



BUFFEL GRASS INFORMATION PACK FOR CENTRAL AUSTRALIA



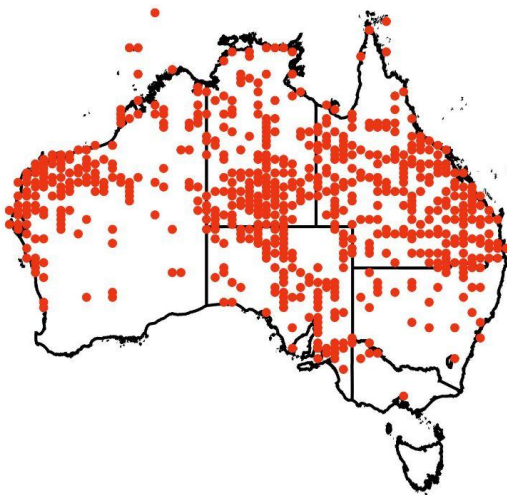
**Arid
Lands
Environment
Centre**

THE WHAT, WHERE AND HOW OF BUFFEL

What is buffel grass?

Buffel is deep rooted, hardy, long-lived and drought tolerant tussock grass. It has a high-biomass and seeds rapidly after rain.

These characteristics have seen its distribution quickly expand and make it difficult to remove.



Where is buffel grass?

Buffel grass is found in every mainland state and the Northern Territory. It has particularly thick infestations in Mparntwe (Alice Springs) and other areas of central Australia, including the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands.

Buffel is native to tropical and sub-tropical Africa, India and Indonesia.

How did it get to Central Australia?

At scale, buffel grass was deliberately planted by the Northern Territory Government's soil conservation scientists, the CSIRO and pastoralists in the 1960's and 1970's as a pasture grass for cattle. It was also used as a dust suppressant to restore lands that had been seriously degraded by overstocking and other poor land management practices. These issues were exacerbated by drought. For decades, buffel grass has been deliberately spread and even today, in the Northern Territory there are no rules to restrict its planting or sale.



Buffel grass as an invasive species

Buffel is a very effective coloniser of bare, eroded or degraded areas where it can rapidly invade diverse environments including grasslands, river systems, sand plains and rocky outcrops.

Road corridors, cleared land, over-stocked land, waterways or 'rehabilitated' land i.e. mine sites are key corridors for its expansion.

Buffel prefers soils that have medium-high phosphorus and nitrogen levels to establish, but is also able to escape the limitation of nutrient availability in arid ecosystems by directly or indirectly modifying the soil microbiome.

Once established, buffel out-competes native species. Dense stands of buffel quickly dominate light and space, preventing the re-establishment of native vegetation.



Buffel grass and fire

Buffel grass and its promotion of fire is one of the main reasons buffel is so dangerous to arid and semi-arid lands.

The presence of buffel grass substantially exacerbates the threat and impact of fire across central Australia. Buffel grass fires are hotter, larger and occur more frequently. Buffel is altering the wildfire regime of the arid zone.

Grasslands, woodlands and vegetation in river systems are all at risk, with buffel grass slowly thinning the landscape through fire, transforming complex and diverse ecosystems into buffel monocultures.

Buffel grass impacts

Degrading ecosystem health

Buffel grass invasion harms local and landscape-scale ecosystems by not only altering wildfire regimes, but also by increasing soil erosion rates, ground surface temperatures and supply of vital resources to surrounding life forms. These processes compromise biodiversity. Once established buffel grass often monocrops entire landscapes.



Bad for native species

All native animals and plants and animals are negatively impacted by buffel grass invasion. This includes species found in gorges, hills, rocky outcrops, sandplains and floodplains. This includes mammals, birds, reptiles, plants and invertebrates

A public safety threat

Buffel grass surrounds housing across towns and remote communities across central Australia. Buffel fires burn hot. They pose a threat to lives and property.

In March 2023 dwellings were lost in the rural area of Mparntwe (Alice Springs) because of fires fueled by buffel.



Impact on cultural values

The impact of buffel grass invasion on culture cannot be overstated

Cumulative impacts in a changing climate

Climate change is anticipated to hasten the growth of buffel across inland Australia. Hotter and drier conditions across much of arid zone will further fuel the devastating impacts of buffel grass wildfires. Climate change and fire promoting invasive species such as buffel grass will compound the impacts of each other.



Health

Buffel grass impacts human health in a number of ways.

Ecosystem and biodiversity loss has many negative impacts including, but not limited to impacts on culture, which is a foundation for health, and the availability of a diverse and highly nutritious native foods and traditional medicine

Buffel pollen has been associated with allergic responses (hay fever and allergic asthma)

Buffel fueled fires pose a serious threat to physical and mental health.

FOUNDATIONS FOR A HEALTHY LIFE

Aboriginal and Torres Strait Islander health is viewed in a holistic context that recognises not only physical health and wellbeing but also the social, emotional and cultural wellbeing of individuals, families and communities throughout the entire life course.

The cultural determinants of health



The social determinants of health

Culture is a foundation for Aboriginal and Torres Strait Islander health and wellbeing. It is a protective factor across the life course, and has a direct influence on broader social determinants outcomes. Gains across these broader determinants, in turn, reinforce cultural connectedness, maintenance, resurgence, nation building and pride in cultural identity.

Desert Indigenous Protected Areas Rangers Statement on Buffel Grass 2021 (Umuwa Statement)

Nganana Anangu tjutanku tjanpi kuranya nyanga palunya ngalya katinytja wiyatu. Palu kuwari tjanpi kuranya nganampa mantangka ngaranya munu nganampa ngura kurani munu community munu culture kulu.

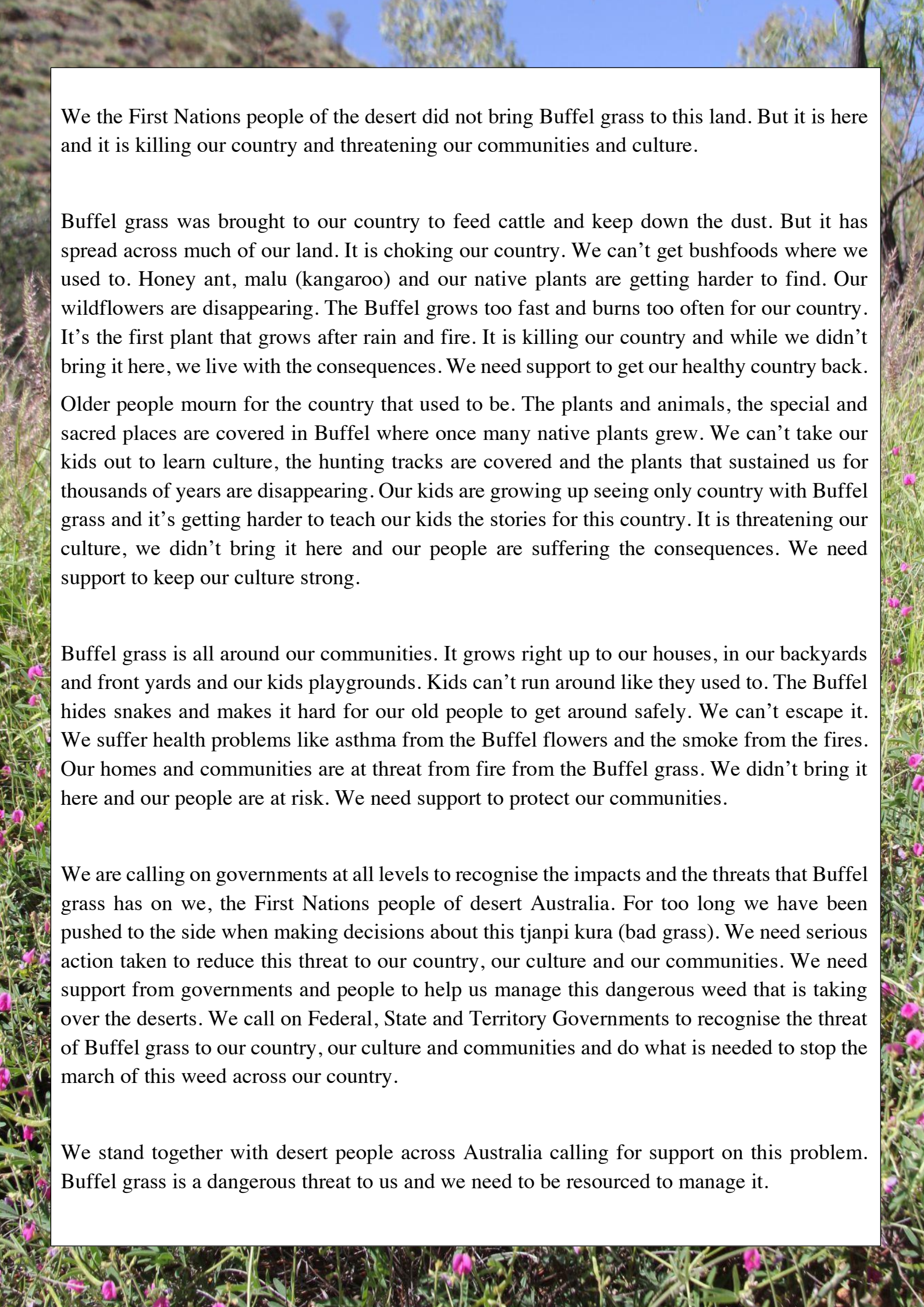
Tjanpi kuranya ngalya katingu puluka tjutaku kutju mai munu ulpuru kulu wiyanytjikitjangku. Panya kuwari tjanpi kuranya ala lipiringu munu iluntanu nganampa ngurangka. Ka nganana kuwari putu ngurini mai putitja tjuta. Panya tjala, malu, kampurarpa, wiriny-wirinya, ultukunpa, wangunu, kaltu-kaltu, arnguli, kurku munu punu putitja kutjupa tjuta kulu panya kuwari nganana putu ngurini munu nganampa tjulpuntjulpunpa munu inunytji kulu wiyaringu. Tjanpi kuranya warpungkula pulkaringkupai warungku kampanyangka munu kapingku puyinyangka. Ka nganana nyanga palunya ngalya katintja wiyatu panya tjanpi kura nyanga paluru panya witu- witu pulka mulapa. Ka nganana mukuringanyi alpamilantjaku nganampa ngura malangkungku wiru kanyintjaku.

Ka kuwari tjilpi pampa tjuta ulanyi ngura nyanga palumpa. Panya kuwari ngura pulka tjuta anganu tjanpi kuralu panya punu wiru tjuta pakantjitjangka. Panya nganana kuwari tjitji tjuta katintja wiyaringu putikutu panya tjanpi kuralu iwara patinu munu punu nganmanypa pakantja tjuta wiyanu. Ka nganampa tjitji tjutanku kuwari putu nyanganyi panya tjanpi kuralu uwankara patinu munu kuwari witu-witu pulka ngaranya panya nganampa tjitji tjuta nintintjaku. Ka nganana nyanga palunya ngalya katintja wiyatu. Panya nganampa culture kuwari kurani, ka anangu tjuta kuwari tjituru-tjituru nyinanyi.

Ka nyanga palunya nganana mukuringanyi tjanpi kuranya alpamilantjaku. Munu tjanpi kura nyanga paluru anu ngura winkikutu, munu tjimitiringka tjarpangu, munu tjitji tjutaku inkapaingka kulu. Ka tjitji tjuta nganmanypa para-wirtjapakalpai pukulpa munu inkapai, ka kuwari wiyaringu. Ka tjanpi kura nyanga palula, liru tjarpapai munu kumpilpa ngaripai ka tjilpi pampa tjana kulu kulira nguluringkupai tjanpi kuralu anganyangka ka nganana nyanga palula-tjanalanguru pikatjararingkupai, ngaalytjararinganyi panya tjanpi kuralanguru warungku kampara pikantangkupai. Panya nganana tjanpi kura nyanga palunya ngalya katinytja wiyatu. Panya nganampa anangu tjuta kuwari nguluringanyi pikatjararingkutjakutawara Panya nganana mukuringanyi pulkara alpamilantjaku nganampa ngurangka.

Ka nganana kuwari pulkara mukuringanyi government uwankarangku nganananya kulintjaku munu alpamilantjaku tjanpi kura nyanga palunya wiyantjaku. Panya nganana rawangku wangkangi tjanpi kura nyanga palunya palu mula-mulangku nganananya kulintja wiyatu. Ka nganana nyanga palunya mula-mula wangkara palyantjaku ngaranya, ngura nganampa, culture munu community kulu kunpu ngaranytjaku. Ka nganana mukuringanyi, governmentu tjanpi kura nyangapalulanguru alpamilantjaku. Munu nganana kuwari mayatja pulka tjutangka tjapini nyanga palunya nyakuntjaku, panya kuwari kurani tjanpi kuralu nganampa ngurangka munu nganampa ngura pulka tjuta kulu. Nyanga palunya ngura nganampangka wiyantjaku.

Ka nganana Anangu tjuta tjunguringkula tjungungku palyanma tjanpi kura nyanga palunya wiyanytjikitjangku. Panya warka pulka mulapa nyangatja ngaranya tjanpi kuranya wiyanytjaku. Ka nganana mukuringanyi governmentu kulu nganananya mula-mulangku pulkara alpamilantjaku.

The background of the entire page is a photograph of a desert landscape. In the foreground, there is a dense patch of Buffel grass with small, bright pink flowers. The grass is green and appears to be growing in a sandy area. In the background, there are more trees and shrubs under a clear blue sky. The overall scene is a natural, outdoor setting.

We the First Nations people of the desert did not bring Buffel grass to this land. But it is here and it is killing our country and threatening our communities and culture.

Buffel grass was brought to our country to feed cattle and keep down the dust. But it has spread across much of our land. It is choking our country. We can't get bushfoods where we used to. Honey ant, malu (kangaroo) and our native plants are getting harder to find. Our wildflowers are disappearing. The Buffel grows too fast and burns too often for our country. It's the first plant that grows after rain and fire. It is killing our country and while we didn't bring it here, we live with the consequences. We need support to get our healthy country back.

Older people mourn for the country that used to be. The plants and animals, the special and sacred places are covered in Buffel where once many native plants grew. We can't take our kids out to learn culture, the hunting tracks are covered and the plants that sustained us for thousands of years are disappearing. Our kids are growing up seeing only country with Buffel grass and it's getting harder to teach our kids the stories for this country. It is threatening our culture, we didn't bring it here and our people are suffering the consequences. We need support to keep our culture strong.

Buffel grass is all around our communities. It grows right up to our houses, in our backyards and front yards and our kids playgrounds. Kids can't run around like they used to. The Buffel hides snakes and makes it hard for our old people to get around safely. We can't escape it. We suffer health problems like asthma from the Buffel flowers and the smoke from the fires. Our homes and communities are at threat from fire from the Buffel grass. We didn't bring it here and our people are at risk. We need support to protect our communities.

We are calling on governments at all levels to recognise the impacts and the threats that Buffel grass has on we, the First Nations people of desert Australia. For too long we have been pushed to the side when making decisions about this tjanpi kura (bad grass). We need serious action taken to reduce this threat to our country, our culture and our communities. We need support from governments and people to help us manage this dangerous weed that is taking over the deserts. We call on Federal, State and Territory Governments to recognise the threat of Buffel grass to our country, our culture and communities and do what is needed to stop the march of this weed across our country.

We stand together with desert people across Australia calling for support on this problem. Buffel grass is a dangerous threat to us and we need to be resourced to manage it.

What can be done?

1. Declare buffel grass a weed in the Northern Territory

SA is the only state or territory to declare buffel grass a weed. This means in NT, WA, QLD, NSW and VIC there are no enforceable rules for buffel grass management.

Weed declaration supports the development of strategic buffel grass management plans.

2. Declare buffel grass a Weed of National Significance

The Commonwealth plays a key role in the national coordination, prioritisation and funding of weed management.

Seek national restrictions of the development, introduction, release, sale, movement of propagation of buffel grass.

We don't solve a biodiversity crisis by continuing to plant buffel!

3. Map the distribution of buffel grass and make this information publicly available.

Identify priority areas for buffel grass management and eradication

4. Fund long-term research development and extension pipelines, including biological controls

Biological control is a key opportunity to combat the buffel threat at the landscape scale.

5. Centre Traditional Owners, affected communities and their representative institutions are in decision making around buffel management and use.

Why is government response to buffel grass in central Australia so differently to gamba in the Top End?

Regulatory Comparison of gamba grass and buffel grass		
Regulatory Commitments	Buffel	Gamba
Listed as a Specific Invasive Taxa Key Threatening Process (Cth)	✗	✓
Listed under the EPBC Act under the overarching Key Threatening Process ' <i>novel biota and their impact on biodiversity</i> ' (Cth)	✓	-
Threat Abatement Advice (Cth)	✓	✓
Threat Abatement Plan (Cth)	✗	✓
Listed as a Weed of National Significance (Cth)	✗	✓
Weed of National Significance Strategic Plan (Cth)	✗	1/2 *
Weed of National Significance Coordinator (Cth)	✗	1/2 *
Federal Government Funding for management (Cth)	✗	✓
National coordination between Commonwealth and Territory Government (Cth)	✗	✓
National Taskforce (Cth)	✗	✗
Declared Weed in the Northern Territory (NT)	✗	✓
Management Plan (NT)	✗	✓
Annual reporting on management plan implementation (NT)	✗	✓
NT Fire Mitigation Compliance Policy (NT)	✗	✓
Comprehensive mapping and monitoring programs (NT)	✗	✓
Management Guide (NT)	✓	✓
Community education, awareness and support programs (NT)	✗	✓
Targeted NT Government Funding for management (NT)	✗	✓

* Outdated or no longer functional

BUFFEL GRASS DIEBACK AND BIOLOGICAL CONTROLS

Biological controls are already contributing towards buffel grass dieback in Queensland (e.g. pasture mealybug and buffel grass blight). Environmental stress and poor land management practices increase the pathogenic threat.

PASTURE MEALYBUG

Buffel grass is susceptible to pasture mealybug (*Heliococcus summervillei*), which is increasingly recognised as a key cause of pasture dieback in Queensland and NSW. They are a sap-sucking invertebrate that may be contributing to pasture dieback across 4.4 million hectares. Early symptoms of pasture dieback include purple streaks and root rot.

Dry conditions favour survival in the soil where mealybugs have been found below pasture affected dieback at a soil depth of nearly a metre. It appears that mealybugs can persist through cold and dry times and may reemerge in spring to re-infest pastures. Warm spring conditions and rain may bring mealybug populations to the surface to breed and disperse. Heavy flooding may kill mealybugs.

Industry is currently investigating methods to control and destroy pasture mealybug



BUFFEL GRASS BLIGHT

Buffel grass blight is caused by the fungal pathogen *Pyricularia grisea*, and ergot (*claviceps* spp.) affects seed production and can cause extensive losses in monocultures. Up to 90% of individual plants can be damaged and seed quantities reduced by 33%.

Wetter and hotter conditions favour its growth and spread. Epidemics of buffel grass blight occurred in Mexico during 27-30°C mean temperature, 300mm of rainfall per annum and evenings with 75% relative humidity. Buffel grass blight already occurs in the NT.

Buffel grass blight has been confirmed as a problem globally, from the United States and Mexico to Tanzania.



Baker, S, Buck, S, Jennings, Boscham. 2021.

BUFFEL GRASS SEED CATERPILLAR

Mamestra rhodoneura is a native species of snout moth found in Queensland. Its larvae feed on the seed heads of buffel grass (*Cenchrus pennisetiformis*) by webbing together the heads of the buffel plants. The species can have adverse impacts on buffel grass reproduction due to the consumption of seed heads, but it does not impact the health of the host plant. This species has been recorded in warmer and wetter areas of Queensland.



WHITE GROUND PEARL

Margarodes australis is currently under investigation for its role in pasture dieback in Queensland and NSW. It is a small insect that lives in the soil and roots of pasture grasses. Foliage discoloration of affected plants will increase after rainfall events.



SIGN THE LETTER:
**DECLARE BUFFEL GRASS A CLASS B
WEED IN THE NORTHERN TERRITORY**



**Arid
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Threatened Species Commissioner, Dr Fiona Fraser

Dr Fiona Fraser is a strong advocate for stronger action on buffel grass and on several occasions called for states and territories to do more to combat the buffel grass threat, including declaring buffel grass a weed!

Chip in today!
Donate to support the Arid
Lands Environment Centre
buffel grass campaign



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