition. (WADA)



West Gascoyne – fair condition. (DB)



West Gascoyne – poor condition. (DB)

WOOLLYBUTT



NE Gascoyne – good condition. (DB)



NE Goldfields – fair condition. (DB)



NE Goldfields – poor condition. Moribund butts visible in foreground. (DB)

Condition Classes Continued

BUCK WANDERRIE



South West Gascoyne- good condition; many companion species. (DB)



Murchison – fair condition; companion species reduced in number and size. (DB)



Central Gascoyne – poor condition; only sparse buck wanderrie remains. (DB)

SOFT SPINIFEX



West Gascoyne – good condition. (DB)



West Gascoyne – fair condition. (DB)



West Gascoyne – poor condition. (DB)

MISCELLANEOUS COMMUNITIES



East Gascoyne – hard spinifex (*Triodia basedowii*) in good condition. Moderate wanderrie and limestone grasses add value. (DB)



Shark Bay spinifex (*Triodia plurinervata*) – in fair condition. (DB)



West Gascoyne – hard spinifex (*Triodia basedowii*) in fair condition. Very sparse palatable species include wanderrie and occasional buffel plants. (DB)



Emerging stand of silky brown top (*Eulalia aurea*) in good condition on the Wooramel catchment. (DB)



West Gascoyne - Claypan grass (*Eriachne flaccida*) in good condition. (JS)



East Gascoyne - stand of highly palatable Mulga grass (*Neurachne minor*) in excellent condition after 12 years of destocking. (DB)

Categories and Definitions

SEASONAL RESPONSE

Perennial grasses can be classified into two different categories — C3 or C4 — depending on their physiology and response to temperature. C3 grasses are generally active during the cooler seasons, establishing and growing in either wet or dry environments. C3 grasses have a greater tolerance to frost and can generate less dry matter (bulk) than C4 species. C4 grasses are generally more active in the warm and hot seasons under moist or dry environments. Although they produce a larger amount of dry matter (bulk) than C3 plants, their year round feed value (protein and digestibility) may be lower than that of C3 grasses.

Having a mix of C3 and C4 grass species in a pasture can be desirable as they occupy different parts of the landscape and will grow at different times of the year, potentially providing year-round groundcover across a range of conditions. Some species, particularly the wanderrie grasses, may respond to rain and seed throughout the year. Buffel and birdwood grass possess a similar less seasonal-specific response. Strictly speaking, both are C4 species but they have adapted to respond to winter rainfall, which adds value as pastures species. Most species in the Southern Rangelands have adapted to bimodal rainfall and will grow at any time of year, but will generally only flower according to their carbon response type (C3 or C4).

SEASONAL RESPONSE CATEGORIES

C3	winter active, summer dormant	C4	summer active, winter dormant	C3 & C4 (BOTH)	Not season specific; responds any time of year
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PALATABILITY

All plants possess chemical and physical traits that determine palatability to grazing animals. Palatability is the result of the complex interactions between the animals' needs or preferences and an array of the plants' characteristics:

- Physical properties such as texture, bitterness/toxicity, burrs/spines, lignins etc
- Palatability relative to other available species
- Taste
- State of the plant – green, mature, dead.
- The animal's experience with a species

A number of physical environmental factors also strongly influence or determine an animal's preference for a species:

- Soil type
- Time of year
- Companion species
- Growth stage
- Density
- Availability/abundance

PALATABILITY CONTINUED

A three part scale is assigned to all species where palatability is known, ranging from low to high. It must be remembered that this is a generalisation across a large area and there are many variations within the same species across different landscapes and soil types. Wanderrie species (*Eragrostis*, *Eriachne*, *Thyridolepis* and *Monachather*) in particular, show large contrasts in desirability by sheep or cattle according to soil type — for instance, some species on deep yellow gravelly sands are less palatable than the same species found on shallow hardpan or alluvial soils.

PALATABILITY CATEGORIES



GRAZING INDICATOR VALUE

When assessing rangeland pastures for monitoring purposes, all grazed species must be used as indicators of the impacts of grazing. The most attractive and sensitive of species will be the first to show effects of grazing and conversely, many unattractive, rare or short-lived species will not provide information about grazing pressure. An experienced manager can make observations on the degree of impact on susceptible species and adjust stocking accordingly. This is a skill learnt over many years. There are many species that are either less well known or have divergent responses to grazing. Increasing knowledge of the response of these species will assist in maintaining long term pasture health. A combination of the following factors determine the relative indicator value of a particular species:

- Palatability
- Nutritional value
- Ecosystem stability
- Persistence
- Dominance

GRAZING INDICATOR VALUE CATEGORIES



Categories and Definitions Continued

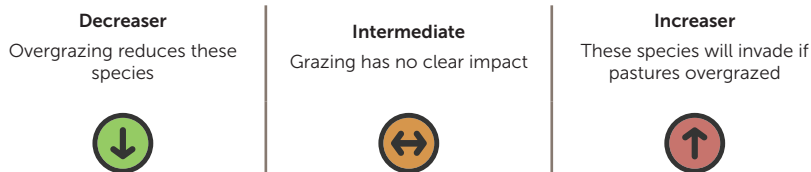
GRAZING RESPONSE

Plant-animal interactions are formidably complex and there are numerous complementary and contradictory factors well beyond the scope of this book. Among these, current and recent seasonal quality, along with grazing pressure are the primary controlling factors that determine the health and longevity of grasses in the Southern Rangelands.

Some grasses have highly-developed adaptations to these climate and grazing stressors by allocating more resources to a larger root mass, which ensures survival in extended dry conditions. Similarly, a grass species with larger proportion of root mass will allow a grass to withstand and recover from higher grazing pressure. Nearly all grass species, irrespective of palatability will decline in density and diversity if subject to continuous grazing under variable rainfall conditions. Knowing the response of common species will assist managers to use indicators species to make stocking decisions. Increaser species will use the niche provided by declining species to occupy and spread. Intermediate species are generally low in palatability and don't change much in response to normal grazing pressures. The following attributes, in various ways contribute to the grazing response:

- Sensitivity
- Resilience
- Chemical factors such as allelopathy or toxicity
- Root mass
- Longevity
- Soil type
- Seed production
- Distance from water
- Spelling opportunities/practices

GRAZING RESPONSE CATEGORIES



Selection of Included Species

As of January 2015, there were approximately 19,000 records in the WA Herbarium of grass specimens that had been collected in the Southern Rangelands since records began with the first collecting trips of Nicolas Baudin in 1800 aboard the *Géographe*. The record of all collections in the Southern Rangelands include about 580 grass species, of which about 190 are naturalised or introduced and the remaining 390 are regarded as local or native species. About 90 of these species are regarded as conservation priority species that are rare, under threat or poorly known.

While a comprehensive record of all known species in one publication is ideal, a compromise had to be reached regarding what species are included in this field guide. An arbitrary minimum figure of no less than 10 collections within the region was considered the cut off for inclusion. The final list of 103 species is a reflection of the common species that could be located in the field or that quality photographs could be found within the timeframe allowed. A small number of conservation priority species have been included to raise awareness of lesser known or threatened species.

Conservation Codes

T: THREATENED SPECIES

Listed as Specially Protected under the *Wildlife Conservation Act 1950*, published under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora). Flora that are extant and considered likely to become extinct, or rare and therefore in need of special protection, are declared to be rare flora.

Species that maybe threatened or near threatened but are data deficient, have not yet been adequately surveyed to be listed under the Schedules of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.

PRIORITY SPECIES

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened list for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Conservation dependent species that are subject to a specific conservation program are placed in Priority 5.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1: PRIORITY ONE: POORLY-KNOWN SPECIES

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2: PRIORITY TWO: POORLY-KNOWN SPECIES

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3: PRIORITY THREE: POORLY-KNOWN SPECIES

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4: PRIORITY FOUR: RARE, NEAR THREATENED AND OTHER SPECIES IN NEED OF MONITORING

- (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
- (b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
- (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

P5: PRIORITY FIVE: CONSERVATION DEPENDENT SPECIES

Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Species by Inflorescence Type

Digitate



Bothriochloa ewartiana
Brachyachne prostrata
Chloris pectinata
Chloris truncata
Chloris virgata
Cynodon dactylon
Dactyloctenium radulans
Dichanthium sericeum
Digitaria brownii
Enteropogon ramosus
Eriochloa procera
Eriochloa pseudoacrotricha
Eulalia aurea
Leptochloa digitata

Panicle



Aristida contorta
Aristida holathera
Aristida latifolia
Aristida obscura
Austrostipa elegantissima
Austrostipa nitida
Austrostipa platychaeta
Austrostipa scabra
Chrysopogon fallax
Cymbopogon ambiguus
Cymbopogon obtectus
Eragrostis australasica
Eragrostis cumingii
Eragrostis dielsii
Eragrostis eriopoda
Eragrostis falcata
Eragrostis kennedyae
Eragrostis lacunaria
Eragrostis laniflora
Eragrostis lanipes
Eragrostis leptocarpa
Eragrostis parviflora
Eragrostis pergracilis
Eragrostis setifolia
Eragrostis tenellula
Eragrostis xerophila
Eriachne aristidea
Eriachne benthamii
Eriachne flaccida
Eriachne gardneri
Eriachne helmsii
Eriachne mucronata
Eriachne obtusa
Eriachne pulchella
Iseilema membranaceum
Iseilema vaginiflorum
Lachnagrostis filiformis
Leptochloa fusca
Monachather paradoxus
Panicum decompositum
Panicum effusum
Paractaenium novae-hollandiae
Sporobolus actinocladius
Sporobolus australasicus
Sporobolus caroli
Themeda avenacea
Themeda triandra
Triodia basedowii
Triodia epactia
Triodia irritans
Triodia lanigera
Triodia melvillei
Triodia pungens
Triodia scariosa
Triodia wiseana
Yakirra australiensis

Spike



Amphipogon caricinus
Astrebala elymoides
Astrebala pectinata
Cenchrus ciliaris
Cenchrus echinatus
Cenchrus setaceus
Cenchrus setiger
Echinochloa colona
Enneapogon avenaceus
Enneapogon caeruleus
Enneapogon cylindricus
Enneapogon polyphyllus
Neurachne annularis
Neurachne lanigera
Neurachne minor
Neurachne munroi
Paraneurachne muelleri
Paspalidium clementii
Paspalidium constrictum
Paspalidium distans
Polypogon monspeliensis
Psammagrostis wiseana
Rytidosperma caespitosum
Rytidosperma setaceum
Setaria dielsii
Setaria verticillata
Sporobolus mitchellii
Sporobolus virginicus
Thyridolepis mitchelliana
Thyridolepis multiculmis
Tragus australianus
Tripogon loliiformis
Triraphis mollis



Amphipogon caricinus F. Muell.

LONG GREY BEARD GRASS (Native perennial grass)

C3



HABITAT

Sandplains and hills

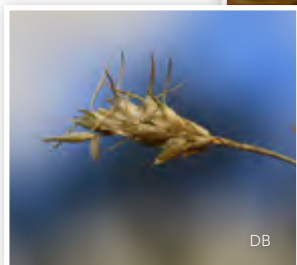
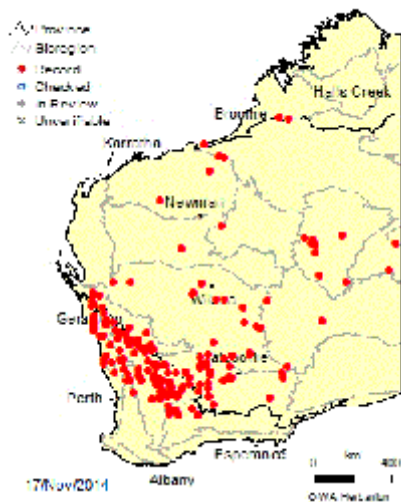
DISTRIBUTION

Widespread

DESCRIPTION

Robust tussock grass, often rhizomatous, growing up to about 60 cm tall. Mature specimens form dense spinifex-like rings and turn distinctive dark grey. Seed heads are carried on a dense spike-like panicle to 2–5 cm long and 1.5 cm wide. Leaves are rolled, hairy and sharply pointed, to 30 cm long and <2 mm wide. Long grey beard grass is of low palatability.

Amphipogon caricinus F. Muell.



Aristida contorta F. Muell.

WIND GRASS/KEROSENE GRASS (Native annual grass)

C3 & C4



HABITAT

Most soil types. Abundant on open hardpan plains

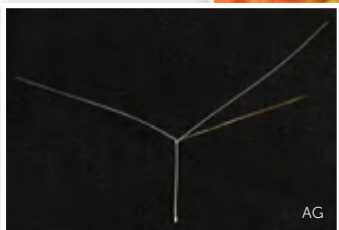
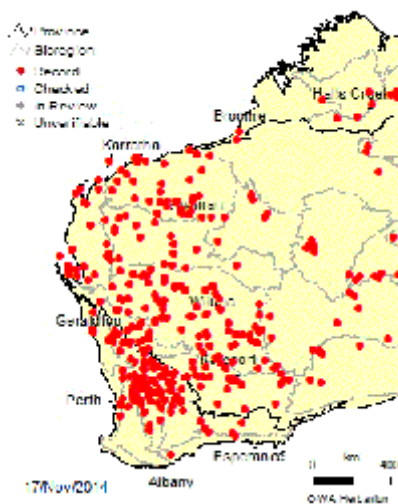
DISTRIBUTION

Widespread

DESCRIPTION

Ubiquitous summer growing annual grass growing up to 30 cm with a prominent reddish tinge when mature. Leaves are rolled and seeds are attached with a distinct spiral column to three spreading awns to about 8 cm long. Widespread on virtually all soil types, it is an increaser species and is an indicator of poor condition and/or a good summer season. Using it as an indicator is a difficult process and can be contentious. It is moderately palatable until it matures, though not particularly nutritious. Seeds are a problem for young sheep because they burrow into wool and skin en masse, forming hobbles on their legs, from which many die.

Aristida contorta



Aristida holathera Domin

ERECT KEROSENE GRASS/TALL WINDGRASS
(Native annual or short-lived perennial grass)

C4



PREVIOUS NAMES

Aristida browniana

HABITAT

Sandplains, creeklines, dunes, disturbed areas

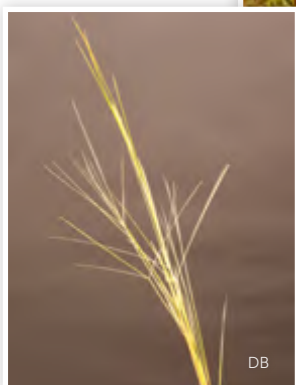
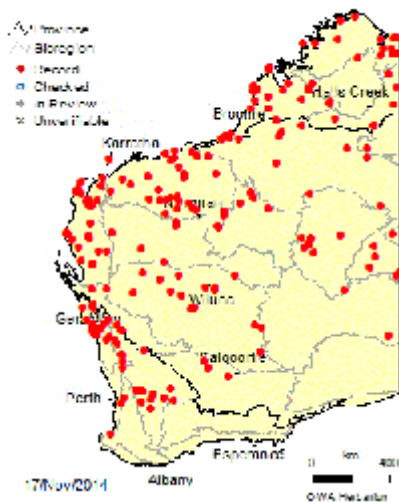
DISTRIBUTION

Widespread

DESCRIPTION

Erect, sparse, short-lived tussock grass that can grow up to 30–60 cm tall. The leaves are long and flat but tend to curl or twist with age. The seed heads are long and narrow, to 60 cm long, bearing seeds with three slender unequal brown awns attached by a spirally twisted column to the seed spike which has a sharp point. The awns are 2–6 cm long. It is not palatable and is regarded as an indicator of poor condition wanderie pastures. It is a coloniser of disturbed areas.

Aristida holathera



Aristida latifolia Domin

TALL SPEARGRASS/FEATHERTOP (Native perennial grass)

C4



HABITAT

Alluvial plains, cracking clay plains

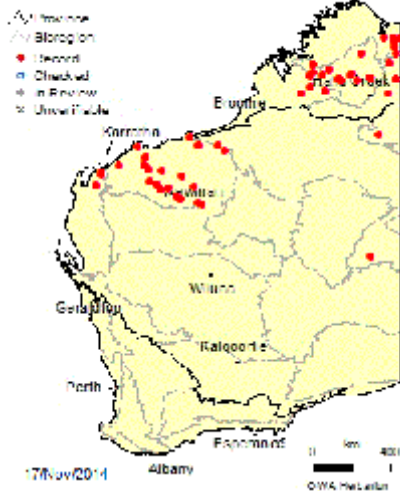
DISTRIBUTION

Rare

DESCRIPTION

Erect tussock grass that can grow up to 1 m tall, forming slender leafy tussocks with distinct open seed heads of slender weeping panicles. The stems are mostly unbranched and almost wholly covered by tight sheaths. The leaves are long and flat, but tend to become rolled and curl up with age and can form a tangled mass at the base of the plant. The seeds occur in long narrow seed heads to 45 cm long. Each seed has three unequal awns 15–30 mm long attached by a twisted shaft to a spike which has a sharp point. Palatability is low and is an increaser species in degraded tussock grasslands with cracking clay soils.

Aristida latifolia



Aristida obscura Henrard

BRUSH THREEAWN (Native perennial grass)

C4



HABITAT

Thickets on hardpan plains

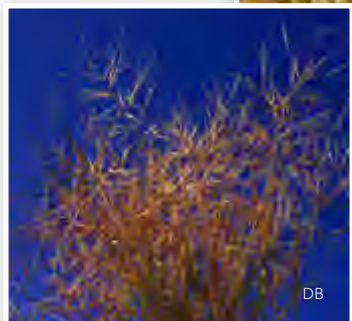
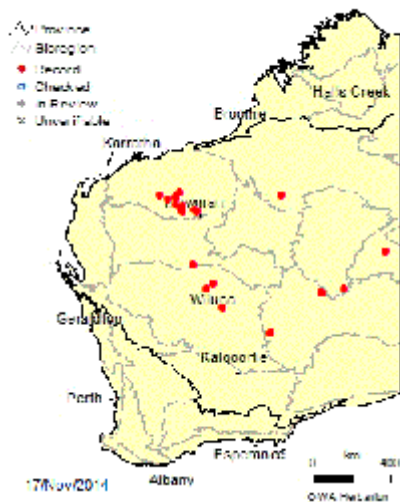
DISTRIBUTION

Uncommon

DESCRIPTION

Spreading tussock grass growing up to 40 cm tall with seed heads on loose "pom-pom" like panicles when fully mature. Typical basal diameter is 5–8 cm. Leaves are smooth and flat to about 25 cm long. Of only moderate palatability, it will withstand moderate levels of grazing. It can be used as an indicator of good condition mulga country.

Aristida obscura



Astrebla elymoides F. Muell. ex F. M. Bailey

WEeping MITCHELL GRASS/HOOP MITCHELL GRASS
(Native perennial grass)

C4



HABITAT

Deeper wetter crab holes in cracking clays

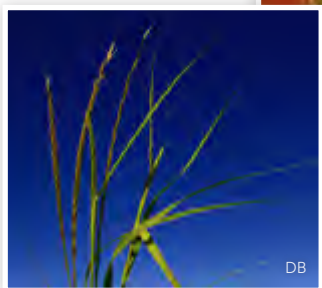
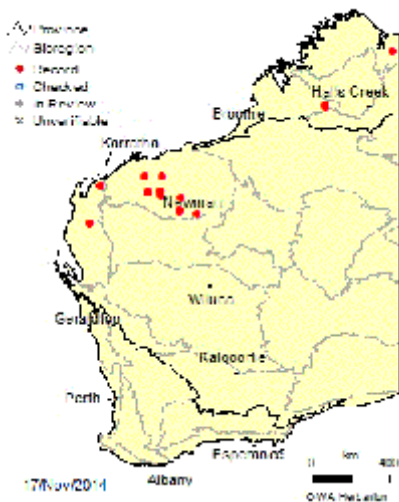
DISTRIBUTION

Rare

DESCRIPTION

Spreading leafy tussock grass that can grow to 45–80 cm tall with a thickened hairless butt. The flowering stems are much longer than the leaves and characteristically droop towards the ground and form hoops. These hoops fall entire and are very characteristic of this species. Hence its common name. The leaves are long and flat but tend to become rolled and narrow with age. Seed heads are long narrow spikes 12–38 cm long. Each seed is tightly held to the seed head. Highly palatable, long-lived and nutritious at all growth stages, hoop Mitchell grass is a valuable pasture species and is a prized indicator of good condition pastures wherever it occurs.

Astrebla elymoides



DB



DB

Astrebla pectinata

(Lindl.) F. Muell. ex Benth.

BARLEY MITCHELL GRASS (Native perennial grass)

C4



HABITAT

Cracking clays

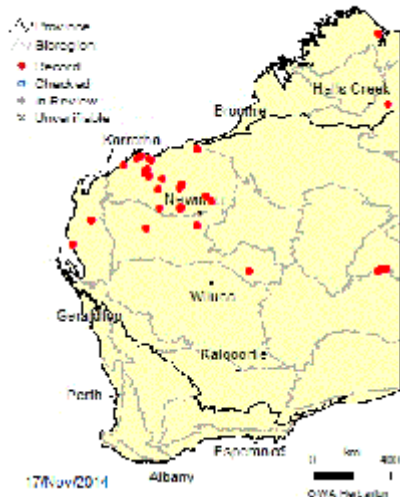
DISTRIBUTION

Locally significant

DESCRIPTION

Strong tussock grass that can grow up to 100 cm tall, forming dense leafy tussocks with a knotty butt covered in shiny scales. The leaves are long, narrow and flat, but tend to become curly and twisted with age. The seeds occur in single dense spikes, 7–8 cm long with paired rows of seeds. The seed heads resemble those of the true barley plant. Barley Mitchell grass, like weeping Mitchell is one of the most palatable and nutritious grasses in the Southern Rangelands. It is long-lived and highly valued wherever it grows. A dense population indicates a tussock grassland in good condition.

Astrebla pectinata



DB



DB

Austrostipa elegantissima

(Labill.) S. W. L. Jacobs & J. Everett

FEATHERTOP SPEARGRASS (Native perennial grass)

C3



1

2

3

4

5

6

7

8



PREVIOUS NAMES

Stipa elegantissima

HABITAT

Widespread — loamy plains, creeklines, breakaways, granites

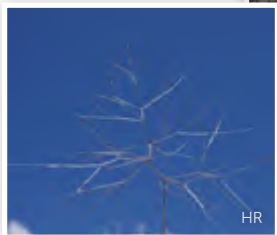
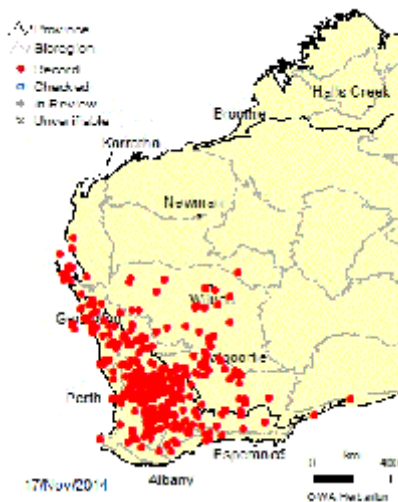
DISTRIBUTION

Widespread

DESCRIPTION

Highly distinctive rhizomatous tussock grass growing up to 1.5 m tall in favourable situations. Leaves 15–25 cm long flat or rolled inwards, on prominent angular ligules. Old stems have a highly clustered appearance, growing from clusters of “knuckle” like nodes. Seed heads are pink spreading hairy panicles 20–50 cm long, giving a soft feathery pink halo to a shrubland when mature. Panicles readily detach in late spring and are rolled by wind. Highly palatable to all stock and much reduced in its range and density due to continuous grazing by sheep in the southern mulga and gumbelt woodlands. Most commonly seen taking refuge in shelter species such as curara or other dense shrubs. A tussock of feathertop speargrass in every shrub indicates a shrubland in good condition.

Austrostipa elegantissima



HR

HR

Austrostipa nitida

(Summerh. & C. E. Hubb.) S. W. L. Jacobs & J. Everett

SPEARGRASS (Native annual to short-lived perennial grass)

C3



PREVIOUS NAMES

Stipa nitida

HABITAT

Loamy plains

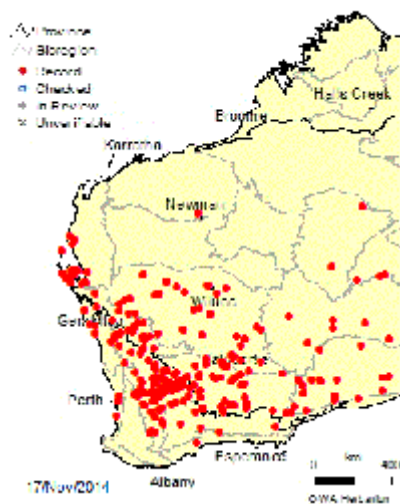
DISTRIBUTION

Widespread

DESCRIPTION

Erect, semi-perennial tussock grass growing up to 75 cm tall. Stems 1–3 mm diameter, two to three noded. Central stem nodes glabrous. Leaves mostly basal. Ligules membranous, 0.3–1 mm long. Leaf blades flat or rolled inwards, 20–40 cm long, 1–2 mm wide. Leaf blade surface rough. Seed heads are linear panicles, 25–55 cm long, 0.5–7 cm wide. Spikelets pedicelled. Fertile spikelets comprising one fertile floret(s), without rachilla extension, linear, terete, 8–13 mm long. It is mainly an annual and not a reliable indicator species.

Austrostipa nitida



Austrostipa platychaeta

(Hughes) S. W. L. Jacobs & J. Everett
CANE SPEARGRASS (Native perennial grass)

C3



PREVIOUS NAMES

Stipa platychaeta

HABITAT

Loam, brown clayey or red sand

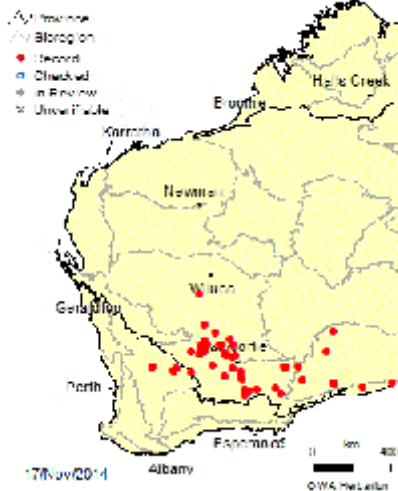
DISTRIBUTION

Common

DESCRIPTION

Robust, erect rhizomatous tussock grass growing up to 2 m tall, wiry or woody. Central stem internodes glabrous. Lateral branches simple or sparsely branched. Leaf sheaths smooth, glabrous on surface. Ligule membranous without a hairy fringe, 1–6 mm long. Leaf blades flat or inwards rolled, 7–15 cm long, 1–8 mm wide and glabrous. Seed heads are lanceolate panicles, 10–40 cm long. Spikelets pedicelled. Fertile spikelets 1-flowered, comprising one fertile floret(s), without rachilla extension, lanceolate, terete, 12–15 mm long. Very similar to *A. elegantissima*, except that the panicle branches of *A. platychaeta* lack hairs. Healthy populations indicate good condition.

Austrostipa platychaeta



Austrostipa scabra

(Lindl.) S. W. L. Jacobs & J. Everett

ROUGH SPEARGRASS (Native annual to short-lived perennial grass)

C3



PREVIOUS NAMES

Stipa scabra

HABITAT

Sand dunes, granites and breakaways

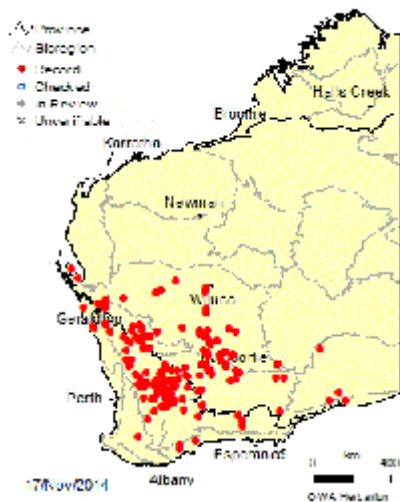
DISTRIBUTION

Widespread

DESCRIPTION

Semi-perennial tussock grass growing up to 30–60 cm tall. Mid stem internodes and nodes glabrous. Leaf sheaths smooth or scaberulous. Ligule a 0.3–5 mm long bilobed membrane without fringing hairs. Leaf blades folding or inwards rolling or rolled longitudinally, 0.7–2 mm wide. Leaf blade surface scabrous, glabrous or indumented. Seed heads are linear panicles, 15–30 cm long. Spikelets pedicelled. Fertile spikelets 1-flowered, comprising one fertile floret(s), without rachilla extension, lanceolate, terete, 8–10 mm long. Like *A. nitida*, it is mainly an annual and is not a reliable indicator of condition.

Austrostipa scabra



HR



HR

Bothriochloa ewartiana

(Domin) C. E. Hubb.

DESERT BLUEGRASS (Native perennial grass)

C4



PREVIOUS NAMES

Andropogon ewartianus

HABITAT

Clay plains, cracking clays

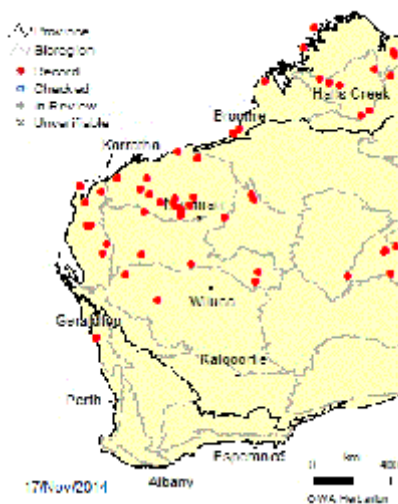
DISTRIBUTION

Locally significant

DESCRIPTION

Robust, dense tussock grass growing up to 1 m tall with a seed head of multiple tassels or digits, usually held half open in the topmost leaf sheath. Leaves are bluish tinged, flat and grow up to 20 cm long and 5mm wide. Seed heads are comprised of four to 10 digits to 7 cm long with a pink to purple hue. Bluegrass is palatable and an important indicator of good pasture condition. It is a decreaser species under heavy grazing.

Bothriochloa ewartiana



Brachyachne prostrata

C. A. Gardner & C. E. Hubb.

NATIVE COUCH (Native annual grass)

C4



HABITAT

Stony hardpan plains, breakaways, spinifex plains

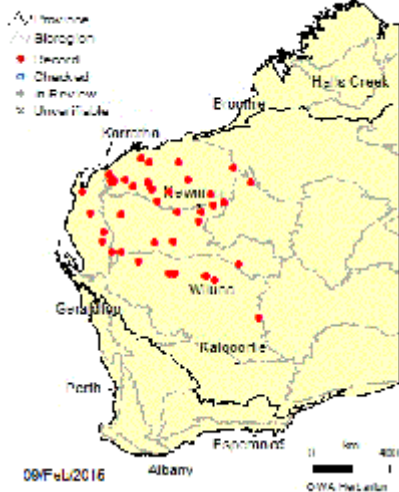
DISTRIBUTION

Common

DESCRIPTION

This distinctive species is readily recognized by its prostrate habit, pseudo-stolons and short digitate seed heads. Annual; mat forming with layered branches to 15 cm tall. Semi rigid leaves with pronounced veins are up to 11 mm long and 2 mm wide with a spiked tip. Seed heads consist of groups of three to six digits that are up to 2 cm long. It is palatable, but as it is an annual species it cannot be used as an indicator of pasture condition.

Brachyachne prostrata



Cenchrus ciliaris L.

BUFFEL GRASS (Introduced perennial grass)

C3 & C4



PREVIOUS NAMES

Pennisetum ciliare

HABITAT

Plains, dunes, creeks, neutral to slightly alkaline sands. Not yet adapted to cracking clay soils

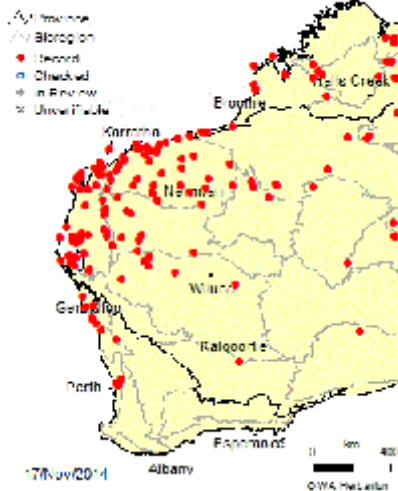
DISTRIBUTION

Widespread

DESCRIPTION

Robust and erect tussock grass with large basal buds growing up to 1 m tall. Leaves grow to 25 cm long and are generally flat and about 5–10 mm wide. Reddish-purple fluffy/hairy seeds are on a single spike 8–12 cm long. An introduced species with a widespread distribution, resulting from cultivation and aerial distribution. It is highly palatable and nutritious and preferred by all stock at most stages, except with dense old growth. It is valued by pastoralists for its rapid response to rain throughout the year and ability to stabilise and restore productivity to degraded landscapes. It favours neutral to slightly alkaline sands and loams and cannot tolerate frost or clay soils. Three distinct varieties are found in the Southern Rangelands; Gayndah, American and the most common — WA buffel. It produces chemicals in its roots that can deter the establishment of other species, forming monocultures which increases fire severity and kills mulga and its associated shrubs.

Cenchrus ciliaris



Cenchrus echinatus L.

WALKAWAY BURR/MOSMAN GRASS (Introduced annual grass)

C3 & C4



PREVIOUS NAMES

Pennisetum echinatus

HABITAT

Alluvial plains, disturbed areas

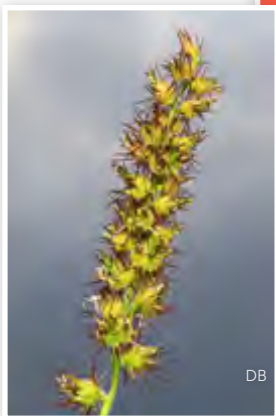
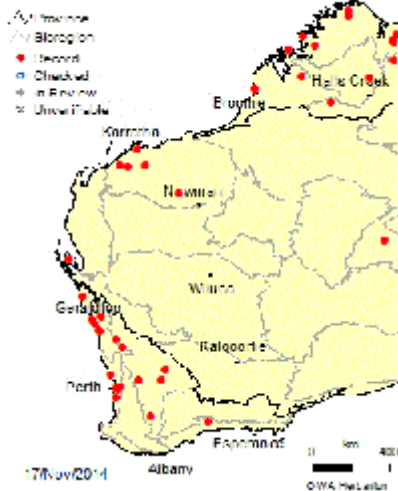
DISTRIBUTION

Rare

DESCRIPTION

Spreading annual grass growing up to 40 cm tall with flattish reddened leaves when maturing. Seed head consists of a single spike, up to 10 cm long, of extremely spiny and persistent burrs, within each there is a seed. It colonises disturbed areas such as roadsides, homesteads and cattle yards, especially those that receive run off. It is only mildly palatable, losing its nutritive value rapidly on drying. Stock generally avoid the species because of its tough burrs. It is a nuisance plant and if possible, should be controlled when it first appears. It is a declared species in the Northern Territory.

Cenchrus echinatus



DB



DB

Cenchrus setaceus (Forssk.) Morrone

FOUNTAIN GRASS (Introduced perennial grass)

C4



PREVIOUS NAMES

Pennisetum setaceus

HABITAT

Disturbed areas, especially loamy plains, sandplains, creeklines, domestic areas

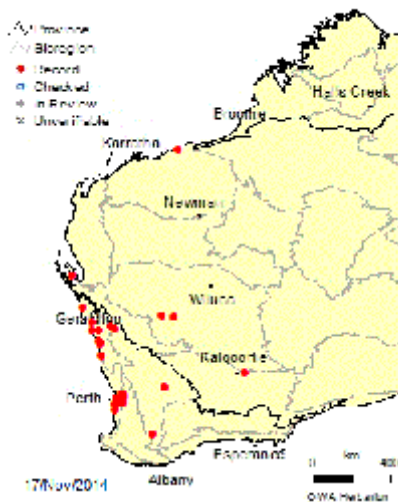
DISTRIBUTION

Locally significant

DESCRIPTION

Robust, occasionally rhizomatous, tussock grass growing up to 1.2 m tall with distinctive grey/dark brown/purple fluffy seeds heads on drooping spikelets up to 15 cm long. Tussock basal diameter is up to 30 cm. Leaves rolled or folded to about 60 cm long and droop down. Introduced as an ornamental, it is unpalatable and extremely drought tolerant. It has established around a number of Murchison townships, homesteads and a few windmills, but is not known to have spread beyond these isolated populations. It is a significant problem on the northern sandplains of Western Australia where, once established, it is difficult to control if not grazed.

Cenchrus setaceus



DB



DB

Cenchrus setiger Vahl

BIRDWOOD GRASS (Introduced perennial grass)

C3 & C4



PREVIOUS NAMES

Pennisetum setiger

HABITAT

Creeklines, alluvial plains

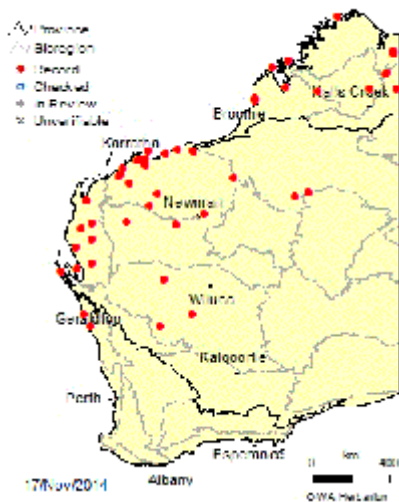
DISTRIBUTION

Locally significant

DESCRIPTION

Strong tussock grass with a very similar habit to buffel, but with distinctive dark red/brown seed heads with hard bristly seeds. The leaves also take a much darker reddish tinge on maturity. Without seed, these species are difficult to distinguish. It is regarded as generally less palatable where it grows on sandy soils alongside buffel. In slightly heavier soils and loams it appears to be the preferred species, particularly in the Gascoyne. Like buffel, it forms monocultures and increases fire incidence in ungrazed mulga country.

Cenchrus setiger



Chloris pectinata Benth.

COMB CHLORIS (Native annual grass)

C4



HABITAT

Alluvial plains, creeks, cracking clays

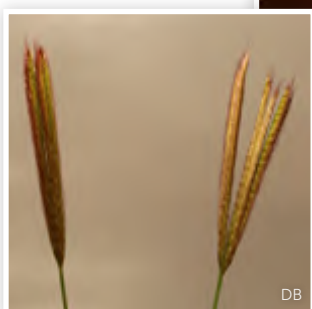
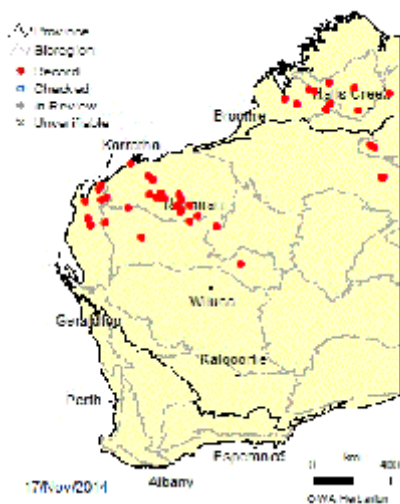
DISTRIBUTION

Locally significant

DESCRIPTION

Tufted annual grass growing up to 50 cm tall with a whorl of distinctive purplish, digitate seed heads on the top of each stem. Leaves are flat to loosely folded with a smooth surface and rough margins; up to 12 cm long and 3 mm wide. Seed heads are a radially arranged groups of four to eight digits to 8 cm long and 3 mm wide. Palatability is high but has little indicator value as the species is an annual, not common nor very robust. All three *Chloris* species listed here favour wet areas and disappear in dry times.

Chloris pectinata



Chloris truncata R. Br.

WINDMILL GRASS (Native perennial grass)

C4



HABITAT

Alluvial plains, creeks, cracking clays

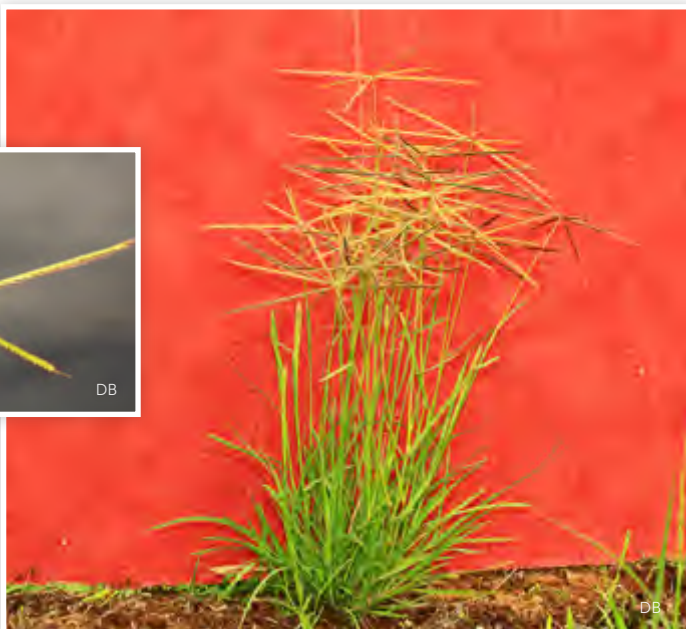
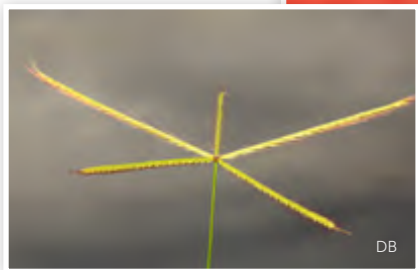
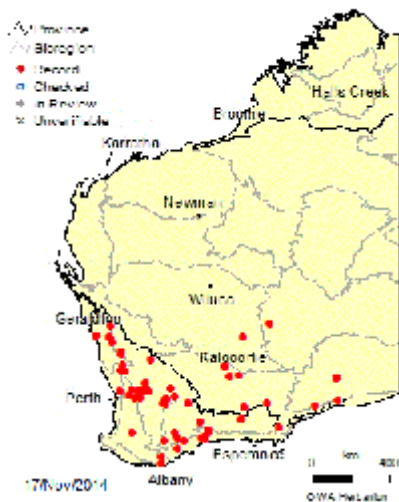
DISTRIBUTION

Locally significant

DESCRIPTION

Stoloniferous semi-perennial spreading grass growing up to 70 cm tall with distinctive digitate seed heads. Leaves are flat to folded, are up to 20 cm long and 4 mm wide and have a scabrid (rough) surface. Seed heads are robust, four to eight radially arranged digits attached to a single stem, each digit being up to 24 cm long and 4 mm wide. The seeds have prominent straight awns up to 16 mm long. Windmill grass is highly palatable and is regarded as a useful indicator of good condition pastures as it decreases with persistent grazing.

Chloris truncata



Chloris virgata Sw.

FEATHERTOP RHODES GRASS (Introduced annual grass)

C4



HABITAT

Alluvial plains, creeks, cracking clays

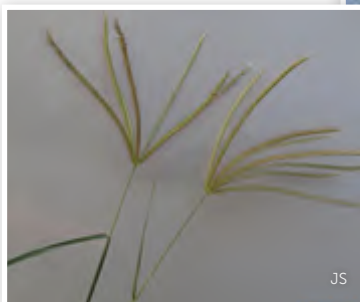
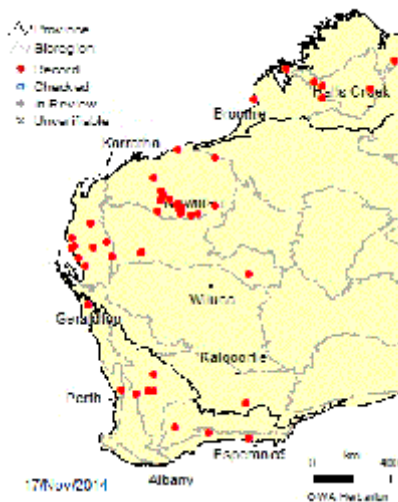
DISTRIBUTION

Common

DESCRIPTION

Tufted upright annual growing up to 60 cm tall, often with a bluish tinge. Leaves are flat, up to 20 cm long and 6 mm wide with a rough surface. Seed heads are radially arranged digits on a single stem, containing seven to 15 mostly erect digits up to 8 cm long and 7 mm wide. The seeds have straight, slightly barbed awns up to 15 mm long. It is highly palatable to all stock when green, but disappears quickly on drying. Although a component of good condition river pastures, it is an annual and has little indicator value. It is usually found in disturbed areas.

Chloris virgata



JS



JS

Chrysopogon fallax S. T. Blake

RIBBON GRASS/GOLDEN BEARD GRASS (Native perennial grass)

C4



HABITAT

Alluvial plains, creeks, cracking clays

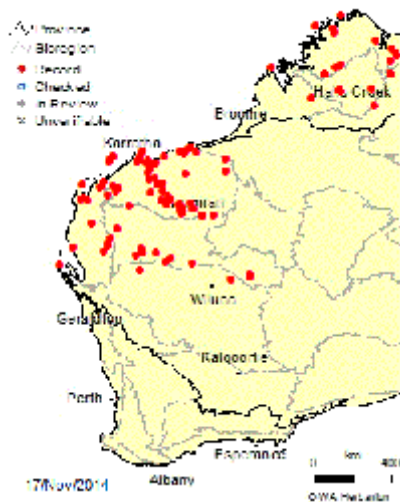
DISTRIBUTION

Common

DESCRIPTION

Robust tussock grass with long ribbon-like leaves growing up to 2 m tall. Leaves are up to 30 cm long and 5 mm wide and emanate from underground growing points, as do the stems. The leaves curl with age, and if ungrazed lie on the ground en masse giving a ribbon like character. Tussock bases are dense and fibrous, and when the leaves have been grazed off, the collective stumps give the appearance of cut rope. The seed heads are purplish to golden brown as they emerge and are up to 20 cm long. Individual seed spikelets are clustered in bunches of three and individual seeds are up to 1 cm long. Each seed has a tuft of golden brown hairs at its base which ends in a sharp point and is accompanied by a bent, reddish-brown awn that can extend up to 3 cm from the seed. Ribbon grass is palatable when green, tolerates droughts and can survive periodic heavy grazing, and, in abundance, is an indicator of good condition pastures. It has declined in abundance through the Gascoyne and Murchison.

Chrysopogon fallax



Cymbopogon ambiguus (Hack.) A. Camus

LEMON SCENTED GRASS/SCENT GRASS (Native perennial grass)

C4



HABITAT

Rocky red loam, sand, ironstone, granite, limestone, sandstone, creeks, road verges

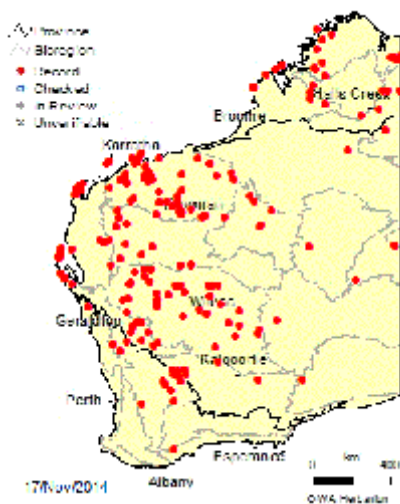
DISTRIBUTION

Widespread

DESCRIPTION

Robust tussock grass growing up to 1 m with a distinctive lemon scent. Leaves up to 50 cm long, are flat or folded and tend to curl with maturity. Seed heads consist of oblong panicles with open spikelets arranged along the length of the panicle. On maturity, the seeds have a white tufted hairy appearance. Can sometimes be confused with kangaroo grass (*Themeda triandra*) as the weeping form and tufty seed heads appear similar. The characteristic scent and hairier seeds of the *Cymbopogon* species are key differences. It is found on a greater variety of landscapes than *C. obtectus*, which is largely restricted to granite-derived soils. Lemon scented grass is unpalatable to stock, and is an excellent stabiliser species, but has little indicator value.

Cymbopogon ambiguus



Cymbopogon obtectus S. T. Blake

SILKY HEADS (Native perennial grass)

C4



HABITAT

Coarse textured granite soils on creeks and rocky outcrops

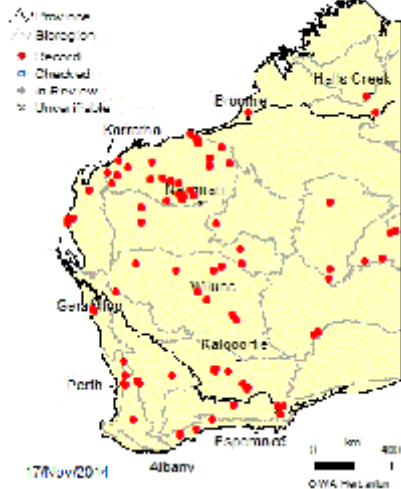
DISTRIBUTION

Common

DESCRIPTION

Very similar to lemon scented grass (*C. ambiguus*) and distinguished by longer hairs on the seeds and the glumes. Found mostly on soil derived from granite such as below granite outcrops, creeklines and gritty sandy plains. It is unpalatable to stock, although euros will often use the species as a marker in granite country and will defoliate whole plants without eating any part of it. It has little indicator value.

Cymbopogon obtectus



Cynodon dactylon (L.) Pers.

BERMUDA OR COUCH GRASS (Native in Kimberley; introduced in Southern Rangelands perennial grass.)

C4



PREVIOUS NAMES

Panicum dactylon

HABITAT

Permanently damp and disturbed domestic areas

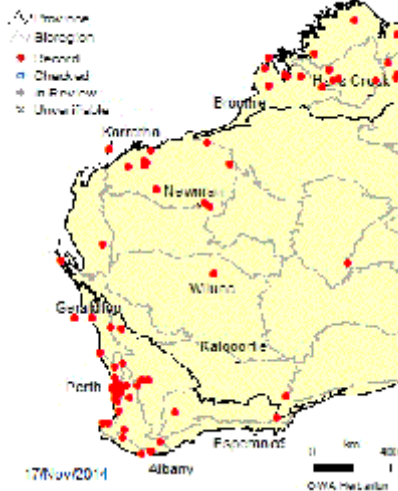
DISTRIBUTION

Uncommon

DESCRIPTION

Perennial stoloniferous, matt forming grass growing up to 30 cm tall. Leaves up to 10 cm long and are arranged at right angles to the stem. Seed head consists of four to six digitate, two-rowed arms, each up to 6 cm long, emanating from a central point. This windmill head arrangement is supported by erect stems up to 20 cm long. Is highly palatable to all stock and is resistant to grazing pressure in favourable circumstances. Does not persist away from perennially damp soils. Common couch has established in some unlikely niches in floodplains and along creeks throughout the Murchison and Gascoyne.

Cynodon dactylon



Dactyloctenium radulans

(R. Br.) P. Beauv.

BUTTON GRASS (Native annual grass)

C4



PREVIOUS NAMES

Eleusine radulans

HABITAT

Alluvial plains, hardpan plains

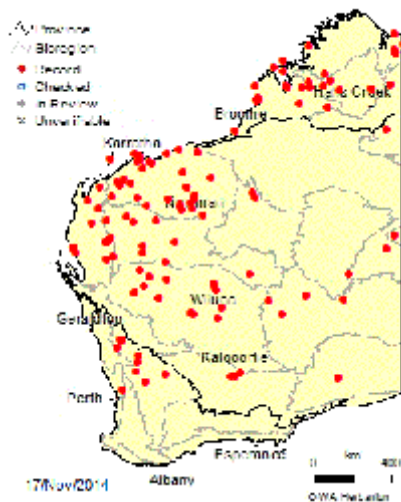
DISTRIBUTION

Common

DESCRIPTION

Annual rotund grass growing up to 30 cm tall with very distinct, round, button-like seed heads. Leaves are flat and up to 8 cm long with an often wavy or crinkled appearance on maturing and also taking on a reddish tinge on certain soils. Seed heads have between four and seven digits, each up to 1.5 cm long, radiating from a single stem — it too takes on a dark reddish hue. Button grass is a widespread summer growing species and is highly palatable to all stock, and responds quickly to heavy summer rains. It favours more productive soils and will replace perennial grasses such as Roebourne Plains grass and neverfail. It can cause nitrate poisoning in susceptible stock, particularly in stockyards where high soil nitrogen concentrations boost nitrate content in the plant. As it is an annual, it has little indicator value.

Dactyloctenium radulans



DB



DB

Dichanthium sericeum (R. Br.) A. Camus

QUEENSLAND BLUEGRASS (Native short-lived perennial grass)



PREVIOUS NAMES

Andropogon sericeus

HABITAT

Alluvial plains, creeks, cracking clays

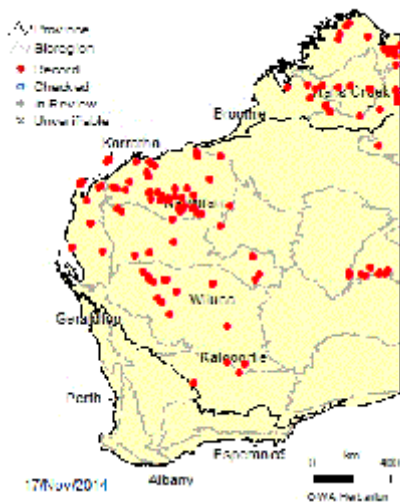
DISTRIBUTION

Common

DESCRIPTION

Short-lived perennial grass growing up to 1 m tall with a distinctive tassel-like seed head. Leaves are flat and slightly hairy, up to 15 cm long and 2–4 mm wide. It has a bluish tinge on maturity. Seed heads are comprised of 2 to 20 digits that form an upright finger-like tassel. Highly palatable to all grazers, it is a decreaser species under constant pressure. Is generally not a long-lived species and will only persist in favoured soils with consecutive seasons. In an enclosure in the northern Goldfields, it was not recorded when the enclosure was established but now is a major component of the vegetation.

Dichanthium sericeum



DB



DB

Digitaria brownii (Roem. & Schult.) Hughes

COTTON PANIC GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Panicum villosum

HABITAT

Mulga woodlands, clay plains and breakaways

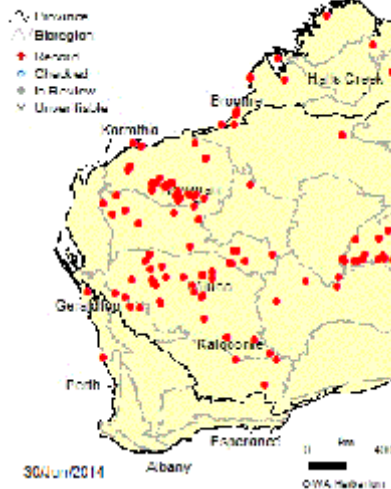
DISTRIBUTION

Widespread

DESCRIPTION

Perennial grass growing up to 50 cm tall with very hairy, cotton-like seed heads. Leaves flat and hairy growing up to 10 cm long. Fluffy pinkish seeds are attached to slender digits up to 15 cm long, the whole seed head appearing white to greyish after maturity, giving a cotton like appearance. Highly palatable, though never particularly robust or abundant in Southern Rangelands pastures. It prefers to shelter within shrubs in areas with sandy soils. It is an indicator of good condition mulga country and light grazing pressure where it is abundant.

Digitaria brownii



DB

DB

Echinochloa colona (L.) Link.

AWNLESS BARNYARD GRASS (Introduced annual grass)

C4



PREVIOUS NAMES

Panicum colonum

HABITAT

Creeklines, swamps, wet areas

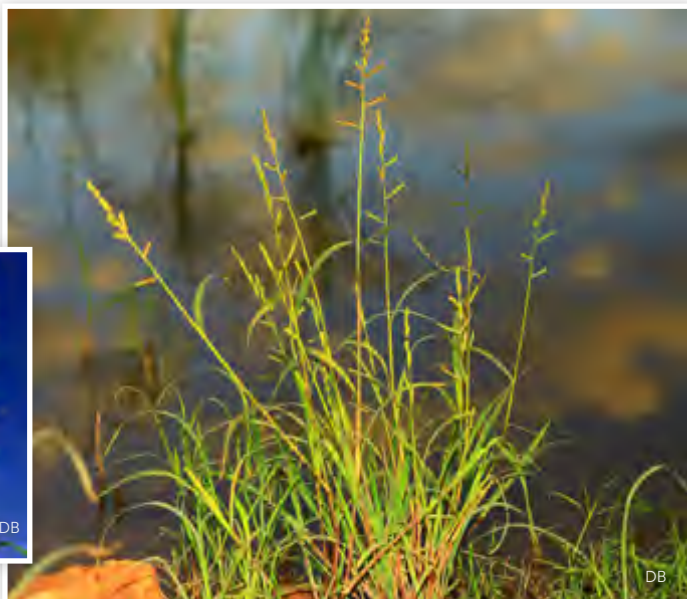
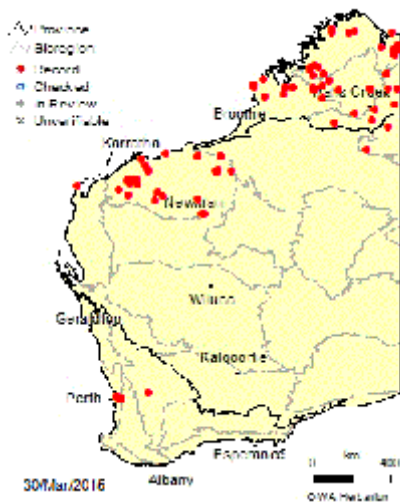
DISTRIBUTION

Locally significant

DESCRIPTION

An introduced species that favours ephemeral pools, on road verges or other disturbed areas. A spreading, sometimes stoloniferous annual to about 60 cm tall. Leaves are flat to about 20 cm long and to 7 mm wide with hairy or scabrous margins, also with a distinct branched habit. Seed heads are clusters of 2 to 10 small digits up to 3 cm long, borne along a stem (rachis) to 15 cm long. Seeds are carried in short spikelets in rows of four along the short raceme. Barnyard grass is palatable to stock, but being very short-lived and enduring only as long as ephemeral water sources, it has little indicator or grazing value. It is more common than the collection record suggests. It is a weed of horticulture and rice.

Echinochloa colona



Enneapogon avenaceus

(Lindl.) C. E. Hubb.

BOTTLE WASHERS (Native annual or short-lived perennial grass)

C4



PREVIOUS NAMES

Pappophorum avenaceus

HABITAT

Limestone plains

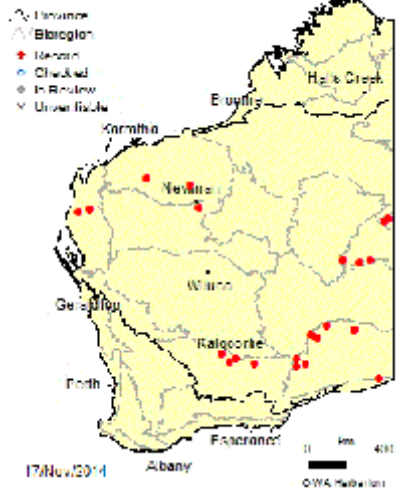
DISTRIBUTION

Locally significant

DESCRIPTION

Annual or short-lived perennial grass growing up to 30 cm tall, though typically less than 20 cm. Leaves up to 10 cm long, are rolled and slightly hairy with a sometimes bluish tinge. The top of each seed has a distinctive ring of long hairs that form a saucer. Seed heads are "bottle washer" shaped when mature and are an oblong spike up to 5 cm long. Although palatable, it is not long-lived and is quite soft and will easily dislodge and disperse by stock and wind, hence has little indicator value.

Enneapogon avenaceus



Enneapogon caerulescens

(Gaudich.) N. T. Burb.

LIMESTONE GRASS (Native annual or short-lived perennial grass)

C4



PREVIOUS NAMES

Pappophorum caerulescens

HABITAT

Limestone plains

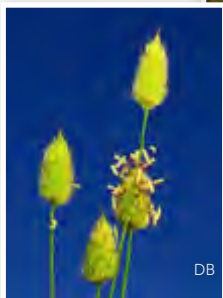
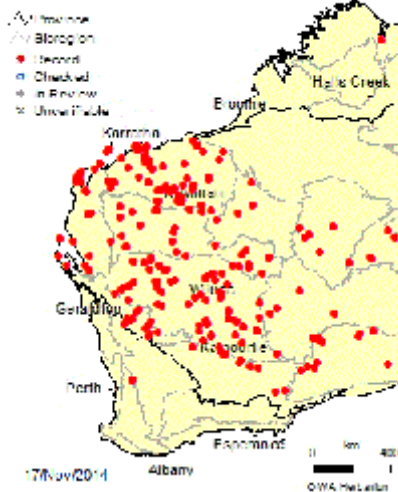
DISTRIBUTION

Widespread

DESCRIPTION

Annual or short-lived perennial grass growing up to 80 cm, through typically about 30–40 cm. Leaves flat up to 15 cm long and often with a distinct blueish tinge. Seed heads are tightly bundled, rotund spikes, up to 2 cm long at the end of long erect stems, turning grey to dark brown to black on maturity, reminiscent of "bottle washers". The top of each seed has a distinctive ring of long hairs that form a saucer shape. Moderately palatable to all stock, though diminishes in appeal quickly on drying. When there is no alternative, kangaroos will often continue to graze this species when it is very dry. Although generally not long-lived, it can persist up to five years or more with favourable seasons. It is a desirable species with a low to moderate indicator value.

Enneapogon caerulescens



Enneapogon cylindricus N. T. Burb.

JOINTED NINEAWN (Native short-lived perennial grass)

C4



HABITAT

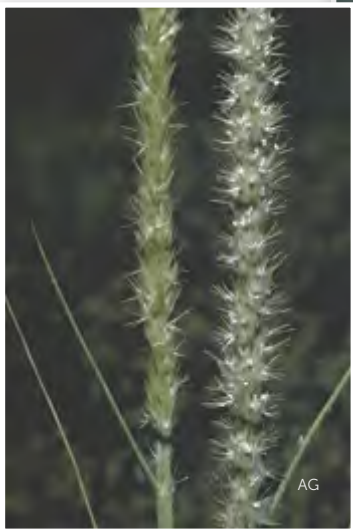
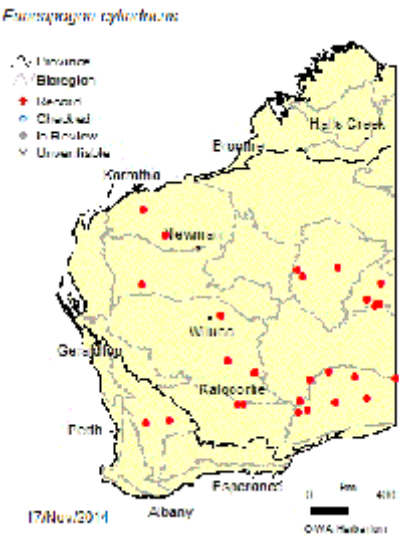
Limestone plains

DISTRIBUTION

Locally significant

DESCRIPTION

Slender short-lived perennial growing up to 30 cm tall with a distinctive reed-like, elongated seed head. Leaves are covered in fine hairs, are flat and grow up to 12 cm long. Seed heads are robust spikes up to 12 cm long and to 1.5 cm diameter. The top of each seed has a distinctive ring of long hairs that form a saucer shape. It is moderately palatable to stock, but decreases rapidly in value after maturity. Like *E. caerulescens* it is a desirable short-lived perennial with a low to moderate indicator value.



Enneapogon polyphyllus

(Domin) N. T. Burb.

LIMESTONE GRASS (Native annual or short-lived perennial grass)

C4



PREVIOUS NAMES

Pappophorum nigricans var. *polyphyllum*

HABITAT

Limestone plains

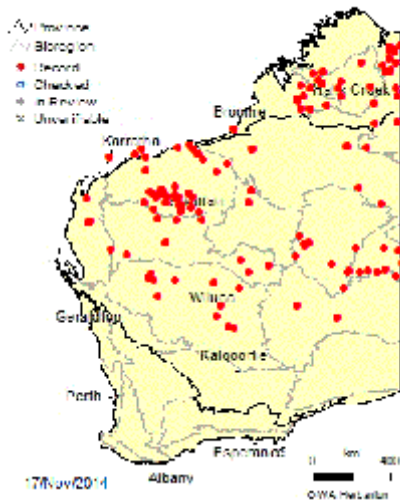
DISTRIBUTION

Common

DESCRIPTION

Loosely tufted annual to short-lived perennial grass growing up to 35 cm tall. The many stems have bearded joints (nodes). Seed heads are purple tinged oblong spikes and are from 5–7 cm long. The top of each seed has a distinctive ring of long hairs that form a saucer shape. Limestone grass is found on a variety of soils, but is more common on lighter soils. Like *E. caeruleus* it is a desirable short-lived perennial with a low to moderate indicator value.

Enneapogon polyphyllus



Enteropogon ramosus B. K. Simon

CURLY WINDMILL GRASS (Native perennial grass)



PREVIOUS NAMES

Enteropogon acicularis, *Chloris acicularis*,
Chloris moorei

HABITAT

Floodplains, creeklines, crab holes

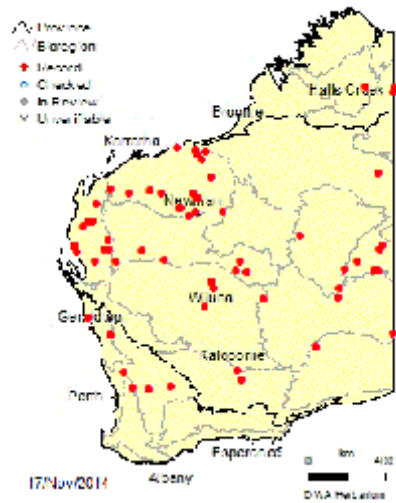
DISTRIBUTION

Common

DESCRIPTION

Tussock grass growing up to 80 cm tall with distinctive windmill like seed heads and curly basal leaves. Leaves grow up to 20 cm long and 5 mm wide and are flat when young and curl on maturity. The leaves also take on a reddish hue on maturity, sometimes tending blue. Purplish seeds are borne on radial, windmill-like (digitate) arms up to 20 cm long. Highly palatable to all stock before maturity, declining when dry. It is a decreaser species and a reliable indicator of good range condition. It is usually found sheltering under shrubs which provide some protection from grazing. Previously recognised as two distinct species, *E. acicularis* and *E. ramosus* are now treated as one species as the differences were small.

Enteropogon ramosus



DB



DB

Eragrostis australasica (Steud.) C. E. Hubb.

SWAMP OR CANE GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Glyceria australasica

HABITAT

Swamps and crab holes

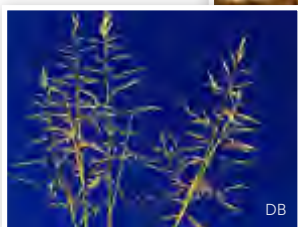
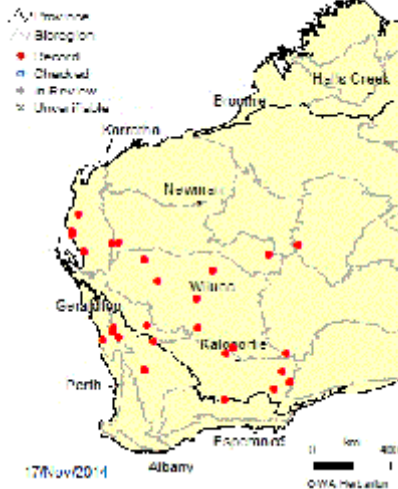
DISTRIBUTION

Common

DESCRIPTION

Erect cane-like stems with a bluish hue and large obvious “knuckles” or nodes, growing up to 3 m tall, but typically 2 m. Often rhizomatous. Leaves are flat and grow up to 20 cm long. Seed heads are open panicles to about 20 cm long. Not particularly palatable, but is an important wetland species for nesting and shelter. Heavy continuous grazing by cattle will reduce densities of cane grass. It is the largest grass species in the WA rangelands, growing mainly in swamps and claypans. It is a desirable species and is a part indicator of the condition of swamps or seasonally wet areas.

Eragrostis australasica



DB



DB

Eragrostis cumingii Steud.

CUMINGS LOVE GRASS (Native annual grass)

C4





HABITAT

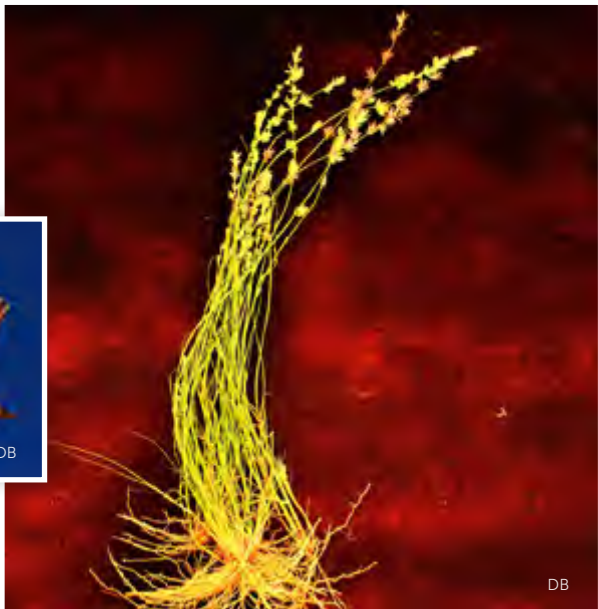
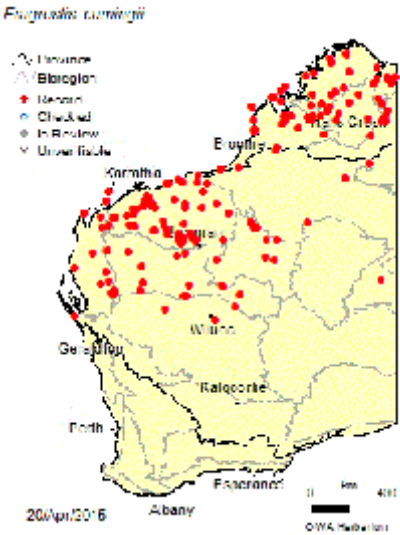
Wanderrie sands, hardpan plains, granites, creeklines

DISTRIBUTION

Common

DESCRIPTION

Annual with erect or sprawling habit, to 100 cm tall depending on circumstances, though mostly 40–50 cm and wiry. Leaves are straight or mildly convolute, 5–10 cm long and 1–3.5 mm wide. Seed heads are elliptic panicles, 4.5–7.3 cm long, 2–4 cm wide, with spikelets clumped along branches. Spikelets pedicelled and grow to 4–15 mm long with an ovoid shape, grains 4 mm long. It is generally found in creeks and floodplains. Grazed when in abundance but as it is an annual, it cannot be used as an indicator of pasture condition.



Eragrostis dielsii Pilg.

MALLEE LOVEGRASS/ MURCHISON RED GRASS
(Native annual or short-lived perennial grass)

C3 & C4



HABITAT

Hardpan plains, alluvial plains, lake margins, breakaway slopes

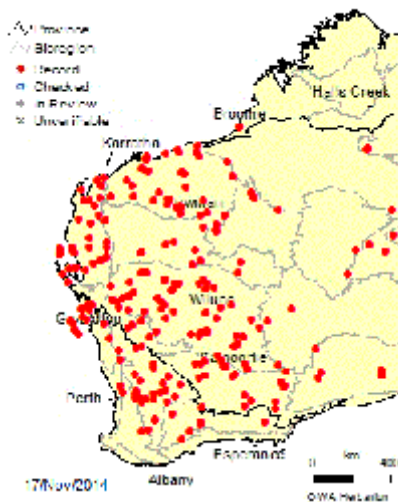
DISTRIBUTION

Widespread

DESCRIPTION

Prostrate annual or short-lived perennial grass, usually flattish, growing up to 15 cm tall that matures to red, giving this grass its common name. Seed heads consist of small panicles of tightly bunched spikelets. Highly palatable species grazed by all animals, particularly kangaroos. Favours more clayey, saline soils, although in good seasons will become a generalist. Although generally an annual, it can be eliminated by heavy continuous grazing. It should not be used as an indicator of range condition.

Eragrostis dielsii



Eragrostis eriopoda Benth.

WOOLLYBUTT (Native perennial grass)

C3 & C4



HABITAT

Wanderrie sands, spinifex sands, mulga woodlands, sugarbrother shrublands

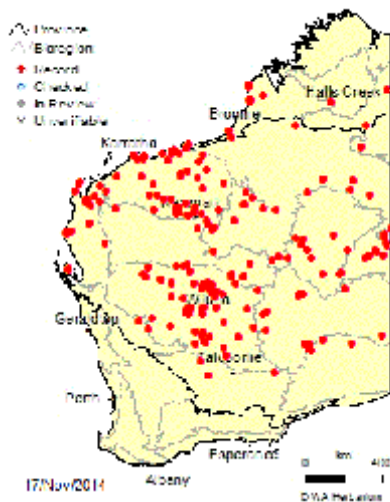
DISTRIBUTION

Widespread

DESCRIPTION

Dense tussock grass that grows up to 40 cm tall, with a bulbous woolly base, (which gives it its common name) very old individuals often form rings. It has branched stems, the joints (nodes) of which, are hairless. Seed heads are panicles that are sometimes tinged purple and are up to 20 cm long. The seeds are held in curvy spikelets 1–2 cm long, resembling the shape of a fish skeleton and contain up to 20 pairs of seeds. Woollybutt grass is found on a variety of soils, but is more common on deep red wanderrie sands. Palatability varies depending on soil type — it is less attractive on acid wanderrie sands, but relatively more so on mulga hardpan soils. It is a decreaser species in all soil types and is slow to recover after drought and overgrazing.

Eragrostis eriopoda



Eragrostis falcata

(Gaudich.) Gaudich. ex Steud.

SICKLE LOVEGRASS (Native perennial grass)

C4



PREVIOUS NAMES

Poa falcata

HABITAT

Saline flats, salt lakes, floodplains, saline sandy rises

DISTRIBUTION

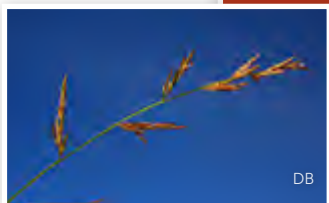
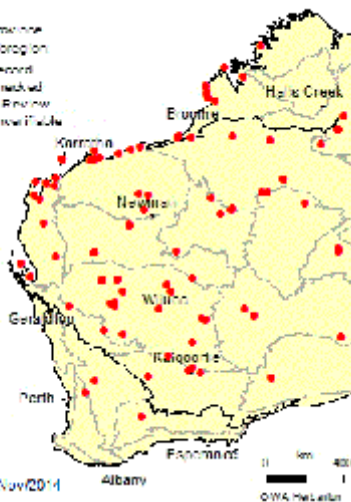
Common

DESCRIPTION

Slender, erect, rhizomatous tussock grass growing up to 60 cm tall with a woolly knotted base. Leaves are rolled or folded and fairly erect and are up to 10 cm long. Purplish tinged seed heads consist of an open spreading panicle which when mature are up to 20 cm long. Moderately palatable and nutritious, it is a decreaser species and indicator of good condition pastures. It is not a particularly robust species and doesn't contribute greatly to available forage.

Eragrostis falcata

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Eragrostis kennedyae F. Turner

SMALLFLOWER LOVEGRASS (Native perennial grass)

C4





HABITAT

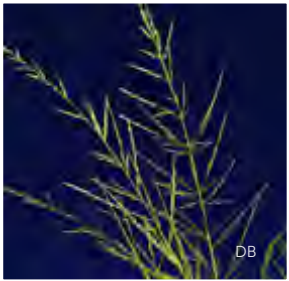
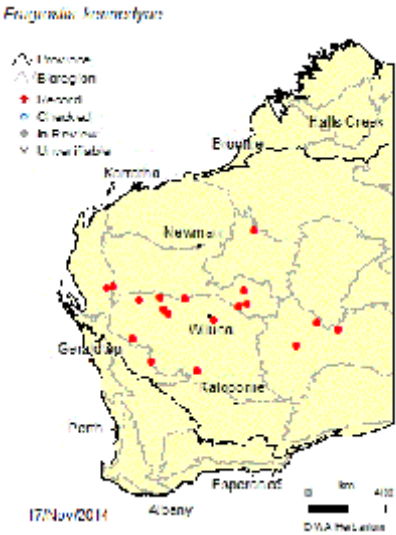
River banks, low-lying areas, floodplains, claypans

DISTRIBUTION

Locally significant

DESCRIPTION

Slender, erect tussock grass growing up to 70 cm (typically less than 50 cm) tall. Leaves are flat to rolled to 9 cm long and 2 mm wide, often with fine hairs. Open panicles of small spikelets are up to 20 cm long. Each spikelet is less than 2 mm long. Is moderately palatable, though not a particularly robust or widespread species. It is a decreaser species and is regarded as a useful indicator of good condition.



Eragrostis lacunaria F. Muell. ex Benth.

PURPLE LOVEGRASS (Native short-lived perennial grass)

C4



HABITAT

Skeletal soils around breakaways, banded ironstone and granite, edges of rock pools and is tolerant of some salinity

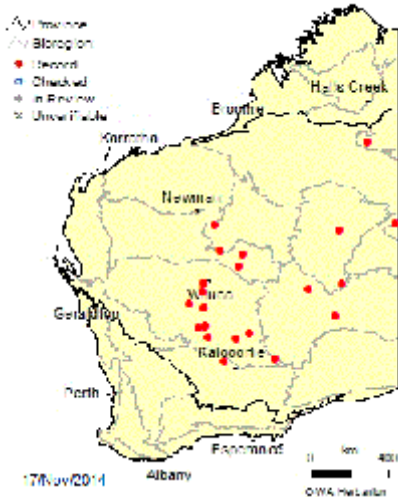
DISTRIBUTION

Locally significant

DESCRIPTION

Slender, erect tussock grass growing up to 60 cm tall. Leaves are tightly rolled and up to 7 cm long. Seed heads are open spreading panicles with narrow, slightly curved 2 cm long spikelets that are reminiscent of a fish skeleton. It is moderately palatable and often being one of the few grasses around rockholes, it is quite easily removed by grazing. It is not a robust or abundant species, but is an indicator of good condition pastures.

Eragrostis lacunaria



Eragrostis laniflora Benth.

HAIRY-FLOWERED WOOLLYBUTT (Native perennial grass)

C4



HABITAT

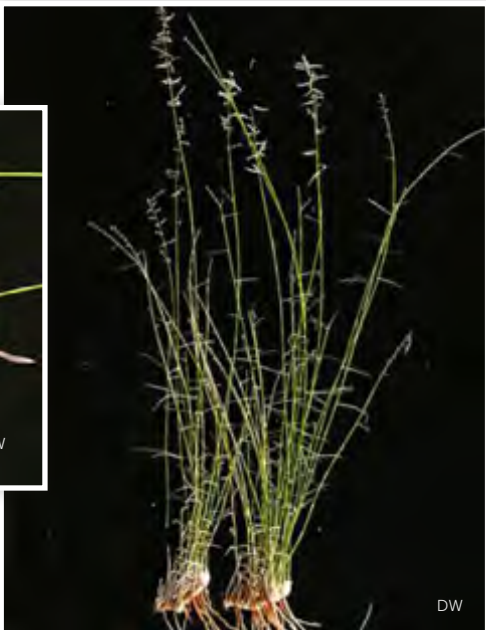
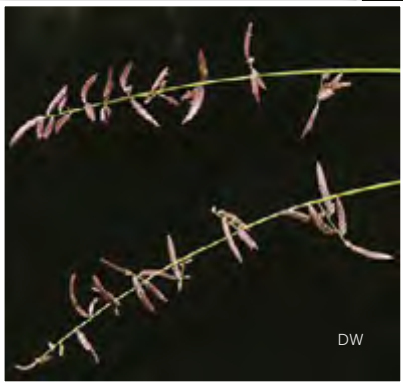
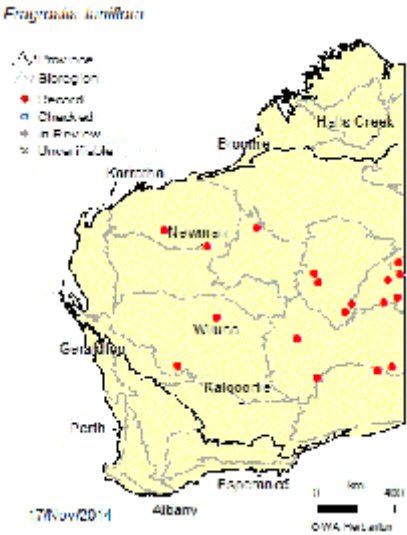
Dunes, wanderrie sands

DISTRIBUTION

Rare

DESCRIPTION

Spreading tussock grass with a rhizomatous woolly base growing up to 60 cm tall. Similar to the more common woollybutt, it differs in that it has larger seeds. Leaves are variable — typically rolled and quite stiff and up to 6 cm long. Seed heads are a spreading panicle, with curved spikelets up to 3.5 cm long that resemble a fish skeleton. Like woollybutt it is not particularly palatable, but is an important component of wanderrie grasslands, where it indicates good condition pastures.



Eragrostis lanipes C. E. Hubb.

CREEPING WANDERRIE (Native perennial grass)

C4



HABITAT

Wanderrie sands, dunes

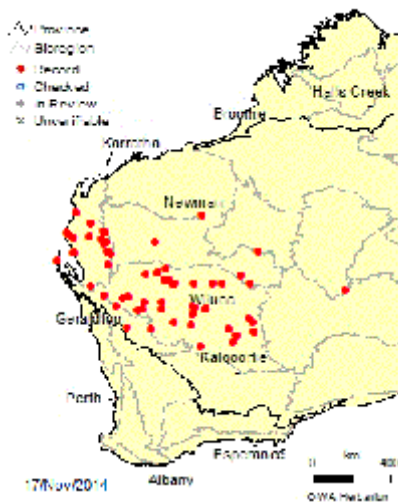
DISTRIBUTION

Widespread

DESCRIPTION

Tussock grass with a woolly base and spreading habit that, at first glance, resembles a young spinifex; grows to 50 cm tall. It is a highly distinctive species of the wanderrie sands. Leaves are variable, though mostly tightly rolled and rigid to about 10 cm long. Seed heads are open panicles, up to 20 cm long with tightly bundled spikelets to 10 mm long, the shape of which resembles a fish skeleton. Palatability is moderate, although indicator value is high as the species is a very important sign of good condition wanderrie pastures.

Eragrostis lanipes



Eragrostis leptocarpa Benth.

DROOPING LOVEGRASS (Native annual grass)

C4



HABITAT

Creeklines, alluvial plains, roadsides

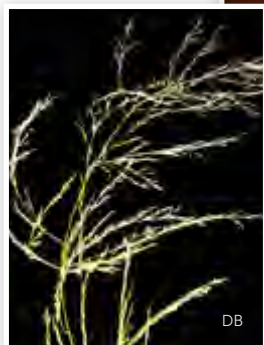
DISTRIBUTION

Widespread

DESCRIPTION

Open and upright annual grass with drooping panicles growing up to 80 cm though mostly less. Leaves are mostly flat to slightly rolled to 25 cm long, without hairs. Seed heads are drooping panicles composed of small clusters of spikelets to 7 mm long. The species is highly palatable and is one of the first to be grazed out after a good summer. It is an annual and not a robust or abundant species and should not be used as an indicator of pasture condition. *E. leptocarpa* is easily confused with *E. parviflora* as it shares many physical similarities and can only be distinguished by detailed comparison of the seed structure. It also shares some broad similarities with *Lachnagrostis filiformis*, but is easily separated by the less "organised" seed head of the other species.

Eragrostis leptocarpa



C4

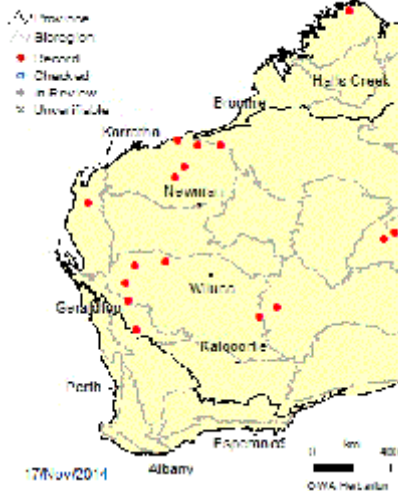


Poa parviflora

Quartz ridges, granites, claypans, rockholes

Uncommon

Slender annual grass with long drooping panicles growing up to 1 m tall. Leaves are mostly flat and hairless to 25 cm long. Seed heads are at first narrow "fluffy" panicles holding fine spikelets up to 12 mm long. These panicles open out on maturity to 60 cm long and 30 cm wide. Palatability is moderate to high, but like many other short-lived lovegrasses, it is not robust or abundant and will decrease under grazing. It is nonetheless an indicator of good condition pasture during a growing season where it persists. Is most prominent in sheltered wet areas such as curara thickets and creeks.



Eragrostis pergracilis s. T. Blake

SMALL LOVEGRASS, MURCHISON RED GRASS
(Native annual or short-lived perennial grass)

C4





HABITAT

Red/brown or grey sand, sandy loam or clay, saline flats, claypans, stony plains

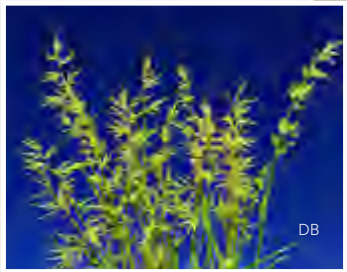
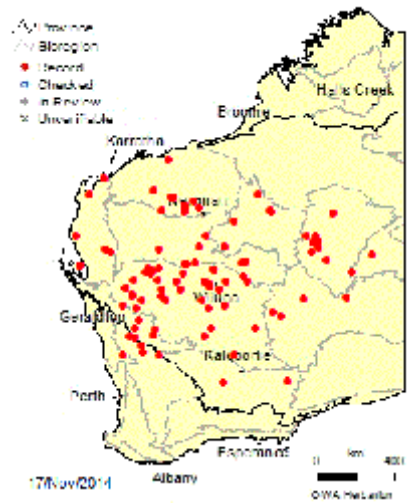
DISTRIBUTION

Widespread

DESCRIPTION

Erect or slightly spreading dense annual grass growing up to 40 cm high that is also known as Murchison red grass (as is *E. dielsii*). Leaves are tightly rolled to 6 cm long. Seed heads consist of dense panicles up to 12 cm long, which hold a dense array of spikelets that each look like a fish skeleton and are up to 45 mm long. Palatability is moderate and the species occupies wet and saline niches and is often one of the few grasses present in these soil types, hence can be rapidly eliminated by grazing. However as it is generally short-lived it is not a reliable indicator of pasture condition, although on certain limestone and clay soils, it persists as a true perennial, hence is an indicator of good condition on these soils. It forms quite dense and distinctive red swards on hardpan in the Murchison after late summer/autumn rain.

Eragrostis pergracilis



Eragrostis setifolia Nees

NEVERFAIL (Native perennial grass)

C3 & C4



HABITAT

Cracking clays, breakaways, swamps, clay plains

DISTRIBUTION

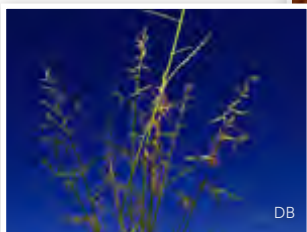
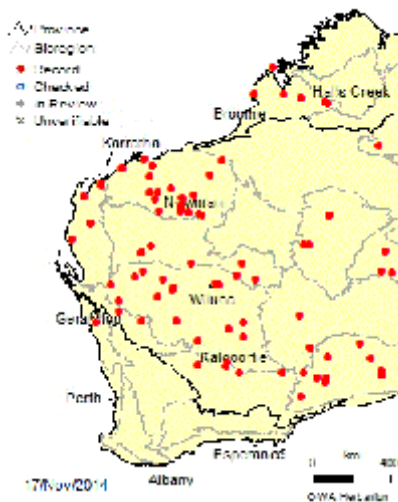
Widespread

DESCRIPTION

Slender wiry-stemmed tussock grass with dense, rounded tussocks that can grow up to 50 cm tall. Individual stems are thickened at the tussock base and slightly woolly, separated by shiny bracts. The leaves are smooth, and often narrowly rolled (about 1 mm wide) and up to 13 cm in length. All leaves branch off from the stems above ground and never emerge independently from the tussock base. The seed head is a open oblong panicle with spikelets that resemble fish skeletons. Some spikelets contain a single brown seed. Neverfail is highly palatable and is a key decreaser in any pasture; its presence in numbers indicates good pasture condition.

It will persist through droughts with judicious grazing management. Its distribution has been reduced in the Southern Rangelands because of long term continuous grazing.

Eragrostis setifolia



DB



DB

Eragrostis tenellula (Kunth) Steud.

DELICATE LOVEGRASS (Native annual grass)

C4



PREVIOUS NAMES

Eragrostis japonica, *Poa tenellula*

HABITAT

Seasonally flooded sites, banks and beds of watercourses

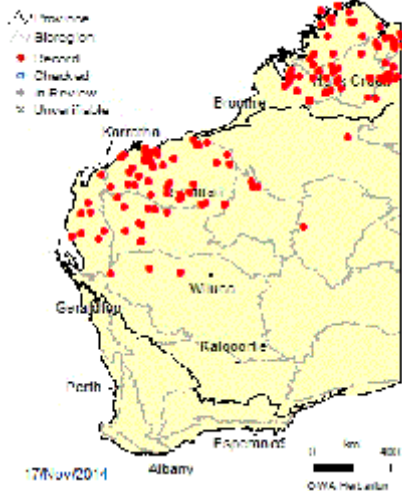
DISTRIBUTION

Common

DESCRIPTION

Delicate upright annual grass growing up to 80 cm, typically less than 50 cm. Leaves are mostly flat to slightly rolled with a slightly rough (scabrous) surface, are up to 20 cm long and 4 mm wide. Seed heads are panicles up to 35 cm long that hold small spikelets to 4 mm long in densely packed clusters which open on maturity, giving a "spiky" appearance. It is palatable, but not of particular significance as it responds quickly to summer rains but disappears rapidly on drying. It is often found in areas of sustained soil moisture. As it is an annual, it should not be used as an indicator of pasture condition.

Eragrostis tenellula



AG



AG

Eragrostis xerophila Domin

ROEBURNE PLAINS GRASS (Native perennial grass)

C4



HABITAT

Clay plains, crab holes

DISTRIBUTION

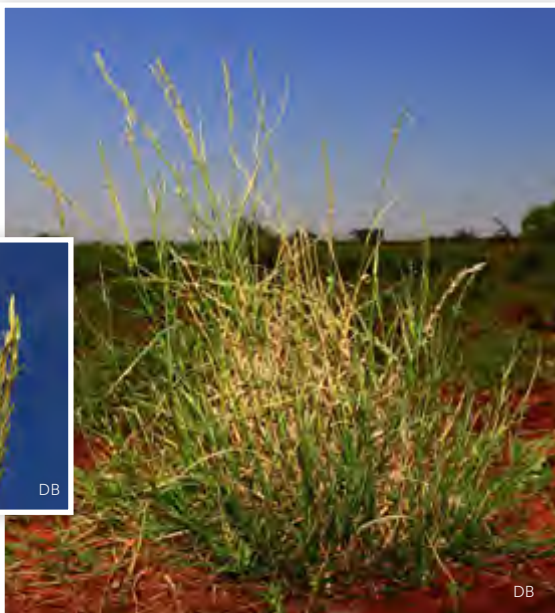
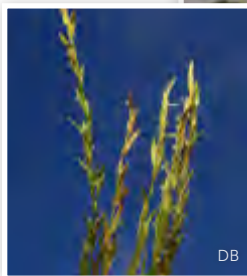
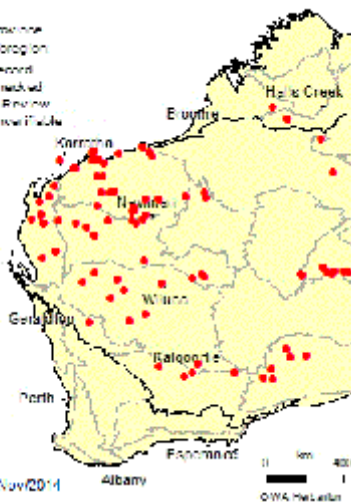
Widespread

DESCRIPTION

Dense but low tussock grass growing up to 30 cm tall, with butt widths to 30 cm. Very old plants form rings. Its rhizomes are about 10 mm wide and distinctively creep along the soil surface within each tussock. The leaves are short and mid-green in colour and start about halfway up the stem. Seed heads are a narrow panicle and are up to 10 cm long and are purplish; the crowded xerophytic spikelets each give the appearance of a fish skeleton. It is often a companion species to neverfail (*Eragrostis setifolia*) and may be difficult to distinguish when dry. Neverfail has more erect smooth stems, while Roebourne Plains has curved scabrous stems and stout 10 mm wide stolons. It is palatable when green and very long-lived, although stock tend to preferentially graze annuals before this species. It will decrease under heavy grazing pressure, hence is an excellent indicator of good range condition where dominant. Encouragingly, it is becoming more common in the West Gascoyne.

Eragrostis xerophila

- ✓ At least one
- ✓ At least one
- ✓ At least one
- ✓ At least one
- ✓ At least one
- ✓ At least one



Eriachne aristidea F. Muell.

FALSE BROADLEAF WANDERRIE GRASS/ANNUAL WANDERRIE
(Native annual or short-lived perennial grass)

C4





PREVIOUS NAMES

Eriachne aristidea var. *minor*

HABITAT

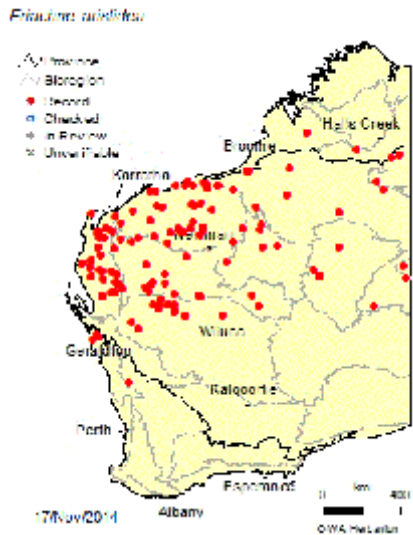
Wanderrie sands

DISTRIBUTION

Widespread

DESCRIPTION

Short-lived perennial growing up to 40 cm. Leaves are flat with prominent hairs. Seed heads are open panicles of single spikelets. Spikelets turn dark red when ripe and have prominent short spines. Found on sandy or disturbed soils. Responds quickly to summer rain and is quick to colonise after fire. Rarely eaten by livestock, it is an increaser species and large populations are an indicator of poor condition wanderrie pastures.



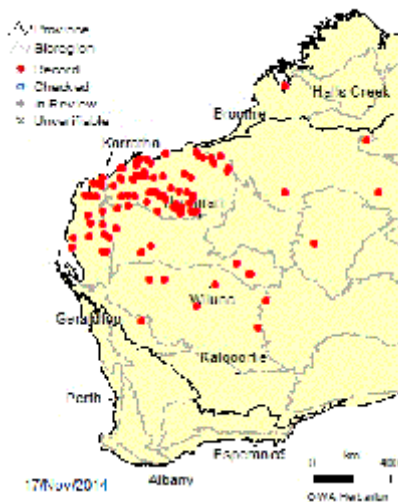
C4



Cracking clays, alluvial plains

Common

Robust, dense tussock grass growing up to 90 cm tall with some older tussocks reaching 30 cm diameter. Leaves mostly flat or slightly rolled to 15 cm, becoming curled with age. Seed heads consist of dense panicles, up to 17 cm long and 3 cm wide, carrying spikelets to 10 mm long. Grows in areas subject to flooding. Swamp wanderrie is quite unpalatable, being grazed by cattle only when no alternative is available. It has a similarly modest value as an indicator species, its ecological value being quite high due to its ability to stabilise floodplains. It increases in favour of more palatable species such as Mitchell or ribbon grass. When it is the only species present on a floodplain it indicates poor pasture condition.



Eriachne flaccida W. Hartley

CLAYPAN GRASS/CRAB HOLE GRASS (Native perennial grass)

C4



HABITAT

Crab holes, swamps and floodplains

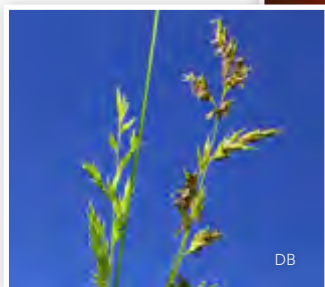
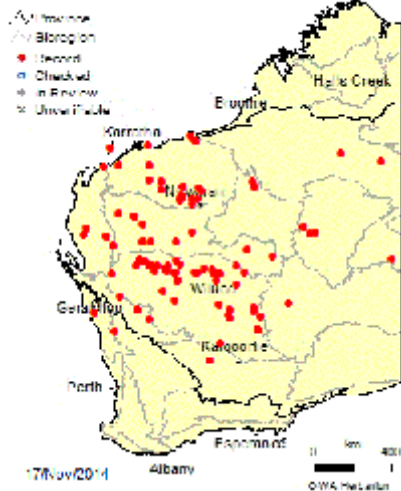
DISTRIBUTION

Widespread

DESCRIPTION

Erect tussock grass growing up to 40 cm tall. Its base is often hairy or fibrous, very robust and long-lived compared to other floodplain species. Leaves are mostly rolled longitudinally or twisted and are up to 20 cm long and 2 mm wide. Seed heads consist of short dense panicles to 6 cm long and 2 cm wide, holding spikelets 5–6.5 mm long. Grows exclusively in areas subject to flooding with clay soils such as washlines, floodplains, swamps or crab holes. Generally not eaten except in times of shortages; it plays an important role in protecting floodplain soils from erosion. Also acts as a colonising niche for more short-lived species following droughts. It is an indicator of good pasture condition.

Eriachne flaccida



Eriachne gardneri W. Hartley

WANDERRIE GRASS (Native perennial grass)

C4



HABITAT

Coastal sandhills, dunes and claypans

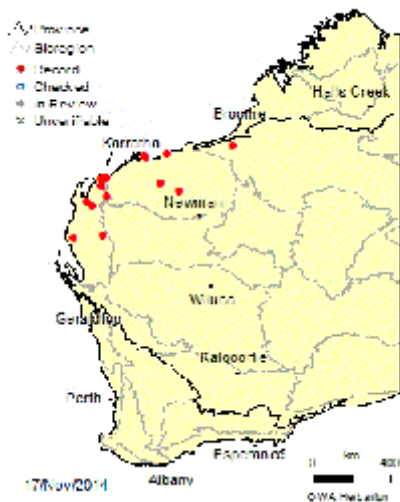
DISTRIBUTION

Uncommon

DESCRIPTION

Erect tussock grass growing up to 70 cm tall, though typically 40–50 cm. Leaves are flat and slightly hairy to about 20 cm long and 5 mm wide. Seed heads are oblong panicles, up to 9 cm long and 3 cm wide. A relatively uncommon species occurring throughout the West Gascoyne, favouring sand dunes and coastal sands. Palatability is moderate when green and grazing indicator value is moderate too. Not a very robust or abundant species.

Eriachne gardneri



JS



JS

Eriachne helmsii (Domin) W. Hartley

BUCK WANDERRIE (Native perennial grass)

C4



PREVIOUS NAMES

Eriachne mucronata var. *helmsii*

HABITAT

Wanderrie sands, dunes

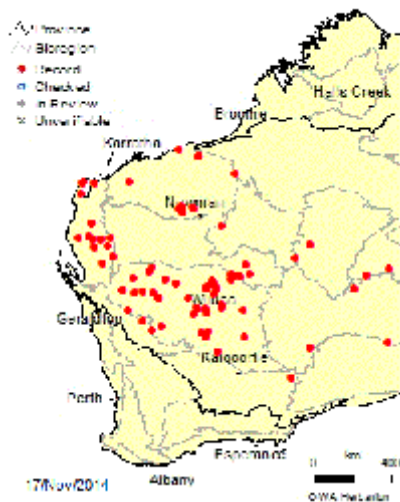
DISTRIBUTION

Widespread

DESCRIPTION

Slightly bent but upright, robust tussock grass growing up to 90 cm tall. Older tussocks have a dense fibrous base to 20 cm diameter. Leaves are narrow and up to 16 cm long, mostly flat and distinctly hairy. Seed heads consist of small panicles, up to 11 cm long and 2 cm wide which carry short spikelets to 7 mm long. Buck wanderrie is rarely grazed by stock, except when young. It is also a valuable habitat species, though when this species of last resort is dominant, it indicates very poor condition wanderrie pastures. It is extremely durable and will persist through several drought years.

Eriachne helmsii



DB



DB

Eriachne mucronata R. Br.

MOUNTAIN WANDERRIE/STONY WANDERRIE GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Eriachne scleranthoides

HABITAT

Quartz/ironstone hills, breakaways, loamy plains over hardpan

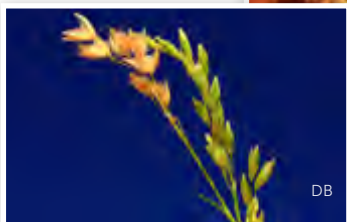
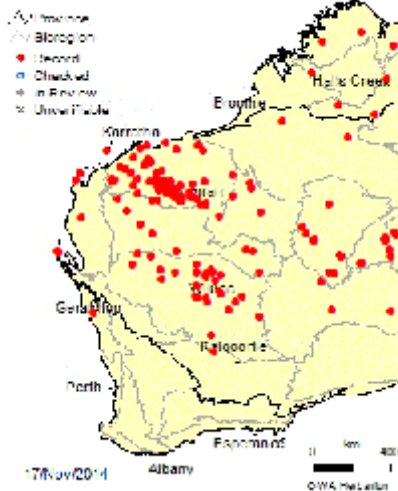
DISTRIBUTION

Widespread

DESCRIPTION

Rotund tussock grass growing up to 60 cm tall, but typically less than 30 cm. It has the characteristic shape of a small spinifex plant with short spiky leaves. Leaves are variable - 5-20 cm long, though commonly 5 cm or less, acutely branched and quite scabrous (rough) with a sharp tip. Seed heads are small panicles up to 8 cm long and 1 cm wide. The seeds are held in short spikelets to 7 mm long. A highly specialised species, preferring shallow skeletal soils in breakaways, granites and ironstone hills. Also found on extensive hardpan plains in the north east Gascoyne. It is never particularly palatable, although the plains version may be grazed when young. Being a long-lived species, it is nonetheless an indicator of good condition (of hard country).

Eriachne mucronata



DB



DB

Eriachne obtusa R. Br.

NORTHERN WANDERRIE/WIRE WANDERRIE (Native perennial grass)

C4



PREVIOUS NAMES

Eriachne obtusa var. *major*

HABITAT

Clay plains, spinifex plains

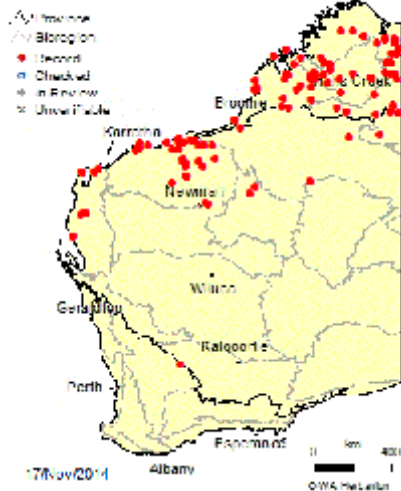
DISTRIBUTION

Uncommon

DESCRIPTION

Slender, erect tussock grass growing up to 60 cm tall. The fine wiry stems have a thickened hairy base. The leaves are stiff and flat and up to 10 cm long. The seed heads are 4–8 cm long open panicles and with several fine branchlets bearing silky-haired spikelets, 3–4.75 mm long. Wire wanderrie grass is found on a variety of soils, but is more common on pindan soils. Palatability is generally low and it is regarded as an increaser species at the expense of more palatable species. It is quick to respond to fire.

Eriachne obtusa



Eriachne pulchella Domin

PRETTY WANDERRIE (Native annual grass)

C4



HABITAT

Granites, breakaways, hills, wanderrie banks

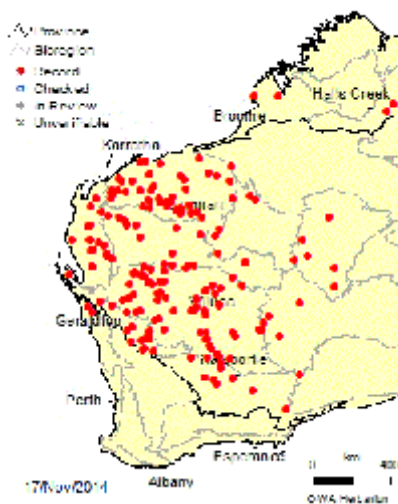
DISTRIBUTION

Widespread

DESCRIPTION

Short spreading annual grass, growing up to 20 cm tall. Leaves are flat to slightly rolled or crinkled, up to 4 cm long and 3 mm wide and have short spiky hairs. Seed heads are open panicles up to 5 cm long and 1 cm wide supporting spikelets 3–5 mm long. Commonly found on breakaways and granites. Moderately palatable, but not particularly robust or abundant, hence not highly valued as a pasture component. As it is an annual it should not be used as an indicator of condition, although persistent grazing will deplete populations.

Eriachne pulchella



Eriochloa procera (Retz.) C. E. Hubb.

CUPGRASS (Native annual or short-lived perennial grass)

C4



91

91

91

91

91

91

91



91

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91

HABITAT

Floodplains, creeklines, crab holes

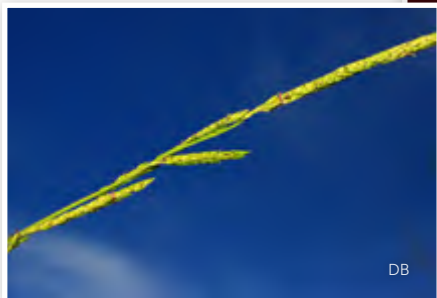
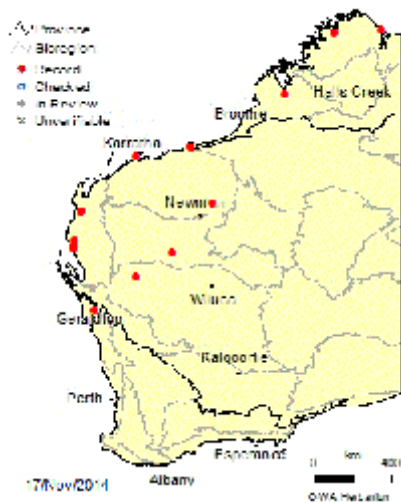
DISTRIBUTION

Uncommon

DESCRIPTION

Short-lived perennial growing up to 1.2 m tall. Leaves are flat or slightly wavy, up to 40 cm long and 8 mm wide with a hairy surface and rough margins. Seed heads consist of panicles up to 20 cm long of loosely held, small compact digits 2–10 cm long and 4–6 mm wide in groups of 3 to 10. Cup grass is regarded as highly palatable, but does not persist long in dry seasons, hence is more an indicator of seasonal quality. It favours wet areas and is uncommon. It should not be used as an indicator of pasture condition.

Eriochloa procera



Eriochloa pseudoacrotricha

(Stapf ex Thell.) C. E. Hubb. ex S. T. Blake

PERENNIAL CUPGRASS (Native perennial grass)

C4



PREVIOUS NAMES

Eriochloa ramosa var. *pseudoacrotricha*

HABITAT

Floodplains, hardpan plains, chenopod shrublands

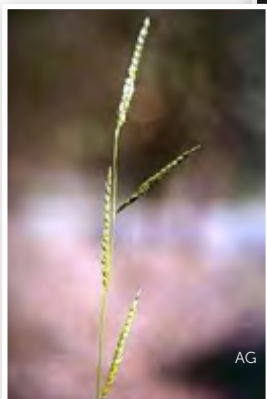
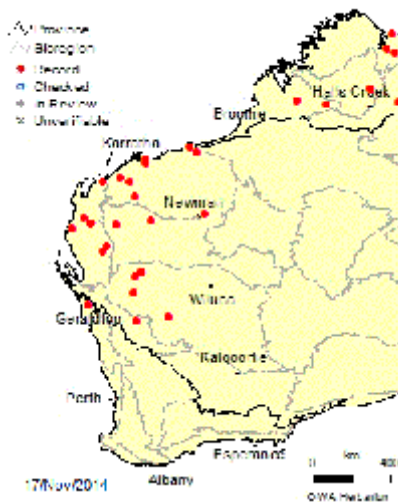
DISTRIBUTION

Common

DESCRIPTION

Perennial grass growing up to about 1.2 m in ideal conditions, though mostly less than 80 cm. Leaves are angular to the stem, mostly flat and grow up to 20 cm long and 6 mm wide, often with fine hairs giving a rough feel to touch. Seed heads consist of panicles of digitate spikelets up to 18 cm long. Digits in groups of 2 to 10 and each digit is 2–10 cm long. It grows on floodplains and river banks. Perennial cup grass is regarded as highly palatable and is grazed in preference to other more robust species, hence will decline with grazing. It is considered of moderate to high indicator value, although its persistence is strongly season dependant and numbers will vary. It is an indicator of good condition grasslands.

Eriochloa pseudoacrotricha



Eulalia aurea (Bory) Kunth

SILKY BROWNTOP (Native perennial grass)

C4



100

200

300

400

500

600

700

800

900

1000

PREVIOUS NAMES

Eulalia fulva

HABITAT

Floodplains, creeklines, crab holes

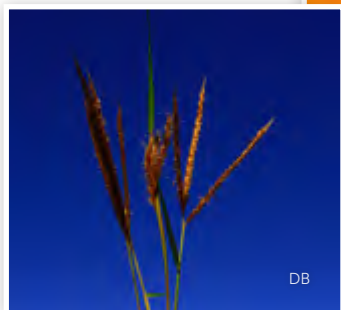
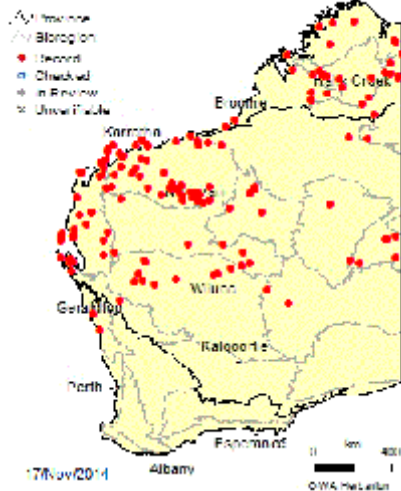
DISTRIBUTION

Widespread

DESCRIPTION

Erect robust tussock grass with thin stems that grows to 1.5 m tall. The leaf blades are flat, up to 30 cm long and are blue green in colour when young, but turn a distinctive red-brown as the plant runs out of water. The seed head consists of 2 to 4 closely spaced spikes 5–10 cm long, which are silky-haired and dark brown in colour. It flowers from February to May. Silky browntop is found on a variety of sandy and loamy soils and is a very variable species. In some locations it is eaten, whilst in others it is not. Where it is eaten, it is resistant to grazing. Where it dominates and is eaten, it is a very important indicator of good pasture condition. If it is not eaten, it has no indicator value.

Eulalia aurea



DB



DB

Iseilema membranaceum

(Lindl.) Domin

SMALL FLINDERS GRASS (Native annual grass)

C4



HABITAT

Cracking clays, alluvial plains

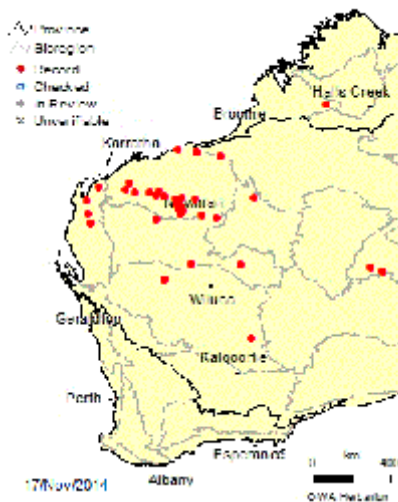
DISTRIBUTION

Locally significant

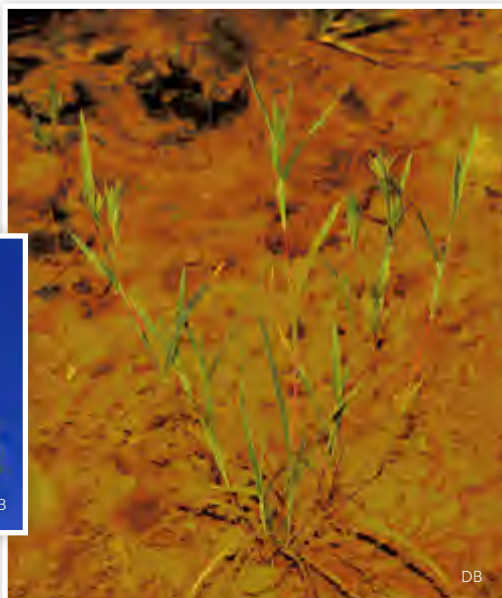
DESCRIPTION

Spreading annual grass growing up to 80 cm tall, but typically 30–50 cm or less, in the Southern Rangelands. Has a distinctive branching pattern, densely tufted seed heads and turns red to mauve at maturity. Leaves flat or folded up to 15 cm long and 4 mm wide with fine hairs on the surface and a rough surface on the margins. Seed heads consist of a cluster of four spikelets to 6 mm long encased in a sheath-like structure up to 2 cm long, with prominent awns protruding on maturity. All three species of Flinders grass common to the Southern Rangelands are highly palatable, but being annuals, are not reliable indicators of pasture condition. In productive tussock grasslands, dominance of Flinders grass indicates declining condition.

Iseilema membranaceum



DB



DB

Iseilema vaginiflorum Domin

RED FLINDERS GRASS (Native annual grass)

C4



HABITAT

Cracking clays, alluvial plains

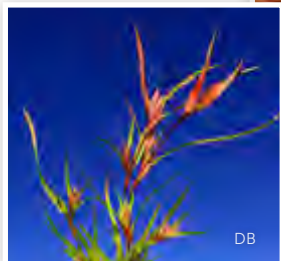
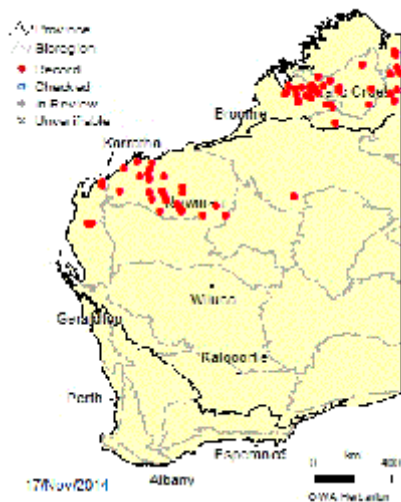
DISTRIBUTION

Uncommon

DESCRIPTION

Spreading annual grass growing up to 80 cm tall, but typically 30–50 cm or less, in the Southern Rangelands. Has a distinctive branching pattern, densely tufted seed heads and turns red to mauve at maturity. Leaves flat or folded to 15 cm long and 4 mm wide with fine hairs on the surface and a rough surface on the margins. Seed heads are carried in a cluster of four spikelets to 6 mm long encased in a sheath-like structure up to 2 cm long, with prominent awns protruding on maturity. All three species of Flinders grass common to the Southern Rangelands are highly palatable, but being annuals, are not reliable indicators of pasture condition. In productive tussock grasslands, dominance of Flinders grass indicates declining condition.

Iseilema vaginiflorum



DB



DB

Lachnagrostis filiformis (G. Forst.) Trin.

BLOWN GRASS (Native annual grass)

C4



PREVIOUS NAMES

Agrostis avenacea

HABITAT

Sand, clay, limestone, granite, calcrete, wetlands, flats, valleys, gilgai plain

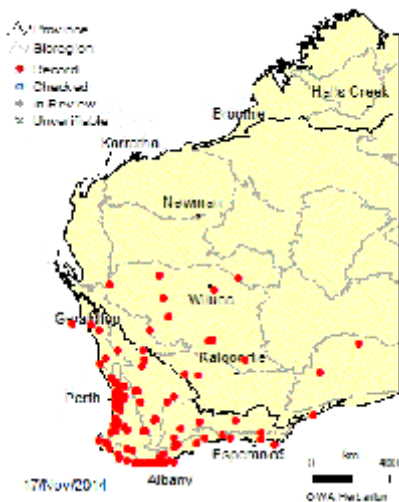
DISTRIBUTION

Locally significant

DESCRIPTION

Slender annual grass growing up to 1 m tall in ideal conditions, mostly 50–70 cm. Its distinctive open panicle detaches from the plant on maturity and is distributed by wind. Leaves are variable — mostly flat to slightly rolled up to 25 cm long and 5 mm wide. Seed heads consist of open spreading panicles up to 30 cm long and 23 cm wide that carry short spikelets up to 4 mm long. It favours wet and sheltered areas. It is readily eaten while green, but disappears rapidly on drying and being an annual, it has no indicator value. This species shares many common physical features with two unrelated *Eragrostis* species — *E. leptocarpa* and *E. parviflora*. It differs from the *Eragrostis* species by having slightly larger grains and more robust stems.

Lachnagrostis filiformis



Leptochloa digitata (R. Br.) Domin

WHORLED CANE GRASS/SWAMP GRASS (Native perennial grass)



PREVIOUS NAMES

Poa digitata

HABITAT

Floodplains, creeklines, crab holes

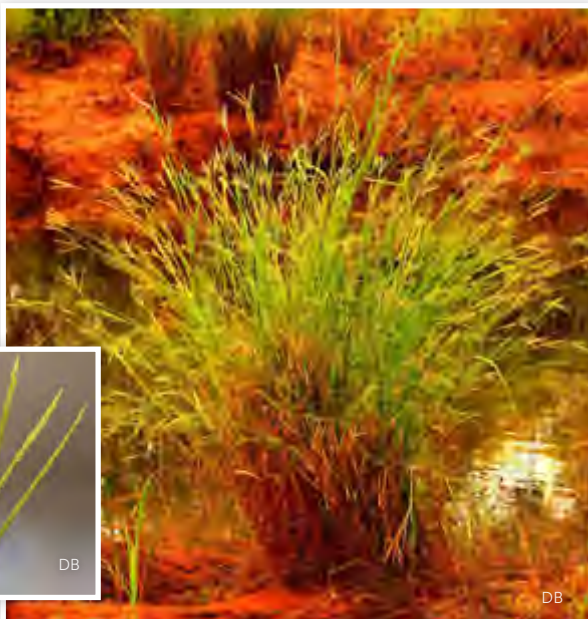
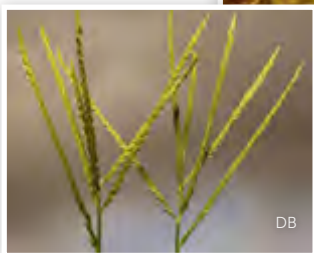
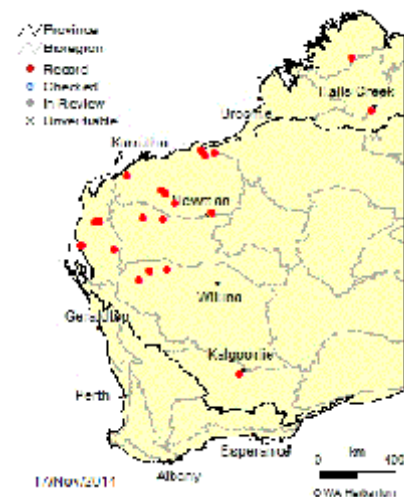
DISTRIBUTION

Locally significant

DESCRIPTION

Robust tussock grass growing up to 2 m tall with thick cane-like stems and a dense rhizomatous base. Leaves are flat to slightly folded up to 25 cm long and 6 mm wide with a conspicuous hairy surface. Seed heads consist of groups of 6 to 20 racemes or digits to 11 cm long, attached to a single stem. Seed heads remain visible for much of the plant's life, even after seed fall. A very long-lived species growing on river banks, channels and crab holes. It is not particularly palatable, except for new growth. It is also remarkably resistant to grazing, hence is not a useful indicator. It is valuable as a stabilising species on floodplains and river banks. Pasture wise, it has no indicator value.

Leptochloa digitata



Leptochloa fusca (L.) Kunth

BEETLE GRASS (Native annual or short-lived perennial grass)

C4



PREVIOUS NAMES

Diplachne fusca, *Diplachne muelleri*

HABITAT

Floodplains, creeklines, crab holes

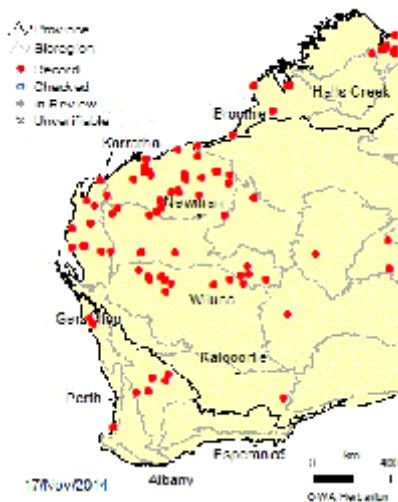
DISTRIBUTION

Common

DESCRIPTION

Erect, slender annual or short-lived perennial grass favouring wet areas growing up to 80 cm tall. Leaves are flat with rough surfaces and up to 23 cm long and 5 mm wide. Seed heads are panicles up to 40 cm long, holding fingers or digits of spikelets up to 15 cm long and 3 cm wide. Beetle grass is not particularly palatable and has no indicator value, although it is a useful stabiliser species. Will persist for many years in permanently wet areas such as swamps, pools or tank overflows. Not particularly widespread, it will increase following several good summer seasons.

Leptochloa fusca



Monachather paradoxus Steud.

BROAD LEAVED WANDERIE (Native perennial grass)

C4



PREVIOUS NAMES

Danthonia bipartita

HABITAT

Wanderie sands, quartz hills, hardpan plains, limestone plains

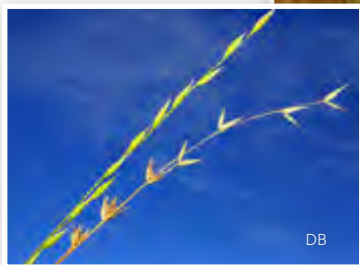
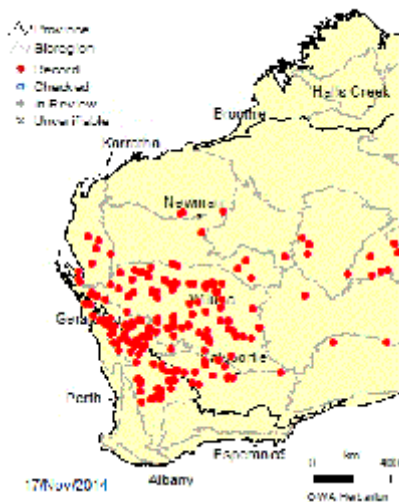
DISTRIBUTION

Widespread

DESCRIPTION

Strong tussock grass with unbranched stems, growing up to about 60 cm tall. Some older tussocks reach a basal diameter of 25 cm. Leaves are coarse to the touch; up to 15 cm long and up to 5 mm wide. The flowerheads are loose, open panicles, up to 15 cm long. As individual seeds attain maturity they detach, leaving behind persisting pairs of pale papery glumes that resemble a member of the genus *Eriachne*. Palatability is variable and often depends on soil type and companion species; it is generally regarded as of moderate palatability. In wanderie communities where it dominates, it is an indicator of good condition pasture. Does not persist during a drought, though is quick to recover following effective summer rain.

Monachather paradoxus



Neurachne annularis T. Macfarlane

(Native perennial grass)

C3

UNKNOWN

HABITAT

Ironstone hills and nearby plains

DISTRIBUTION

Locally significant

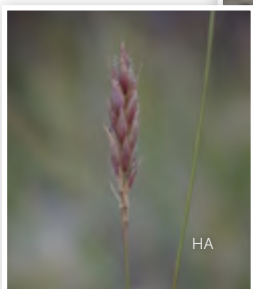
CONSERVATION CODE

Priority 3

DESCRIPTION

Ring-forming tussock grass resembling a small spinifex that grows up to 75 cm tall. Tussock basal diameter can reach 50 cm in old individuals. Leaf blades are up to 10–24 cm long, stiff, straight, pointed, tightly folded so that the blade is terete, 0.4–0.8 mm in diameter; the hairs stiff. Seed heads a compact linear spike up to 4 cm long, standing prominently above the tussock by 10–30 cm. 15–20 spikelets per seed head, 7–9 mm long, green or pinkish green, all fertile or one or two basal ones reduced and sterile. It is restricted to an area north of Koolyanobbing to Mt Manning and Helena-Aurora Ranges. It is not known to have any indicator value.

Neurachne annularis



Neurachne lanigera S. T. Blake

(Native perennial grass)

C3

UNKNOWN

HABITAT

Mulga shrublands, spinifex sandplains

DISTRIBUTION

Rare

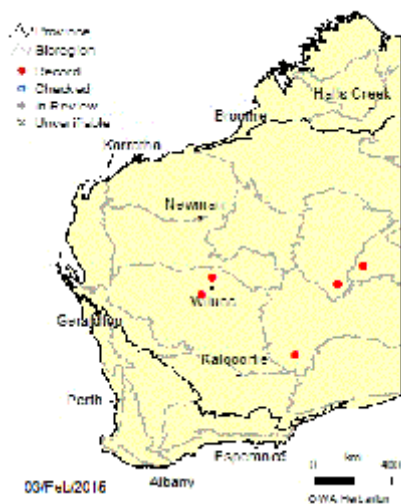
CONSERVATION CODE

Priority 3

DESCRIPTION

Erect rhizomatous tussock grass growing up to 25 cm tall. Stems have five to 10 nodes. Nodes in the middle of each stem pubescent or bearded. Leaf sheaths smooth. Ligule a fringe of hairs, 0.5–0.9 mm long. Leaf blades rolled inward and fine, 2–12 cm long, 1–2.1 mm wide. Leaf blade surface smooth or scabrous, indumented. Seed heads a solid spike, 1.5–3 cm long. A relatively rare species only found in areas of burnt spinifex towards or in the desert. It has no known indicator value.

Neurachne lanigera



Neurachne minor s. T. Blake

MULGA GRASS (Native perennial grass)

C4



HABITAT

Dunes, rock outcrops, plains and hills, breakaways

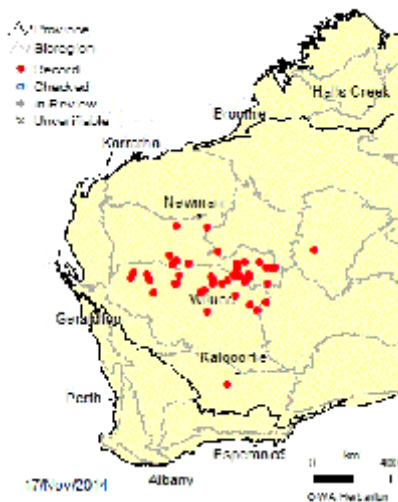
DISTRIBUTION

Common

DESCRIPTION

Small but robust, dense tussock grass with prominent rhizomes growing up to 25 cm tall. Leaves are flat, smooth and waxy up to 10 cm long and 2.5 mm wide. Seed heads are a solid spike to 1.5 cm long and 1 cm wide. Mulga grass is palatable and quite long-lived, hence is a useful indicator of good pasture condition. It is common north of Meekatharra and Wiluna on hardpan and breakaway country.

Neurachne minor



Neurachne munroi F. Muell.

(Native perennial grass)

C3



HABITAT

Mulga woodlands, wanderrie sands, spinifex plains, ironstone hills

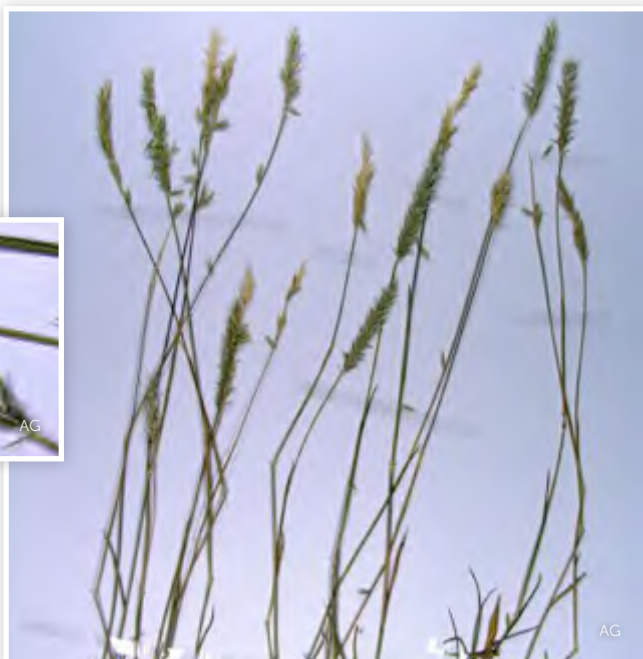
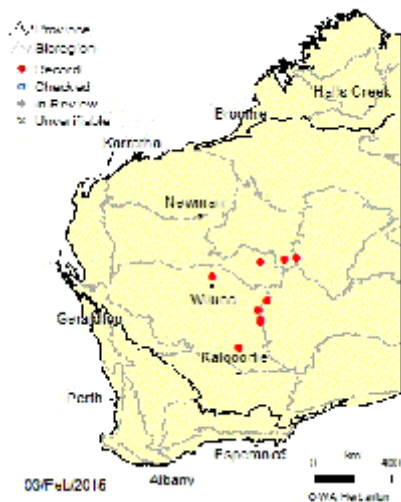
DISTRIBUTION

Uncommon

DESCRIPTION

Upright squat, rhizomatous tussock grass growing up to 50 cm tall. Stems have five to 10 nodes, the middle ones are either pubescent or bearded. Leaf sheaths glabrous on surface. Ligule a fringe of hairs. Leaf blades flat or rolled inwards, 5–10 cm long, 1.5–2.5 mm wide. Seed heads a linear spike up to 4 cm long. Wherever this grass is found in the Goldfields it is always heavily grazed and rabbits appear to be the culprit. It favours shallow soils such as breakaway remnants and its distribution is much reduced as a result of rabbits and other grazing animals. It is an indicator of good pasture condition.

Neurachne munroi



Panicum decompositum R. Br.

GREEN PANIC/NATIVE MILLET (Native perennial grass)

C4



HABITAT

Floodplains, creeklines, crab holes

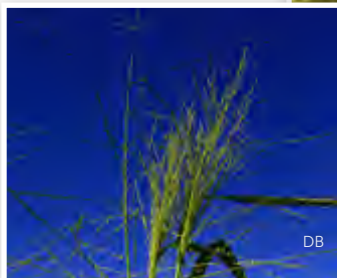
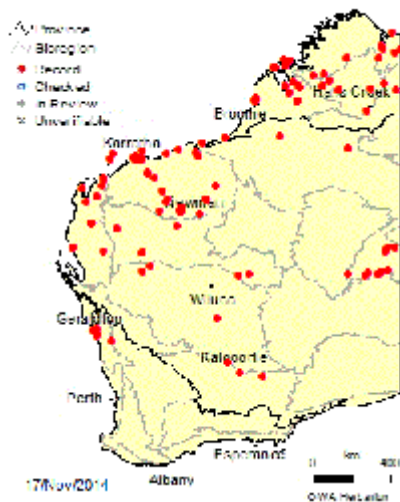
DISTRIBUTION

Common

DESCRIPTION

Large, coarse tussock grass that grows up to 1 m tall, and turns almost white at maturity. Its stems are thick and hollow. Leaves are flat, have tapered edges and a pointed tip and are up to 50 cm long, erect at first, but twist and curl with age. Seed heads are spreading pyramid-shaped panicles to 40 cm long with very small paired spikelets on the end of the branchlets. The entire structure falls off the plant at maturity and is dispersed by the wind. Native millet is generally highly palatable, though it seems to vary according to soil types — on cracking clays less so, but on coarser textured floodplains soils is highly sought after. Appears to have increased on Murchison floodplains following large floods in the 1990's. It is a useful indicator of good condition pastures.

Panicum decompositum



Panicum effusum R. Br.

BRANCHED PANIC (Native annual or short-lived perennial grass)

C4



HABITAT

Floodplains, creeklines, crab holes

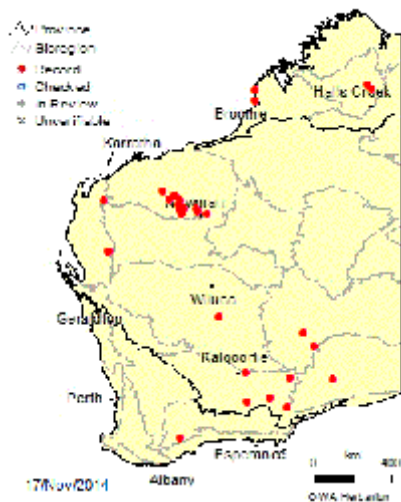
DISTRIBUTION

Locally significant

DESCRIPTION

Annual or semi-perennial with conspicuous pale seed heads, growing up to 50 cm tall. Leaves are flat to rolled and grow to 25 cm long and 5 mm wide, are covered in fine hairs and may be rough to touch. Seed heads consist of spreading panicles up to 40 cm long which carry short spikelets to 3 mm long. On maturity, the whole panicle detaches and is dispersed by wind. Favours wet areas. It is moderately palatable but as an annual, it has no indicator value.

Panicum effusum



Paractaenum novae-hollandiae

P. Beauv.

REFLEXED PANIC (Native annual grass)

C4



HABITAT

Sandplains, wanderie sands

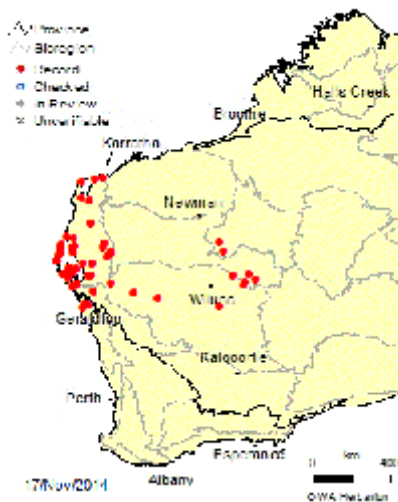
DISTRIBUTION

Widespread

DESCRIPTION

Slender annual growing up to 60 cm tall with characteristic drooping, or reflexed seed heads. Some forms are prostrate rather than upright. Leaves are flat, up to 12 cm long and 5 mm wide with a waxy surface. Seed heads are spreading panicles of racemes or digits in groups of 3 to 12 to 6 cm long, bearing one to four fertile spikelets, which are each up to 5 mm long. It is palatable, but quick to disappear on drying, hence it has no indicator value. It is quick to respond to summer rain and does provide useful forage when abundant.

Paractaenum novae-hollandiae



Paraneurachne muelleri s. T. Blake

HOPALONG GRASS (Native perennial grass)

C4



HABITAT

Sandplains, dunes, calcareous plains, ironstones ridges

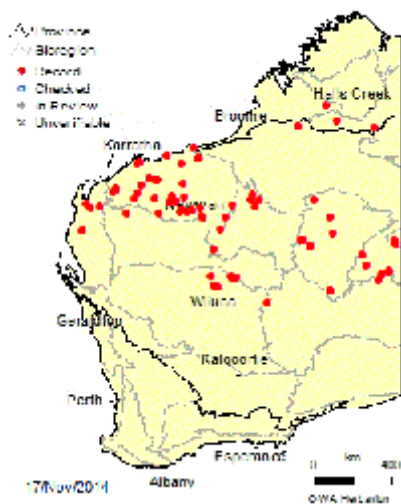
DISTRIBUTION

Locally significant

DESCRIPTION

A much-branched, small perennial grass with numerous stolons (giving its common name) growing up to 50 cm tall. One plant can spread up to 1 m wide. Leaves are flat to rolled, up to 12 cm long and 5 mm wide, mostly with a fine hairy surface; the margins rough to touch. Seed heads are dense spikes of silver spikelets about 3.5 cm long and 1.5 cm wide, spikelets are 14 mm long and 5 mm wide. Commonly found in soft spinifex communities, but also on a variety of other soils types. It is palatable to most stock and is regarded as an indicator of good condition pastures. It is a particularly valuable part of burnt spinifex pastures.

Paraneurachne muelleri



Paspalidium clementii

(Domin) C. E. Hubb.

CLEMENT'S PASPALIDIUM (Native annual or short-lived perennial grass)

C4



HABITAT

Sandplains, stony plains, creeklines

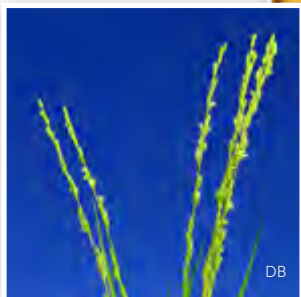
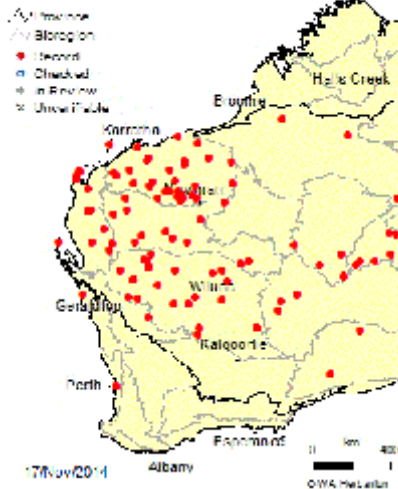
DISTRIBUTION

Widespread

DESCRIPTION

Erect annual or semi-perennial growing up to 50 cm tall with very sparse seed heads with prominent bulbous seeds attached to a single stem. Leaves are flat or folded to 15 cm long and 4 mm wide with hairy or scabrid (rough) surface. Seed heads consist of a spike with racemes or digits; single spikelets to 2.5 mm long and 1.2 mm wide attached on a single panicle in an irregular pattern. This species is very similar to *P. basicladium* that differs only in seed size; they are both palatable and decrease under grazing. They are palatable at most stages, but are not particularly useful as an indicator species because of their low bulk. They are often seen within the protective canopy of woody shrubs and because of their longevity, are regarded as a useful indicators of good condition mixed mulga shrubland pastures.

Paspalidium clementii



Paspalidium constrictum

(Domin) C. E. Hubb.

KNOTTYBUTT GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Paspalidium gracile var. *rugosum*

HABITAT

Sandplains, stony plains, creeklines, disturbed areas

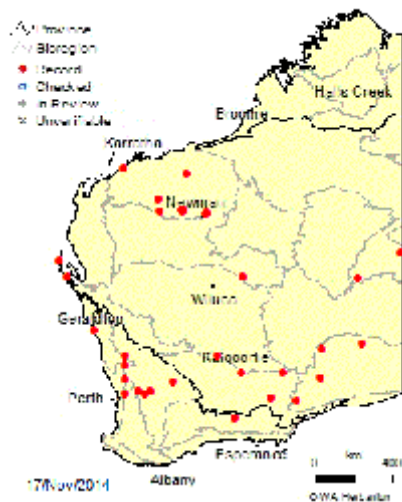
DISTRIBUTION

Locally significant

DESCRIPTION

Lax or spreading weakly tussocking grass, often rhizomatous, growing up to 50 cm tall. Leaves are flat, loosely rolled or sometimes crinkled, to 15 cm long and 3 mm wide and hairy. Seed heads consist of a sparse single stemmed panicle to 15 cm long, holding spikelets to 3 mm long and 1.3 mm wide. It is highly palatable and is often seen taking refuge within shrubs. It is a species that is never abundant and its presence indicates good pasture condition.

Paspalidium constrictum



Paspalidium distans (Trin.) Hughes

(Native perennial grass)

C4



PREVIOUS NAMES

Panicum distans

HABITAT

Creek banks

DISTRIBUTION

Rare

CONSERVATION CODE

Priority 3

DESCRIPTION

An uncommon species, found only near Wiluna in WA, although it is more frequent in the eastern states. It is a rhizomatous perennial, growing to 1 m tall, though typically 30–70 cm. Leaves to 18 cm long and up to 6.5 mm wide, with a scabrous surface. Seed head is a panicle of racemes, with 4 to 10 racemes 0.5–3 cm long, 2–3 mm wide, bearing up to 20 fertile spikelets on each. Given its restricted distribution, its grazing importance is low, although all *Paspalidium*s are considered palatable. If found, it should be grouped with the other *Paspalidium*s and used as an indicator of good condition.

Paspalidium distans



Polypogon monspeliensis (L.) Desf.

ANNUAL BEARD GRASS (Introduced annual grass)

C4



PREVIOUS NAMES

Alopecurus monspeliensis

HABITAT

Floodplains, creeklines, crab holes

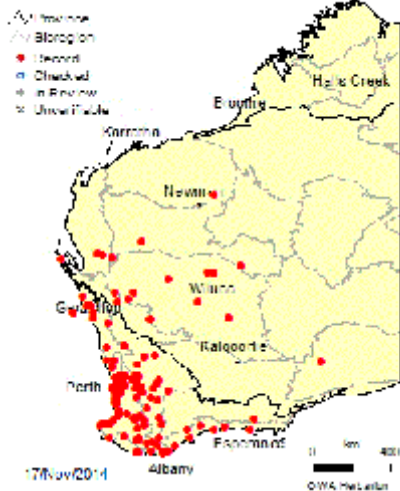
DISTRIBUTION

Common

DESCRIPTION

Annual grass growing up to 90 cm tall with distinctive “bottle washer” seed heads. Leaves are flat or loosely folded to 8–10 cm long and 5 mm wide usually with a scabrid (rough) surface. Seed heads consist of dense spikes up to 12 cm long and 3 cm wide. It is palatable, but not of significant value. Being an invader, it will readily colonise disturbed areas and is often seen around cattle yards, windmills and roadsides in wet areas.

Polypogon monspeliensis



KT



CC

Psammagrostis wiseana

C. A. Gardner & C. E. Hubb.

SAMMY'S GRASS/BASHIR'S GRASS (Native annual grass)

C3



HABITAT

Sandplains, dunes and sand banks

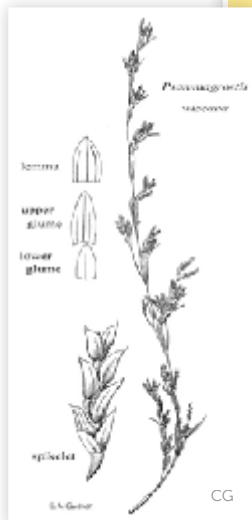
DISTRIBUTION

Locally significant

DESCRIPTION

Spreading annual grass growing up to 30 cm tall and 50 cm wide. Leaves are flat or wrinkled to 5 cm long and 2.5 mm wide, mostly without hairs. Seed heads consist of a panicle up to 5 cm long, holding racemes or digits each 0.3–1 cm long on stems to 8 mm long. Spikelets are to 9 mm long. Sammy's grass is restricted to the sandy surfaced duplex plains of the Gascoyne, Barrabiddy and Minilya deltas. It is highly palatable and is suppressed by heavy grazing by sheep, goats and kangaroos. It can be used as an indicator of good condition during a winter growing season.

Psammagrostis wiseana



Rytidosperma caespitosum

(Gaudich.) Connor & Edgar

RINGED WALLABY GRASS/WHITE TOP (Native perennial grass)

C3



PREVIOUS NAMES

Danthonia caespitosum, *Austrodanthonia caespitosum*

HABITAT

Sandplains, gumbelt loams

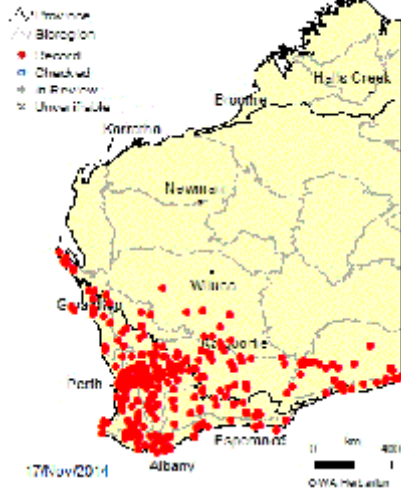
DISTRIBUTION

Widespread

DESCRIPTION

Erect tussock grass growing up to 90 cm tall with prominent tufty seed heads. Leaves are flat to rolled, or sometimes wavy, generally hairy, to 25 cm long and 4 mm wide. Seed heads are dense panicles up to 11 cm long and 4 cm wide with prominent protruding awns. Highly palatable to all stock and now much restricted in range because of constant heavy grazing by sheep in the Southern Rangelands. Often seen in refuges within protective shrub canopies. It is a highly valuable species and indicates good condition pastures.

Rytidosperma caespitosum



Rytidosperma setaceum

(R. Br.) Connor & Edgar

WALLABY GRASS (Native perennial grass)

C3



PREVIOUS NAMES

Danthonia setaceum, *Austrodanthonia setaceum*

HABITAT

Sandplains, gumbelt loams

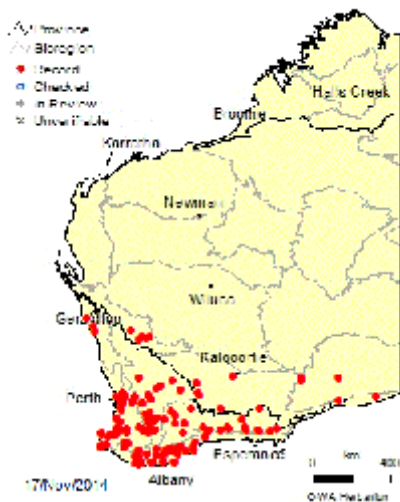
DISTRIBUTION

Locally significant

DESCRIPTION

Erect tussock grass growing up to 60 cm tall with tufted seed heads. It is similar to *R. caespitosum*, but may be distinguished by smaller spikelets and smoother, hairless leaves. Is often found growing together with *R. caespitosum* except for the Nullarbor, where it is probably absent. Has a similar grazing response and indicator value to its close cousin.

Rytidosperma setaceum



AG



AG

Setaria dielsii R. A. W. Herrm.

CHINTERBEE GRASS/PIGEON GRASS

(Native annual or short-lived perennial grass)

C4



HABITAT

Creeklines, floodplains, hardpan plains

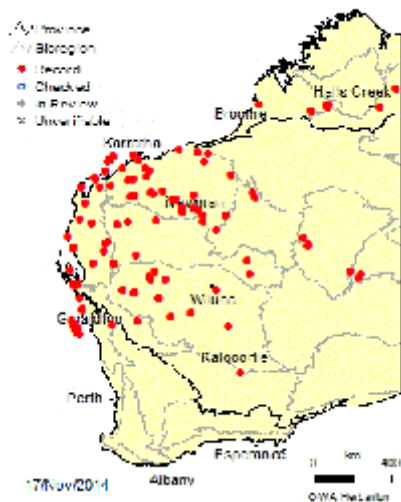
DISTRIBUTION

Widespread

DESCRIPTION

Straggly annual or short-lived perennial grass growing up to 70 cm tall. Leaves flat to slightly wavy or crinkled to 20 cm long and 10 mm wide and are hairy and scabrid (rough) on both sides. Seed heads are a spike-like panicle to 15 cm long and 10 mm wide. Spikelets are 3 mm long and 1 mm wide with a protruding 12 mm long bristle which attaches weakly to wool or clothing. The barbs on this bristle are forward pointing. *Setaria* seeds are typically plump, rounded and have a smooth surface. Chinterbee is highly palatable when green, though is not a reliable indicator of condition because of short life cycle. In the southern part of the region, its range and density is much reduced because of extensive topsoil loss on floodplains and creek margins. It is now generally restricted to creek and channel banks.

Setaria dielsii



DB



AG

Setaria verticillata (L.) P. Beauv.

CHINTERBEE GRASS/PIGEON GRASS (Introduced annual grass)

C4



PREVIOUS NAMES

Setaria adhaerens, *Setaria carnei*

HABITAT

Creeklines, disturbed areas

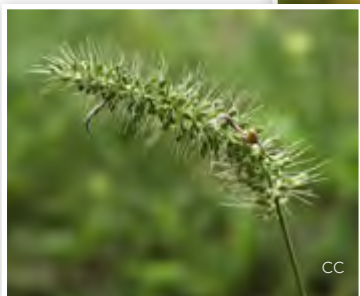
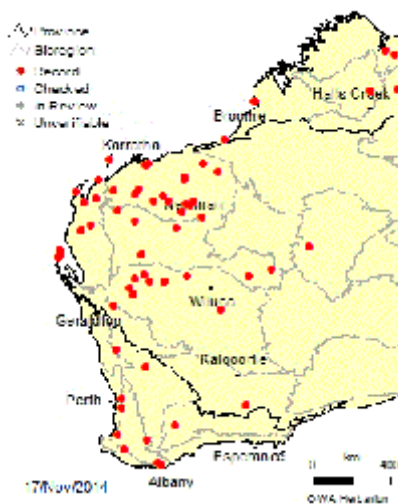
DISTRIBUTION

Common

DESCRIPTION

Erect annual grass growing up to 1 m tall with tenacious burry seeds. Leaves are flat to 30 cm long and 12 mm wide and quite scabrid (rough). Seed heads are carried in a dense cylindrical spike-like panicle to 16 cm long and 10 mm wide with bristles to 12 mm protruding from the small spikelets. Seeds are much stickier than similar looking *S. dielsii* because of the backwards pointing barbs on the bristles. An introduced species colonising wet areas, road sides and stock yards. Palatability is high, but value as an indicator is negligible because it is an annual and it has an invasive habit.

Setaria verticillata



Sporobolus actinocladius

(F. Muell.) F. Muell.

RAY GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Vilfa actinoclada

HABITAT

Crab holes, saline plains, swamps and floodplains

DISTRIBUTION

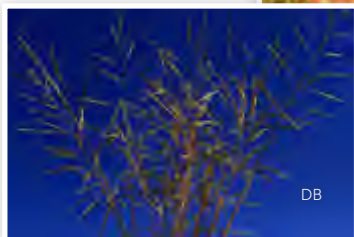
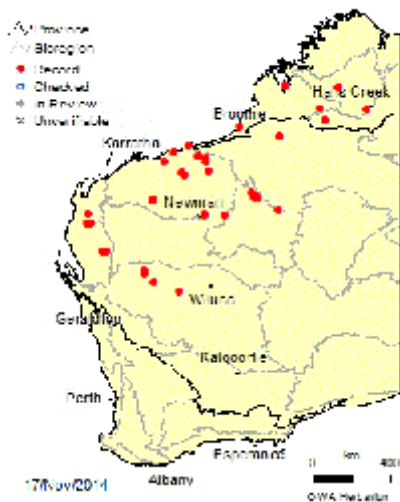
Locally significant

DESCRIPTION

Erect tufted perennial grass growing up to 70 cm tall. Leaves are flat to 20 cm long and 5 mm wide with a hairy or scabrid (rough) surface. Seed heads are broad spreading pyramid-shaped panicles to 20 cm long and 7 cm wide on maturity. Palatability is high in most instances, although it seems to be less preferred on highly saline soils. During a growing season, a large population of this species is regarded as an indicator of a good condition pasture.

It is a slight species and does not materially contribute to pasture bulk.

Sporobolus actinocladius



Sporobolus australasicus Domin

FAIRY GRASS/AUSTRALIAN DROPSEED (Native annual grass)

C3 & C4



HABITAT

Sandplains, stony plains, creeklines, disturbed areas

DISTRIBUTION

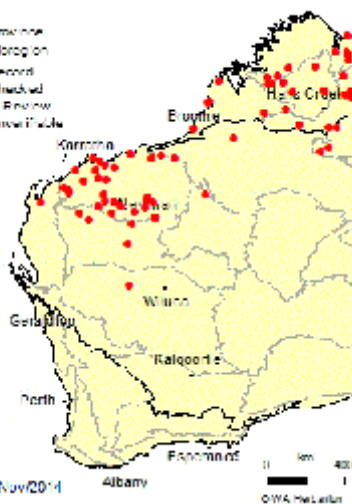
Uncommon

DESCRIPTION

Delicate tufted annual grass growing up to 45 cm tall. Leaves flat to 6 cm long and 8 mm wide with prominent hairs and serrated margins. Seed heads are sparse, wispy pyramid-shaped panicles to 18 cm long and 4 cm wide. Typically grows in disturbed areas, along roadsides and gravel pits. It is palatable, and is an increaser on cracking clay soils. In large populations in a growing season on cracking clay soils, in the absence of perennial grasses it is an indicator of poor pasture condition.

Sporobolus australasicus

- ✓ Not recorded
- ✓ Not recorded
- ✓ Not recorded
- ✓ Not recorded
- ✓ Not recorded
- ✓ Not recorded



Sporobolus caroli Mez

FAIRY GRASS (Native annual or short-lived perennial grass)

C4



HABITAT

Floodplains, saline plains

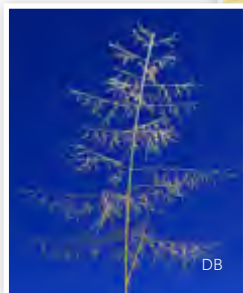
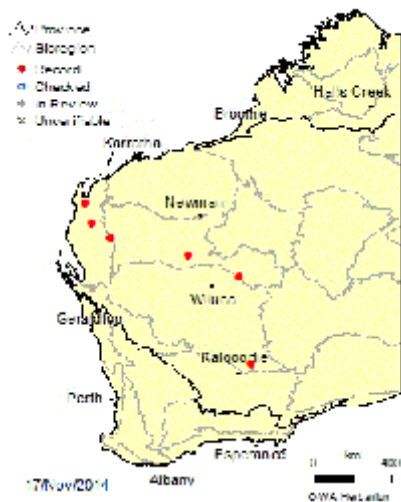
DISTRIBUTION

Uncommon

DESCRIPTION

Semi-perennial tufted grass, growing up to 75 cm tall with some similarities to *S. australasicus*, but is taller and has a generally finer appearance and a more robust base. Leaves are to 30 cm long and 5 mm wide with a hairy surface. Seed heads are fine, spreading panicles to 30 cm long and 20 cm wide. It is an uncommon species and is found in areas with clay soils such as washes and creeklines. It is highly palatable and is an indicator of good pasture condition.

Sporobolus caroli



Sporobolus mitchellii

(Trin.) C. E. Hubb. ex S. T. Blake

RATS TAIL COUCH/RIVER COUCH (Native perennial grass)

C4



PREVIOUS NAMES

Sporobolus benthamii, *Vilfa mitchellii*

HABITAT

Coastal plains, floodplains, billabongs

DISTRIBUTION

Locally significant

DESCRIPTION

Tufted, strongly stoloniferous perennial grass growing up to 70 cm tall with a distinctive dark "rats tail" like seed head. Leaves are flat to round and up to 10 cm long and 1.5 mm wide with a smooth surface and scaly margin. Lower leaves have a rather angular, or "reflexed" appearance. Seed heads are erect and fairly dense spikes to 15 cm long and 5 mm wide. Grows in wet saline areas. Rats tail couch is generally highly palatable and is a valuable indicator of good condition pastures. It is also an important ground cover species in alkaline soils.

Sporobolus mitchellii



DB



DB

Sporobolus virginicus (L.) Kunth

SALT WATER COUCH (Native perennial grass)

C4



PREVIOUS NAMES

Agrostis virginica

HABITAT

Beach dunes, tidal flats, salt marshes

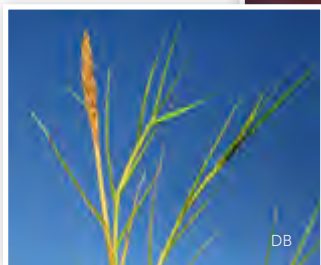
DISTRIBUTION

Common

DESCRIPTION

Tufted stoloniferous perennial grass that grows to 30 cm tall. New plants usually develop from runners (stolons) or underground stems. The leaves are 2–10 cm long, 1–2 mm wide and sharply pointed. The seed heads are linear panicles, 2–10 cm long and 6–8 mm wide on long stems. Found on coastal littoral plains and some inland swamps or floodplains. Salt water couch is generally palatable to all stock, except when dry and is quite resistant to grazing because of its robust stoloniferous nature. It is a useful indicator of good condition pastures.

Sporobolus virginicus



DB



DB

Themeda avenacea

(F. Muell.) Hack. ex Maiden & Betche

NATIVE OAT GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Anthistiria avenacea

HABITAT

Floodplains, creeklines

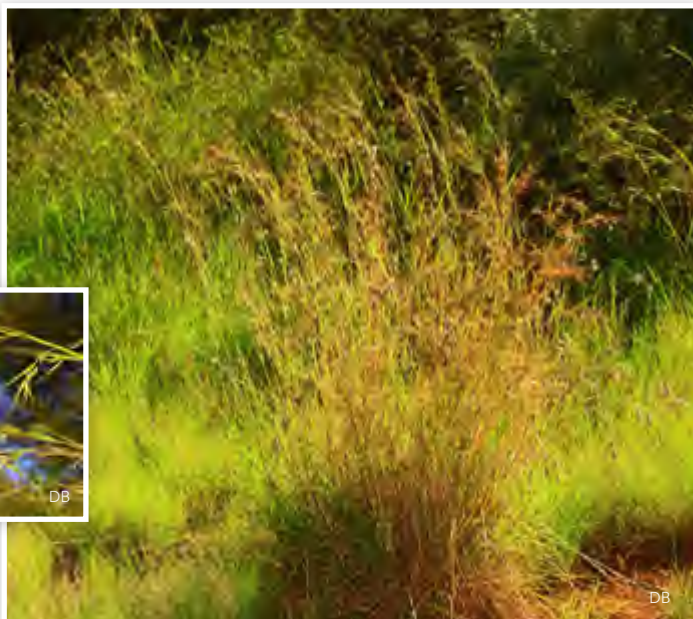
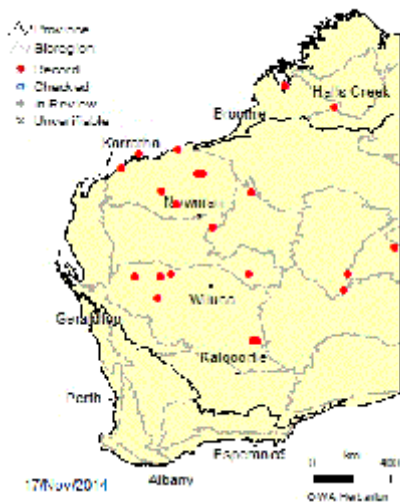
DISTRIBUTION

Uncommon

DESCRIPTION

Erect tussock grass growing to 2 m tall. Leaves to 80 cm long and 3 mm wide; scabrid on both sides and a tendency to curl at the base of the plant with age. Seed heads consist of groups of 3 to 10 very robust panicles to 50 cm long and 10 cm wide. The robust dark brown seeds are 13–17 mm long with a semi-spiralled awn to 10 cm long. The tussocks are very long-lived owing to their formidable basal bulk. Very similar to the more common kangaroo grass, but is taller, up to 2 m with more robust features. It favours creeklines and sandplains with finer textured soils at depth. It is not as palatable as kangaroo grass and should not be used as an indicator of pasture condition.

Themeda avenacea



Themeda triandra Forssk.

KANGAROO GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Anthistiria australis, *Anthistiria ciliata*, *Themeda australis*

HABITAT

Floodplains, creeklines, crab holes

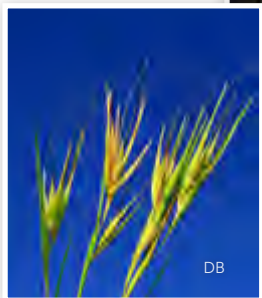
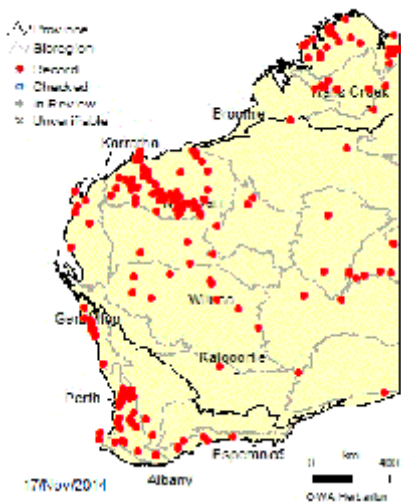
DISTRIBUTION

Common

DESCRIPTION

Tall, erect tussock grass with thin stems growing up to 1 m tall. The leaf blades are green and flat, up to 30 cm long. The seed heads are very open with distinctive "bird-like" seed sheaths hanging from slender stalks, which can appear similar to lemon scented grass (*Cymbopogon* spp). It flowers from February to May. Kangaroo grass is one of the more important species in the northern and western parts of the Southern Rangelands, being long-lived, highly palatable in most soils and is a robust stabiliser of creek banks. It is a valuable indicator of good condition pastures where it dominates, which is rare.

Themeda triandra



DB



DB

Thyridolepis mitchelliana

(Nees) S. T. Blake

MULGA GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Neurachne mitchelliana

HABITAT

Sandplains, dunes, wanderrie sands, gravelly sands, breakaways

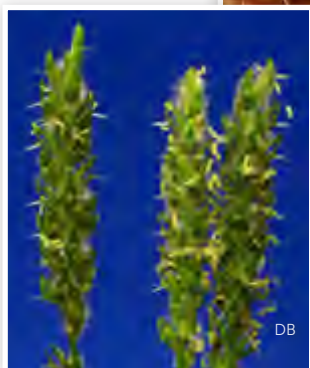
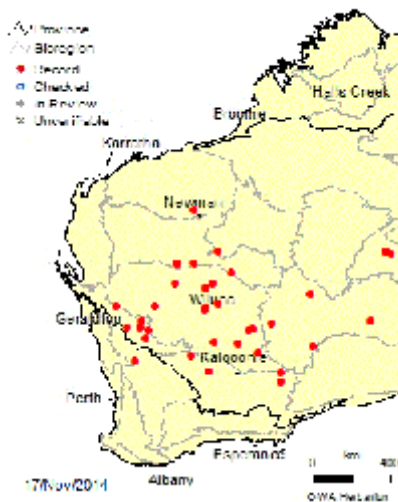
DISTRIBUTION

Common

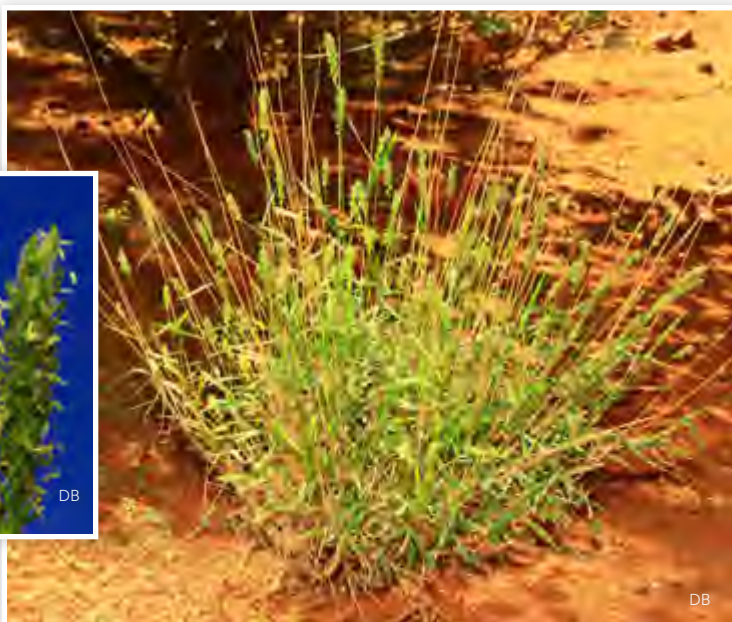
DESCRIPTION

Weakly tussocking, semi-perennial grass with a bulbous, hairy rhizomatous base growing up to 50 cm tall. Leaves are flat to 6 cm long and 5 mm wide with a hairy surface. Seed heads are a single, sometimes interrupted spike to 5 cm long and 10 mm wide. Seeds have pronounced laterally growing hairs. It is very similar to common soft wanderrie, but it is generally shorter with more "tufted" seed heads. It is similarly palatable and is a valuable indicator of good condition pastures.

Thyridolepis mitchelliana



DB



DB

Thyridolepis multiculmis

(Pilg.) S. T. Blake

SOFT WANDERRIE/BARBED WIRE GRASS (Native perennial grass)

C4



PREVIOUS NAMES

Neurachne multiculmis

HABITAT

Sandplains, wanderrie sands, gravelly sands, breakaways

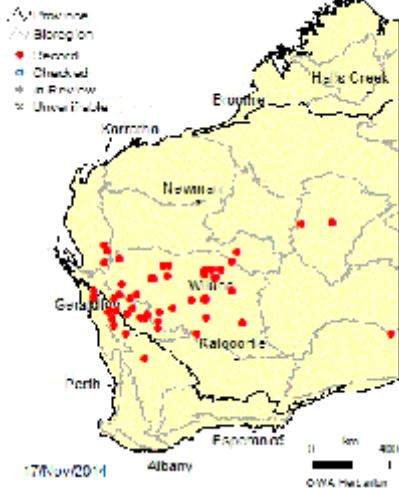
DISTRIBUTION

Widespread

DESCRIPTION

Weakly tussocking rhizomatous semi-perennial grass growing up to 60 cm tall with a distinctive bulbous hairy base. Leaves are flat to 10 cm long and 5 mm wide with fine hairs on both sides. Leaves are angular to the stem. Seed heads are single spikes to 9 cm long and 6 mm wide. Seeds have distinctive spiky hairs which give it the alternate name of barb wire grass. Soft wanderrie grass is an important component of wanderrie pastures and is palatable at all growth stages. It is not particularly long-lived in sandy soils, but is nonetheless a valuable indicator of good condition wanderrie pastures as persistent grazing will reduce densities. A very similar species — *T. xerophila* occurs on heavy soils in the far north east Gascoyne and is recognisable by a taller more slender habit than soft wanderrie.

Thyridolepis multiculmis



Tragus australianus S. T. Blake

SMALL BURR GRASS (Native annual grass)

C3 & C4



HABITAT

Sandplains, dunes, wanderie banks, hardpan plains, creeklines

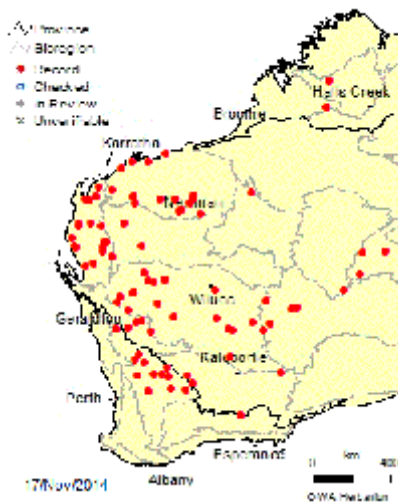
DISTRIBUTION

Widespread

DESCRIPTION

Tufted and slightly spreading annual grass growing up to 30 cm tall with a dense and distinctively "burry" seed head. Leaves are flat or wavy/crinkled and smooth surfaced with rough margins to 6 cm long and 6 mm wide. Seed heads are dense erect spikes to 10 cm long and 8 mm wide containing very persistent small burry fruit to 5 mm long and 2 mm wide. Burr grass is palatable but not long-lived hence has no indicator value. In good seasons, it will increase at the expense of more palatable species that have been under grazing pressure. It is quick to respond to summer rain.

Tragus australianus



DB



DB

Triodia basedowii E. Pritz.

BUCK OR HARD SPINIFEX (Native perennial grass)

C4



HABITAT

Spinifex sandplains

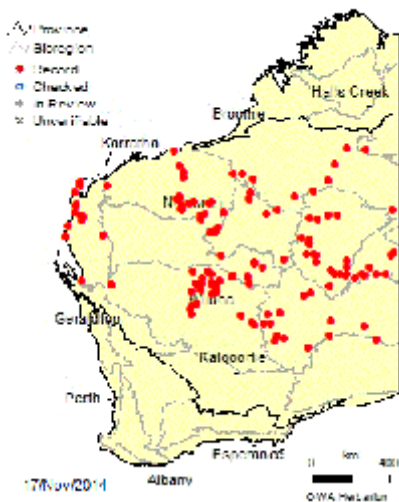
DISTRIBUTION

Widespread

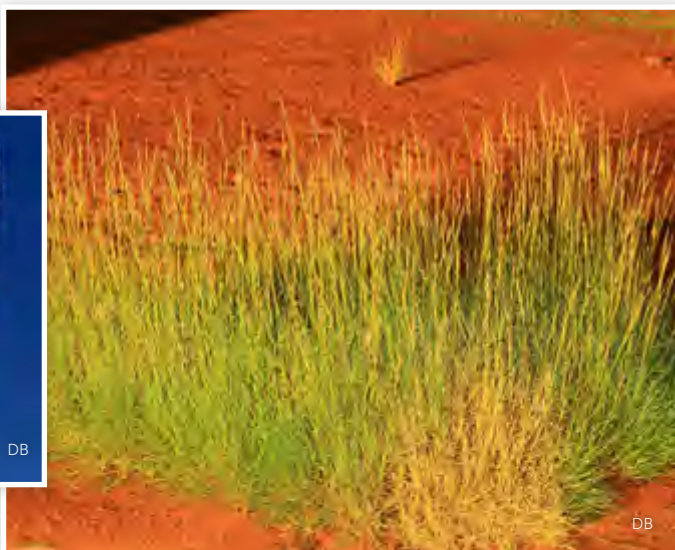
DESCRIPTION

Hard, spiny, hummock grass that grows up to 70 cm tall. Older plants form rings due to the growth of stolons on the outer edge of the hummock and the inside of the hummock becomes moribund. The leaves are sharply pointed and bluish green, they range from 5–25 cm in length and 2 mm wide. Seeding stems stand erect, 60–70 cm long above the hummocks; the seed heads are 8–12 cm long and each spikelet contains from five to eight florets, two of which are always fertile. Each spikelet is 7–18 mm long and these diminish in floret number (and size) from bottom to top. Foliage is not eaten by stock but the seed heads may be. It is very important for soil stability, especially after fire. This species has no grazing indicator value.

Triodia basedowii



DB



DB

Tridodia epactia s. W. L. Jacobs

GREY SOFT SPINIFEX (Native perennial grass)

C4



HABITAT

Coastal sand dunes, sandplains, rocky hills, floodplains, near creek banks.

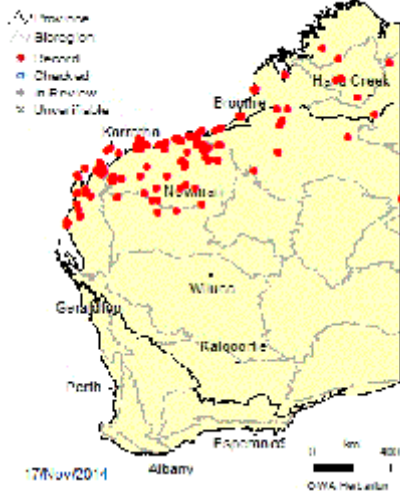
DISTRIBUTION

Common

DESCRIPTION

Soft resinous hummock grass growing up to 80 cm tall and up to 2 m across. Stems are smooth, slender and coated with resin, particularly at the base. The leaf blades are rolled, slender, up to 30 cm long and are pointed at the ends. The seed heads are spear-shaped panicles. New plants may develop from runners. *T. epactia* differs from *T. pungens* by having winged margins on its seed. It is eaten by stock and is a decreaser species on sandy to loamy plains but is an increaser species on clay plains. It is very important for soil stability.

Tridodia epactia



Triodia irritans R. Br.

PORCUPINE GRASS (Native perennial grass)

C3 & C4



HABITAT

Quartz/granite hills, creeks, limestone soils, saline flats, coastal dunes, sandplains, red sandy loams

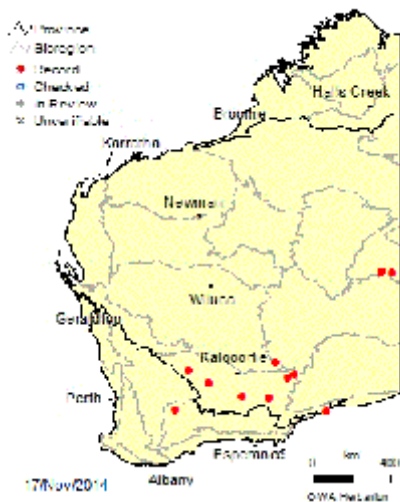
DISTRIBUTION

Uncommon

DESCRIPTION

Hard spiny hummock grass, the seed heads of which grow up to 1 m tall. Ligules are a fringe of hairs. Leaf blades straight, sharply pointed and fold up and are 5–25 cm long, 0.5–2 mm wide. Seed heads are either linear, oblong or elliptic panicles, up to 19 cm long and 4 cm wide. Spikelets have 5 to 10 florets, with at least two being fertile, the size of the florets diminish towards the apex, are cuneate, laterally compressed or terete, 11–30 mm long. Not eaten by stock but is very important for soil stability, especially after fire. This species has no grazing indicator value.

Triodia irritans



Triodia lanigera Domin

HARD SPINIFEX (Native perennial grass)

C4



HABITAT

Sandhills, sandplains, near water, rocky outcrops

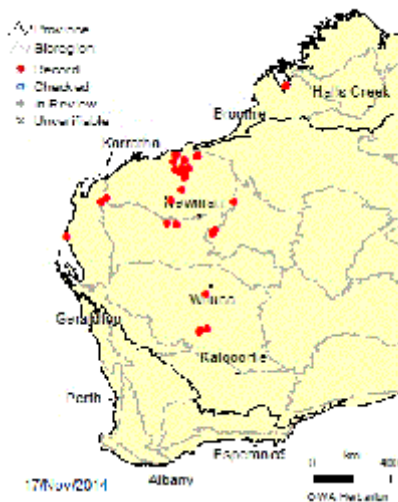
DISTRIBUTION

Locally significant

DESCRIPTION

Hard, prickly, hummock grass that forms low hummocks growing up to 1 m tall when the seed heads are included. The leaves are sharply pointed and bluish green, they range from 5–25 cm in length and 2 mm wide. Hard spinifex has no grazing value except when flowering, when the seed heads are palatable to grazing animals. It has no grazing indicator value except when it appears in soft spinifex communities or tussock grasslands, where it is an increaser. It is very important for soil stability, especially after fire.

Triodia lanigera



Triodia melvillei (C. E. Hubb.) Lazarides

OAT EARED SPINIFEX (Native perennial grass)

C4



PREVIOUS NAMES

Plectrachne melvillei

HABITAT

Sandplains, dunes, ironstone ridges

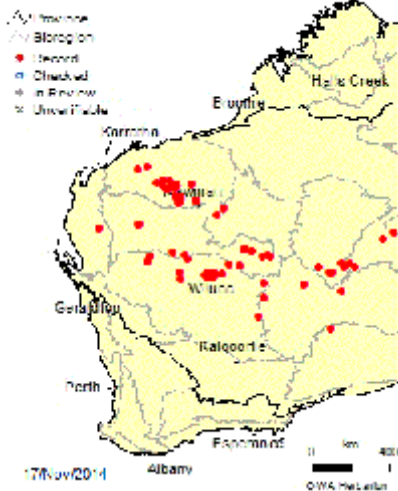
DISTRIBUTION

Common

DESCRIPTION

Hard hummock grass growing up to 2 m tall. Leaf sheaths glabrous on surface. Leaf sheath auricles absent. Ligule a fringe of hairs. Leaf blades curved or flexuous, the leaf surface folds inwards, sharp, 15–34 cm long, 0.8–2 mm wide. Leaf blade surface hairy. Seed heads linear or oblong panicles to 45 cm long and to 6 cm wide, carrying numerous pedicelled spikelets. Each spikelet has 3 to 8 florets, of which at least two are fertile. The spikelets diminish in size from the bottom to top of each seed head. Spikelets are laterally compressed or terete, 8–20 mm long. Each spikelet has long glumes, which resembles an oat seed. It is rarely eaten. It is important for maintaining land stability, especially after a fire. This species has no grazing indicator value.

Triodia melvillei



Triodia pungens R. Br.

SOFT SPINIFEX (Native perennial grass)

C4



HABITAT

Sandplains, dunes, limestone plains and rises, floodplains, ironstone hills

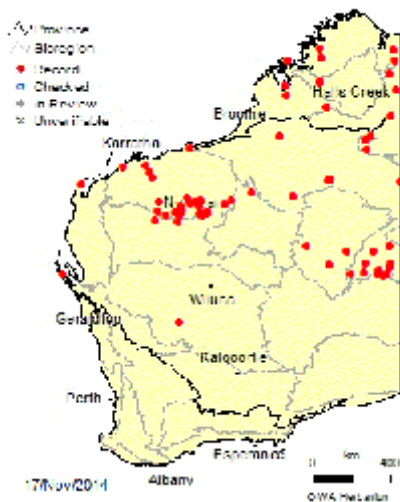
DISTRIBUTION

Uncommon

DESCRIPTION

Straggly resinous, ring-forming hummock grass growing up to to 80 cm tall and up to 2 m across. Stems are smooth, slender and coated with resin, particularly at the base. The leaf blades are rolled, slender, up to 30 cm long and are pointed at the ends but are not aggressively sharp. The seed heads are spear-shaped panicles. New plants may develop from runners. Two useful distinctions can be made between hard and soft spinifex; soft varieties are resinous whilst hard spinifexes are not; leaves of the hard species will penetrate all the way through thick jeans, whereas the soft species do not. *T. pungens* is very similar to *T. epactea* and the two can be distinguished because *T. pungens* does not have winged seeds whilst *T. epactea* does. It is eaten by stock. In cracking clay country, soft spinifex takes over overgrazed tussock grasslands where it is an increaser species. On non clay soils it is a decreaser species and is important for soil stability, especially after fire.

Triodia pungens



Triodia scariosa N. T. Burb.

BUCK SPINIFEX (Native perennial grass)

C3 & C4



HABITAT

Sandplains - yellow/red sand and gravels, dunes, laterites, gumbelt loamy soils

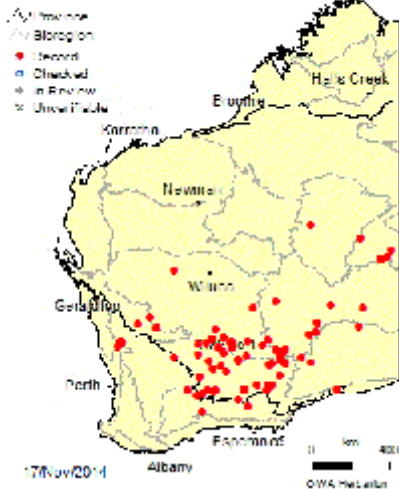
DISTRIBUTION

Widespread

DESCRIPTION

Stoloniferous hummock grass growing up to 1 m tall. Leaf sheath auricles absent. Ligule a fringe of hairs. Leaf blades straight, sharply pointed and inward folding, 4–27 cm long, 0.7–2 mm wide. Seed heads a linear, dense or loose panicle, 7–46 cm long, 1–3 cm wide. Spikelets pedicelled. Seed heads have many spikelets. Spikelets have from 4 to 9 florets, with at least two being fertile. The number of florets in each spikelet diminishes from the bottom to the top. Each spikelet is 5–23 mm long, linear or lanceolate, laterally compressed or terete. It is not eaten by stock but is an important stabiliser of land, especially after a fire. This species has no grazing indicator value.

Triodia scariosa



Tridodia wiseana C. A. Gardner

LIMESTONE/HARD SPINIFEX (Native perennial grass)

C4



HABITAT

Sandplains, limestone plains and rises, ironstone plains and ridges, creeks

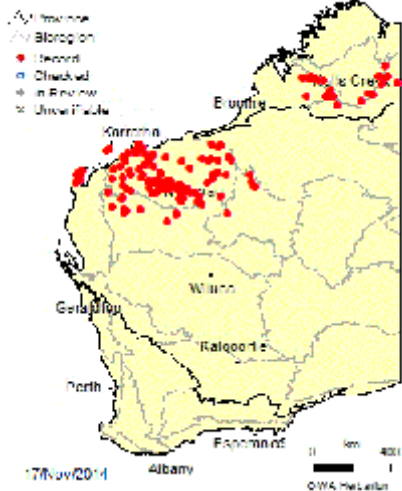
DISTRIBUTION

Common

DESCRIPTION

Hard, spiny low hummock grass growing up to 70 cm tall, which includes the seed heads. The leaves are sharply pointed and bluish green and range from 5–25 cm in length and 2 mm wide. Generally found on hills, especially those with alkaline soils. Except for the seed heads, it is not eaten by stock, but is an important stabiliser of land, especially after a fire. This species has no grazing indicator value.

Tridodia wiseana



Tripogon loliiformis (F. Muell.) C. E. Hubb.

FIVE MINUTE GRASS/RESURRECTION GRASS (Native annual grass)

C3 & C4



PREVIOUS NAMES

Festuca loliiformis

HABITAT

Granite outcrops, claypans, creeklines

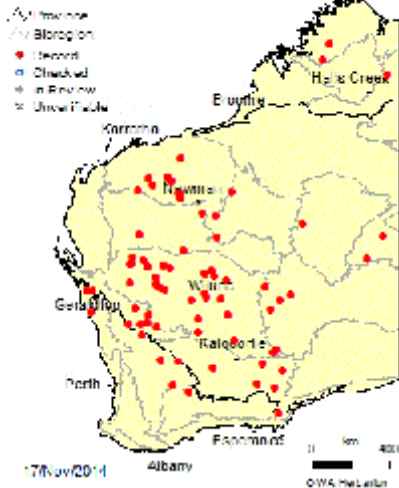
DISTRIBUTION

Widespread

DESCRIPTION

Tiny tufted perennial grass growing up to 25 cm tall. Leaves are smooth, flat to folded, to 8 cm long and 1 mm wide. Seed heads are carried on a single spike to 10 cm long and 10 mm wide and is either fully erect or with a distinct curved shape. It is palatable only when green; it dries quickly and becomes unattractive to stock. The species will establish around tank overflows or turkey nests and is often ignored. After rain it is the first grass to grow at any time of year, hence its common name. It has no indicator value.

Tripogon loliiformis



KT



KT

Triraphis mollis R. Br.

NEEDLE GRASS (Native annual grass)

C3 & C4



HABITAT

Coastal dunes, alluvial plains, creeklines

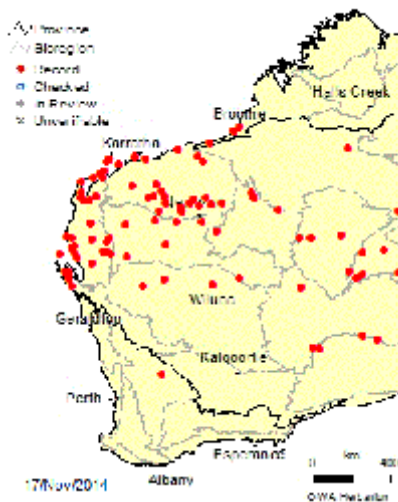
DISTRIBUTION

Common

DESCRIPTION

Tufted annual grass growing up to 70 cm tall. Leaves flat or rolled to 20 cm long and 4 mm wide. Seed heads carried on a tufted dense spike to 20 cm long and 3.5 cm wide with a deep purplish tinge on maturity. Seeds have long awns to 5 cm long with barbs that catch easily on animals and clothing. It is of moderate palatability but as an annual, it has no indicator value.

Triraphis mollis



Yakirra australiensis

(Domin) Lazarides & R. D. Webster

BUNCH PANIC (Native annual or short-lived perennial grass)

C4



PREVIOUS NAMES

Panicum australiense, *Ichnanthus australiensis*

HABITAT

Red or white sand, sandstone, sandplains

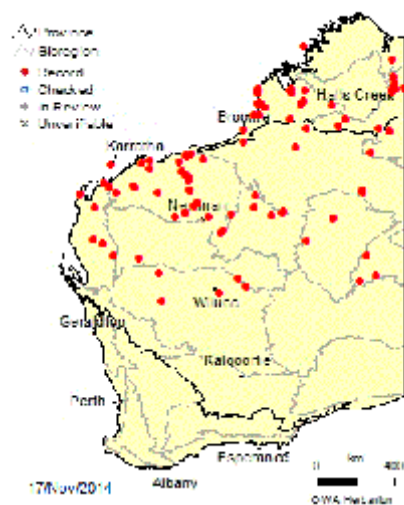
DISTRIBUTION

Locally significant

DESCRIPTION

Bushy globular annual grass growing up to 30 cm tall. Leaves are flat to rolled, 8 cm long and 4 mm wide; they have sparse hairs, rough margins and finely pointed tips. Seed heads are carried in small panicles up to 3.5 cm long and 1.5 cm wide, covered in a sheath until maturity. It is of moderate palatability, but as it is an annual and not robust, it is of no indicator value.

Yakirra australiensis





Glossary

Antorse	directed upwards. <i>cf.</i> retrorse
Auricles	an ear-shaped appendage at the base of a leaf, leaflet or corolla lobe; or an ear-like outgrowth at the base of the sheath of some grasses and other monocots. <i>adj.</i> auriculate, also used to describe a leaf base which has lobes on both sides of the petiole
Cuneate	a 2-dimensional shape; obtriangular, i.e. wedge-shaped
Digitate	having parts arranged like the fingers on a hand
Donga	large drainage depression in a limestone landscape, usually supporting trees
Flexuose	zig-zagging, often referring to a stem
Glabrous	without hairs
Indumented	the type of hairiness commonly found on external parts of plants
Inflorescence	the arrangement of flowers in relation to the axis and to each other
Involute	with the margins inrolled on the upper (adaxial) surface, referring to a leaf or other flat organ
Lanceolate	lance shaped, much longer than wide, the widest point below the middle
Ligule	outgrowth from the inner junction of the grass leaf sheath and blade, often membranous, sometimes represented by a fringe of hairs
Panicle	a compound raceme; an indeterminate inflorescence in which the flowers are borne on branches of the main axis or on further branches of these. <i>adj.</i> paniculate
Pedical/pedicalled	the stalk of an individual flower. In a single-flowered inflorescence, may refer to a peduncle, or both peduncle and pedicel when undifferentiated. Also used here for the stalk of a spikelet in <i>Poaceae</i> . <i>adj.</i> pedicellate
Pubescent	covered with short, soft hairs
Raceme	an indeterminate inflorescence with a simple, elongated axis and pedicellate flowers. <i>adj.</i> racemosa
Rachella	the main axis of a grass spikelet

Rhizome/rhizomatous	a creeping stem, usually below ground, consisting of a series of nodes and internodes with adventitious roots. <i>adj.</i> rhizomatous
Scabrous/scabrid/scaberulous . . .	rough to the touch
Spikelet	the grass flowerhead, generally composed of two glumes and one or more florets.
Stolons/stoloniferous	the above ground creeping stem of a rosetted or tufted plant such as <i>Paraneurachne muelleri</i> and bearing adventitious roots. <i>adj.</i> stoloniferous
Terete	circular in cross-section
Xerophytic	a plant which naturally grows in dry regions and is often structurally modified to withstand dry conditions. Often used to describe plants with spiky leaves, which in itself is an indicator of xerophytic life forms.

Source: <https://florabase.dpaw.wa.gov.au/help/glossary#D>. Accessed 8 June 2015.

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- <https://florabase.dpaw.wa.gov.au/help/glossary#D>. Accessed 8 June 2015.

Photo Credits

Image Credit Abbreviations

AGAusgrass. ausgrass.com.au
AMAndrew Mitchell. ami53538@bigpond.net.au
DBDavid Blood. suedave@iinet.net.au
DWDon Wood, Scotia Sanctuary, NSW
FBFlorabase. florabase.dpaw.wa.gov.au
HA http://helenaurororange.com.au/
HRHarry Rose – www.flickr.com/photos/macleaygrassman
JAJim Addison. jim.addison@agric.wa.gov.au
JBJane Bradley, Rangelands NRM
JSJohn Stretch, DAFWA. john.stretch@agric.wa.gov.au
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Index of common and scientific names

<i>Amphipogon caricinus</i>	26	Button grass	50
Annual beard grass	102	Cane speargrass	35
<i>Aristida contorta</i>	27	<i>Cenchrus ciliaris</i>	39
<i>Aristida holathera</i>	28	<i>Cenchrus echinatus</i>	40
<i>Aristida latifolia</i>	29	<i>Cenchrus setaceus</i>	41
<i>Aristida obscura</i>	30	<i>Cenchrus setiger</i>	42
<i>Astrebla elymoides</i>	31	Chinterbee grass/pigeon grass	106
<i>Astrebla pectinata</i>	32	<i>Chloris pectinata</i>	43
<i>Austrostipa elegantissima</i>	33	<i>Chloris truncata</i>	44
<i>Austrostipa nitida</i>	34	<i>Chloris virgata</i>	45
<i>Austrostipa platychaeta</i>	35	<i>Chrysopogon fallax</i>	46
<i>Austrostipa scabra</i>	36	Claypan grass/crab hole grass	76
Awnless barnyard grass	53	Clement's paspalidium	99
Barley Mitchell grass	32	Comb chloris	43
Beetle grass	89	Cotton panic grass	52
Bermuda or couch grass	49	Creeping wanderrie	67
Birdwood grass	42	Cumings love grass	60
Blown grass	87	Cupgrass	82
<i>Bothriochloa ewartiana</i>	37	Curly windmill grass	58
Bottle washers	54	<i>Cymbopogon ambiguus</i>	47
<i>Brachyachne prostrata</i>	38	<i>Cymbopogon obtectus</i>	48
Branched panic	96	<i>Cynodon dactylon</i>	49
Broad leaved wanderrie	90	<i>Dactyloctenium radulans</i>	50
Brush threeawn	30	Delicate lovegrass	72
Buck or hard spinifex	118	Desert bluegrass	37
Buck spinifex	124	<i>Dichanthium sericeum</i>	51
Buck wanderrie	78	<i>Digitaria brownii</i>	52
Buffel grass	39	Drooping lovegrass	68
Bunch panic	128	<i>Echinochloa colona</i>	53

<i>Enneapogon avenaceus</i>	54	<i>Eriochloa procera</i>	82
<i>Enneapogon caerulescens</i>	55	<i>Eriochloa pseudoacrotricha</i>	83
<i>Enneapogon cylindricus</i>	56	<i>Eulalia aurea</i>	84
<i>Enneapogon polyphyllus</i>	57	Fairy grass (<i>Sporobolus caroli</i>)	110
<i>Enteropogon ramosus</i>	58	Fairy grass/Australian dropseed	109
<i>Eragrostis australasica</i>	59	False broadleaf wanderrie grass/ annual wanderrie	74
<i>Eragrostis cumingii</i>	60	Feathertop Rhodes grass	45
<i>Eragrostis dielsii</i>	61	Feathertop speargrass	33
<i>Eragrostis eriopoda</i>	62	Five minute grass/resurrection grass	126
<i>Eragrostis falcata</i>	63	Fountain grass	41
<i>Eragrostis kennedyae</i>	64	Green panic/native millet	95
<i>Eragrostis lacunaria</i>	65	Grey soft spinifex	119
<i>Eragrostis laniflora</i>	66	Hairy-flowered woollybutt	66
<i>Eragrostis lanipes</i>	67	Hard spinifex	121
<i>Eragrostis leptocarpa</i>	68	Hopalong grass	98
<i>Eragrostis parviflora</i>	69	<i>Iseilema membranaceum</i>	85
<i>Eragrostis pergracilis</i>	70	<i>Iseilema vaginiflorum</i>	86
<i>Eragrostis setifolia</i>	71	Jointed nineawn	56
<i>Eragrostis tenellula</i>	72	Kangaroo grass	114
<i>Eragrostis xerophila</i>	73	Knottybutt grass	100
Erect kerosene grass/tall windgrass	28	<i>Lachnagrostis filiformis</i>	87
<i>Eriachne aristidea</i>	74	Lemon scented grass/scent grass	47
<i>Eriachne benthamii</i>	75	<i>Leptochloa digitata</i>	88
<i>Eriachne flaccida</i>	76	<i>Leptochloa fusca</i>	89
<i>Eriachne gardneri</i>	77	Limestone grass (<i>Enneapogon</i> <i>caerulescens</i>)	55
<i>Eriachne helmsii</i>	78	Limestone grass (<i>Enneapogon</i> <i>polyphyllus</i>)	57
<i>Eriachne mucronata</i>	79		
<i>Eriachne obtusa</i>	80		
<i>Eriachne pulchella</i>	81		

Index of common and scientific names

Limestone/hard spinifex	25	Porcupine grass.	120
Long grey beard grass	26	Pretty wanderrie	81
Lovegrass	69	<i>Psammagrostis wiseana</i>	103
Mallee lovegrass/ Murchison red grass	61	Purple lovegrass	65
<i>Monachather paradoxus</i>	90	Queensland bluegrass	51
Mountain wanderrie/stony wanderrie grass	79	Rats tail couch/river couch	111
Mulga grass	93	Ray grass	108
Mulga grass (<i>T. mitchelliana</i>)	115	Red Flinders grass	86
Native couch	38	Reflexed panic	97
Native oat grass	113	Ribbon grass/golden beard grass	46
Needle grass	127	Ringed wallaby grass/white top	104
<i>Neurachne annularis</i>	91	Roeburne Plains grass	73
<i>Neurachne lanigera</i>	92	Rough speargrass	36
<i>Neurachne minor</i>	93	<i>Rytidosperma caespitosum</i>	104
<i>Neurachne munroi</i>	94	<i>Rytidosperma setaceum</i>	105
Neverfail	71	Salt water couch	112
Northern wanderrie/wire wanderrie	80	Sammy's grass/Bashir's grass	103
Oat eared spinifex	122	<i>Setaria dielsii</i>	106
<i>Panicum decompositum</i>	95	<i>Setaria verticillata</i>	107
<i>Panicum effusum</i>	96	Sickle lovegrass	63
<i>Paractaenum novae-hollandiae</i>	97	Silky browntop	84
<i>Paraneurachne muelleri</i>	98	Silky heads	48
<i>Paspalidium clementii</i>	99	Small burr grass	117
<i>Paspalidium constrictum</i>	100	Small Flinders grass	85
<i>Paspalidium distans</i>	101	Small lovegrass, Murchison red grass	70
Perennial cupgrass	83	Smallflower lovegrass	64
<i>Polypogon monspeliensis</i>	102	Soft spinifex	123
		Soft wanderrie/barbed wire grass	116

Speargrass	34	<i>Triodia langigera</i>	121
<i>Sporobolus actinocladus</i>	108	<i>Triodia melvillei</i>	122
<i>Sporobolus australasicus</i>	109	<i>Triodia pungens</i>	123
<i>Sporobolus caroli</i>	110	<i>Triodia scariosa</i>	124
<i>Sporobolus mitchellii</i>	111	<i>Triodia wiseana</i>	125
<i>Sporobolus virginicus</i>	112	<i>Tripogon loliiformis</i>	126
Swamp or cane grass	59	<i>Triraphis mollis</i>	127
Swamp wanderie grass	75	Walkaway burr/Mosman grass	40
Tall speargrass/feathertop	29	Wallaby grass	105
<i>Themeda avenacea</i>	113	Wanderie grass	77
<i>Themeda triandra</i>	114	Weeping Mitchell grass/hoop Mitchell grass	31
<i>Thyridolepis mitchelliana</i>	115	Whorled cane grass/swamp grass	88
<i>Thyridolepis multiculmis</i>	116	Wind grass/kerosene grass	27
<i>Tragus australianus</i>	117	Windmill grass	44
<i>Triodia basedowii</i>	118	Woollybutt	62
<i>Triodia epactia</i>	119	<i>Yakirra australiensis</i>	128
<i>Triodia irritans</i>	120		

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Field Guide to Common Grasses of the Southern Rangelands

Native perennial grasses play a crucial role in the health and productivity of the Southern Rangelands of Western Australia, providing a major source of energy for livestock, and playing a key role in retaining topsoil and soil moisture.

Large areas of the Southern Rangelands support reduced populations of perennial grasses because of overgrazing and soil erosion and the result has been an increase in shrubs and a decrease in grass. The structure and composition of vegetation communities has changed towards scrub. As a result, while protein is not generally a limiting factor in the diet of livestock in the Southern Rangelands, energy, provided by the perennial grasses, is. Most of the grasses are still present but in reduced populations and many are starting to return and rangeland managers should actively promote them.

As so eloquently outlined by C.A. Gardner in 1951, it is vital the "delicate balance between the plant and its environment" is maintained by careful stocking to avoid "irreparable loss of a valued natural asset"; one on which the WA pastoral industry depends.

We hope this guide begins to address the knowledge gaps of the grasses present in the Southern Rangelands, and how they are best managed to enable them to persist in this environment to benefit both the landscape and the pastoral industry.

