Arid Lands Environment Centre

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Buffel Grass Weed Management Plan

The Arid Lands Environment Centre (**ALEC**) is Central Australia's peak community environmental organisation that has been advocating for the protection of nature and growing sustainable communities in the arid lands since 1980. ALEC is committed to confronting key threats to Country, biodiversity and those impacting the ecological health of the arid and semi-arid lands.

ALEC has engaged comprehensively with the impacts of buffel grass invasion for many years across the Northern Territory. We have previously engaged in buffel grass on-ground management activities at Finke Gorge National Park, we are currently the only conservation representatives on the National Established Weed Priorities Steering Committee that is part of the national weed governance, ALEC has presented at national and international conferences on the impacts of buffel grass invasion, including the 23rd Australasian Weed Conference and the 10th World Conference on Ecological Restoration, published an extensive Position paper on buffel grass, *Firestorm: understanding the risks and seizing the opportunities to better manage buffel grass across the Northern Territory* and have held many community events across many years.

Thank you for the opportunity to provide comment on the Buffel Grass Weed Management Plan via Have Your Say. ALEC strongly supports buffel grass weed declaration in the Northern Territory and efforts to improve management to slow and stop the spread of buffel grass. ALEC addresses the questions in the Have Your Say survey, including, 'What do you think are important considerations in the development of a Buffel Grass Weed Management Plan?' and 'Do you have any further suggestions or input regarding buffel grass management?'throughout the proceeding response.

Figure 1. Buffel grass regrowth post fire in the East MacDonnell Ranges

Impacts of Buffel Grass Invasion

We are witnessing buffel grass transform the identity of Central Australia; the red centre is turning green, then yellow before it goes up in flames. Vegetation along our inland rivers and creeks, mulga woodlands, sandplains and native grasslands are increasingly replaced by a monoculture of buffel grass. Stands of 500-year old river red gums have been turned to blackened posts, landscapes transformed and dozens of threatened species are at risk of extinction.

Buffel is the greatest invasive species threat to environments and cultures across the arid and semi-arid lands. Sacred sites are overgrown and under threat of fire, bushfood and hunting practices suppressed, access to Country impacted, and the health of Country in freefall in affected areas. Important animal and plant species lost, waterholes and springs choked and intergenerational knowledge sharing undermined.

Buffel grass has impacts well beyond the boundaries of the pastoral estate. It has destroyed homes and scorched National Parks. Aboriginal Land, Indigenous Protected Areas, Crown Land, and the rights and interests of Native Title Holders are majorly impacted by buffel grass invasion. The spread of buffel is a human health and safety issue; buffel grass puts lives at risk, affecting the physical, mental and social health of Territorians. Addressing buffel grass invasion has become an obsession for countless people across the arid lands.

With up to 68 percent of the continent climatically suited to buffel grass, buffel invasion represents not only an ecological catastrophe, but a major economic problem. Buffel grass wildfires are affecting infrastructure and logistics, tourism, the arts, incurring significant health costs, as well as inhibiting emerging economies in biodiversity conservation and carbon.

From Uluru, Kata Tjuta, Watarrka and the MacDonnell Ranges to the Simpson Desert, Petermann Ranges, Plenty region and drainage lines part of the Kati-Thanda Lake Eyre Basin, iconic landscapes and environments across diverse soil and climatic types are at existential risk. Mparntwe Alice Springs and dozens of remote communities are surrounded by unsafe fuel loads, which remain a significant risk to public safety - these buffel fuel loads are a disaster waiting to happen.

Buffel grass fires are deadly. Buffel grass was implicated in the Maui wildfires in Hawaii in August 2023 that resulted in over 100 fatalities. Buffel fires have already destroyed dwellings in the Alice Springs area, resulting in emergency evacuations from the Larapinta trail and is a significant risk factor for dozens of remote and very remote communities, homelands and outstations across the arid and semi-arid lands.

Figure 2. Buffel grass fires in the Alice Springs rural area

Learning from history

Decades have already been lost. Nearly 40 years ago, in 1987, Northern Territory Government ecologist, Penny Van Oosterzee warned in a newspaper opinion piece in the Centralian Advocate that:

> *"there is growing concern amongst the scientific community of the impact of buffel grass, that in the long run the buffel grass band-aid may not be terribly healthy. Buffel grass is here without its pests and natural diseases. It is a grass suited to this environment. It therefore has open-slather to take over and change the environment. It does this by out-competing other plants for the limited amount of moisture in the soil. Young native seedlings, therefore, cannot survive and their numbers decline. The real worry though is that once established, buffel does so well that it moves into natural habitats such as creek forages. This, combined with the fact that it is a fire hazard, results in fire sensitive natives… being obliterated".*

This reality has borne true. After decades of denial, suppression, neglect and finger-pointing, millions of hectares have been invaded, transforming native grasslands, woodlands and river systems into a monoculture of fire promoting buffel grass. The inertia and malaise which has inhibited buffel grass management in a targeted and strategic way across the Northern Territory must be resisted. There are exciting opportunities to improve buffel grass management and to do this we must learn from the mistakes of history, be brave and be based in evidence.

Pros and cons of buffel grass

About 30 years ago the area around Alice Springs airport was badly scalded due to over-grazing.

It was barren and during hot, dry winds dust was whipped up and blown over the town.

Buffel grass, an exotic Mediterranean grass, was introduced to cover the bare ground.

The ground was ripped and the buffel grass seeds scattered in the furrows.

The circular patterns that this procedure created are still visible from the air.

Despite the buffel grass reputation — as an easy grass to establish — considerable effort was involved to get the buffel going.

The only real justification for planting it appeared to be that it was better than bare ground.

But perhaps the same effort, using native grass species instead, could have produced a richer environment and, more importantly, one that would have approached the natural state of the area where about 10 different types of grasses as well as numerous species of shrubs flourished.

There is an increasing availability of native grass seed, such as mitchell grass, which is also nutritionally much richer.

There is a growing concern amongst the scientific community of the impact of buffel grass, that in the long run the buffel grass band-aid may not be terribly healthy.

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It therefore has open-slather to take over and change the environment.

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The real worry though is that, once established, buffel does so well that it moves into natural habitats such as creek frontages.

Introduced to cover bare land

WILD THINGS with Penny van Oosterzee

This, combined with the fact that it is a fire hazard, results in fire sensitive natives such as mulga and colony wattle, Acacia victoriae being obliterated.

Native animals, such as Bilbies which require a rich natural creek fronting habitat will be disturbed and will not survive in a homogenized landscape of buffel grass.

(The Conservation Commission is trying to re-introduce the Bilbyinsome areas).

In growing much faster than native grasses, buffel uses up the limited resources in the soil.

The plant itself, however, remains nutritionally poor — you can't get anything for nothing.

And this lesson is being painfully learned in Western Australia.

On a lot of the sheep grazed WA coastal plains, where buffel has been introduced, a physical break in the wool occurs where the sheep have switched over from grazing the more palatable but limited native grasses to buffel.

The break results from a phosphorus deficiency in the wool and severely affects the income resulting from that wool.

During the drought, while the plant itself stays alive, the foliage of the buffel grass dies away so that dust storms — the initial reason for planting buffel grass at the airport — still result.

● Buffel grass ... an exotic Mediterranean grass.

Figure 3. Penny Van Oosterzee article in the Centralian Advocate 22nd May 1987

Figure 4. Buffel Grass fires near Ntaria (Hermannsburg)

Important considerations in developing a Buffel Grass Weed Management Plan

The development of the Buffel Grass Weed Management Plan must be based on scientific evidence, learning from the mistakes of history. We must be brave, ensure the management plan is strong and proportionate to the landscape scale risks. The plan must ensure that the impacts to all value systems are considered, including impacts to environments, cultures, public safety, infrastructure, human health, tourism, the arts, and emerging alternative economies in biodiversity conservation and carbon.

Prevent further buffel grass introductions

It is vital that the Northern Territory restrict the development, introduction, release, sale, movement and propagation of Cenchrus ciliaris, C. pennisetiformis and any new varieties or strains of buffel grass. This advice was developed by the Threatened Species Scientific Committe in the Federal Government's *Buffel Grass Threat Abatement Advice*.

This is important, as a key immediate measure ought to be to stop the ongoing human spread of buffel grass seed across the Northern Territory. This includes banning the spread of buffel grass for pasture, erosion control and mine site rehabilitation. It is critical that the Northern Territory stop pouring more fuel onto the buffel-fuelled inferno.

Right now, buffel grass invasion is a form of unregulated pollution, it is an environmental weed that moves across space, causing significant impacts to environments, cultures, economies and

communities across the arid lands. The ongoing deliberate spread of buffel grass is unacceptable and all efforts must be made to prevent its future spread.

Evidence based

The development of a Buffel Grass Weed Management Plan must be evidence based, incorporating best available science, including the Federal Government's *Buffel Grass Threat Abatement Advice.* A Weed Management plan for buffel must identify the opportunity to develop research solutions to improve the management of buffel, including by better understanding how to slow and stop its spread, better respond to changing fire regimes, manage spread pathways and map buffel grass.

Changed fire regimes

Buffel grass thrives on fire. It is changing fire regimes and transforming landscapes across the arid and semi-arid lands. Buffel responds very quickly post-fire, outcompeting other grasses and flora to dominate light and space. Fire is critical to the landscape transformation and spread of buffel. Buffel is also invading ecosystems and landscapes which are less tolerant to the presence of repetitive fires or, in some cases, any fire at all. Larger, hotter and more frequent fires present an existential risk for many different ecosystems and landscapes across the arid lands. This impacts all stakeholders. A Weed Management Plan must not promote fuel reduction strategies that exacerbate the spread or harm of buffel grass invasion across the arid lands.

Slow and stop the spread by managing pathways

Identify that buffel grass is spreading across a road, rail and water courses. These are key vectors of spread and there may be future opportunities for targeted and effective management.

Map the current buffel grass spread

There is a critical need to progress tools to effectively map the spread and extent of buffel grass to enable strategic decision making about where to target management to prevent spread or to manage fire in invaded landscapes. It is vital to develop complementary new tools to map the extent and spread pathways of buffel grass. There are a number of existing opportunities that provide a pathway forward including satellite imagery, drones and field surveys.

Threatened Species and ecological communities

A Weed Management Plan must identify that buffel grass invasion is impacting threatened species and ecological communities in the Northern Territory.

Do not promote buffel grass myths

A Weed Management Plan must not promote the use of buffel grass invasion as a form of erosion control. Buffel invasion if anything increases the long-term risk of erosion as buffel grass invasion destroys woodlands and riparian vegetation which provides long-term soil stability. Buffel grass fires also increase the risk of dust storms post fire.

Further, the significant and negative impacts of buffel grass invasion must be recognised to ensure that buffel grass spread is prohibited across the arid lands, including as a form or erosion control or mine site rehabilitation.

Consult and listen to the perspectives of remote communities

There are many strong statements and perspectives from remote communities on the significant and negative impacts of buffel grass invasion. A Weed Management Plan must recognise the groundswell of support for strong action across the arid lands including across many remote communities.

Be Targeted

Indigenous Protected Areas, National Parks, crown lands, and conservation areas are logical regions to build capacity for proactive buffel grass management. There are many stakeholders who all want strong action right now across these land tenures.

IPA's across southern Northern Territory, Rainbow Valley Conservation Area, Chambers Pillar Historic Reserve, Iytwelepenty / Davenport Ranges National Park, and Karlu Karlu Conservation Reserve are sites with relatively modest buffel grass invasions where strategic and targeted activities could potentially slow and stop the spread of buffel grass invasion.

Tjoritja West MacDonnell Ranges, Trephina Gorge Nature Park, Ruby Gap Nature Park, Finke Gorge National Park, Tnorala (Gosse Bluff) Conservation Area, Alice Springs Telegraph Station, N'Dala Gorge Nature Park and Owen Springs Reserve are all sites with major infestations of buffel grass. There are opportunities to experiment and learn best practice management in areas with significant invasion of buffel grass, or sites like Tjoritja, where parts of the park have very little presence of buffel and perhaps buffel invasion can be contained.

There is also opportunity for strategic gains across, local government areas, remote communities, major projects and the pastoral and native title estate

Kind Regards,

Alex Vaughan

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