
**Land for Wildlife and Garden for Wildlife**

**Central Australia Newsletter**

May 2018

## From the Land for Wildlife Coordinator

Brrrrr… what a cold winter we have on our hands! I hope that our members and readers are keeping warm and that the chill isn't taking too much of a toll on your garden.

The newsletter this month is a bit of a Buffel-packed one! One could almost call it a special issue, however we like to think that all our newsletters are special. I have info on a new member property that is Buffel-free and the man that took up the challenge, a property profile on an existing member property and their progress with Buffel Grass removal, how Buffel removal has influenced a recent fire at the Intertexta forest, the history of the Buffel Grass Introduction according to retired botanist Des Nelson, as well as some information on Buffel Grass control using the chemical Flupropanate. Buffel crazy! We will return to a more wildlife-centric newsletter next month!

Remember, if there's something wildlife or plant related that you want to hear about, let us know and we can look into it for you. We are also happy to include relevant articles from our members for inclusion in the newsletter so if you have something to share, do so!

As we head into June, the growth rates of plants will slow down so you can hold off with planting newbies for a while and reduce any watering. Fingers crossed we get some winter rains to help the wildflowers along come spring. Keep cosy, folks!

*"We don't own the planet Earth, we belong to it. And we must share it with our wildlife."*

*— Steve Irwin*

**A Painted Finch (*Emblema pictum*) carries a feather to build a nest.**

### *In This Issue*


**Land for Wildlife Coordinator, Caragh Heenan, shows off the stall at the Alice Springs Telegraph Station Open Day (*Image C. Appleby*).**

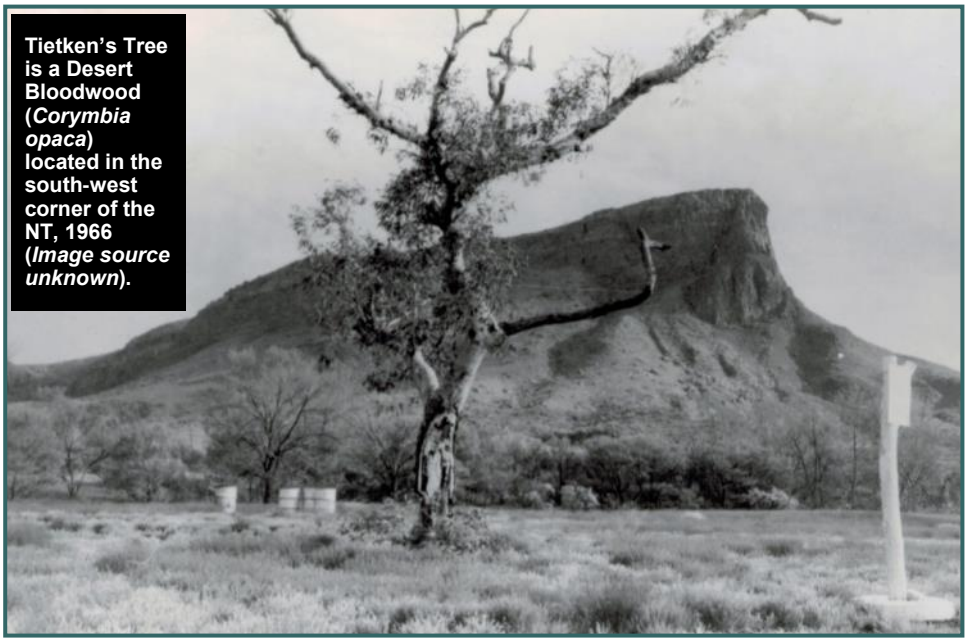
## Land for Wildlife Out and About

Land for Wildlife have been busy the last month with a range of community activities. Activities included a presentation to the SALT group (Sharing a Lunch Together) at the Alice Springs Public Library. We also went to engage with the outdoor education students at St Philips College (a Land for Wildlife member) about some of the threats to biodiversity at a local scale (weeds, feral animals), the history behind those threats and actions being taken in the municipality to help reduce the impact of those threats. We also spoke about some of the great aspects of biodiversity, including the trees on the NT Register of Significant Trees. Students will be conducting a range of projects in the coming weeks regarding these topics and Land for Wildlife will be there to lend a hand. We also attended the Alice Springs Telegraph Station Open Day and it was great to see that the chilly weather didn't keep everyone rugged up at home! The event was well attended and we look forward to visiting some prospective members in the coming weeks to conduct property visits and deliver membership reports.


In November, Land for Wildlife attended the TNRM Conference and Awards in Darwin, which also included the NT Landcare Awards. We were delighted to take out the state award for Fairfax Landcare Community Group. This award has meant that we are automatically a finalist in the National Landcare Awards in the same category. We will hopefully be making the trip to the big smoke in Brisbane in October to attend the conference and awards and see how we fare. In addition, our inclusion in the National Landcare Awards means that you can also vote for us in the People's Choice category. Voting for this hasn't opened yet, but you can keep posted over the coming weeks and vote for us as your favourite nominee! Head to the National Landcare Conference Awards website to stay up to date with the awards and get in on the vote when the time comes.

# A Snippet From Significant Trees

## » *Tietken's Tree*



**Tietken's Tree is a Desert Bloodwood (*Corymbia opaca*) located in the south-west corner of the NT, 1966 (*Image source unknown*).**

Tietken's Tree is located along the Kintore to WA Border road near Mt Leisler and was incorporated into the NT Register of Significant Trees in 1982 for its historical importance. It is currently number 7 on the Katherine register but due to its proximity to Alice Springs, we are hoping to shift it to the central Australian portion of the register.

The tree in question is a Desert Bloodwood (*Corymbia opaca*) The tree is historically important as it was blazed by explorer William (AKA Harry) Henry Tietkens, an explorer and naturalist, who was second in charge to Ernest Giles on several expeditions. Tietkens took charge of the Central Australian Exploring Expedition in 1889. He left Alice Springs on the 14th of March to examine the country to the north and west of Lake Amadeus. He discovered and named the Kintore Range and ascended one of the elevations, Mt Leisler, which is the highest peak of the ranges near to the tree. Tietkens also discovered Lake MacDonald, Mt Rennie, the Cleland Hills, and the Bonython Ranges. The expedition also enabled Tietkens to more accurately define the western borders of Lake Amadeus. He was the first to photograph Uluru and Kata Tjuta on his journey.

The tree was blazed with the letter 'T' and the date '5.89'. The tree was later discovered by Len Beadell while building the Sandy Blight Memorial Road in 1960, when it still had some green growth. Unfortunately, the tree has now died and has been knocked over, but its history remains. The only photograph in our records is the image above from 1966 when it was still standing (you can find several other recent versions online by various sources, see below). If you are heading out that way soon, we'd love to get an updated photograph of the site!

*View the NT Register of Significant Trees webpage to learn more about the register. The NT Register of Significant Trees was established by the National Trust NT and Greening Australia and is managed by Land for Wildlife Central Australia.*

**Tietken's Tree has since died (*Image Summerdrought via WikiCommons, 2011*).**

**The Sand Sunray or Tiekens Daisy (*Rhodanthe tietkensii*) is also named after the explorer and can be found in flower between May and November on sandy, loam and clay soils.**

## Tietken's Diary

***Monday, May 27th.—Camp No. 35.***

*"This range I name the Kintore Range, after His Excellency Lord Kintore, our new governor, as a lasting remembrance of the first year of his appointment as a colonial governor. The highest point of the range I have named Mount Leisler, in grateful remembrance of Mr. Louis Leisler, of Glasgow, who so generously provided me with funds in my endeavours to open up the country between Fowlers Bay and the Musgrave Ranges. The height of Mount Leisler above the plain is 1,462ft. A pile of stones six feet high is built upon its highest and most easterly point, and in the grass valley at its foot and at our camp a bloodwood tree is marked T/5.89."*

View diary in full

**Crested Pigeons (*Ocyphaps lophotes*) watching over the native grasses and chenopods of Latz and Holden's residence.**

# New Land for Wildlife Member

## *» Peter Latz and Cyd Holden*

Land for Wildlife as a program aims to engage with members of the community regarding ways to retain native wildlife habitat, regenerate local native plants and conserve biodiversity. We have a goal of educating and providing information resources to people from a range of backgrounds. And then there are the times when little is required in the ways of education, but rather our role is to recognise the efforts of those that are already doing a spectacular job. This month, Land for Wildlife was fortunate to welcome on board a long-term participant in the natural resource management game to the Land for Wildlife team—Peter Latz. Peter Latz is a well-known Alice Springs resident and experienced arid-zone botanist and ecologist. Having shared a wealth of knowledge regarding native plants in central Australia in his book Bushfires and Bushtucker (1995) and The Flaming Desert: Arid Australia - a Fire Shaped Landscape (2007), he's no newbie to the importance of regenerating habitat. Cyd Holden, who is a horticulturalist at Olive Pink Botanic Garden, is also resident on the block and brings some excellent knowledge regarding plants to the table.

Peter has been working to remove the introduced Buffel Grass (*Cenchrus ciliaris*) from his block for the last fifteen years and the results are amazing. The groundcover is now composed of a range of native grasses and chenopods, including Woolly Oat-grass (*Enneapogon polyphyllus*), Tall Oat Grass (*Themeda avenacea*), and Woolly Copper Burr (*Sclerolaena*

***Left*: Removal of Buffel Grass has allowed for a range of native grasses and chenopods to regenerate the area, including Woolly Oat-grass (*Enneapogon polyphyllus*).**
***Top Right*: Peter Latz and Cyd Holden explain how the Emu Bush (*Eremophila longifolia*) has established across the property from a single plant to the south of the residence.**
***Bottom Right*: The hairy basal stems of Tall Oat Grass (*Themeda avenacea*) are shown to the Land for Wildlife team by Peter Latz.**

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*lanicuspis*)—to name only a few! Peter explains that Buffel Grass seed has been moved around by Ants (Family: Formicidae) on the neighbouring block, but doesn't appear to occur as much on his block. Though the seed of several native grasses were seen stored in larders around Ant nests during the assessment, which no doubt also contributes to the natural regeneration of these grasses following Buffel Grass removal.

Peter explained that it has taken a long time to get on top of the Buffel Grass and he is only now starting to consider his block Buffel-free (15 years in the making!). There are still one or two plants germinating following rain, but nothing like what he used to deal with.

Buffel Grass hasn't been the only introduced species to tackle, as 16 introduced forbs and 12 introduced grasses have been observed on the property over the years. These have been removed to allow natives to thrive.

The property is now home to around 252 species of grasses, forbs, shrubs and trees. Peter noted that not all of these species regenerated straight away. He would identify species as they germinated and kept a tally over the years. Since starting the records on species diversity in the early 2000's, there was a gradual increase in the number of species each year until around 2011 when it stabilised.

Some additional species have been planted on the property, such as Old Man Saltbush (*Atriplex nummularia subsp. nummularia*), Mulga (*Acacia aneura s.lat.*), and Quandong (*Santalum acuminatum*). For other species, such as the Emu Bush (*Eremophila longifolia*), there was only one individual on the property which set seed regularly and has since regenerated across the block.

It's not often that a property assessment by the Land for Wildlife team is met with a full existing plant list. Due to the difference in forbs germinating with season and rainfall, we are often not able to get a full and comprehensive list of species presence from a single visit. In addition, property assessments are often not able to cover the whole block on larger properties and nor are they full vegetation surveys, but rather include a casual stroll while discussing land management issues. The impact of our constraints becomes clear when looking at the number of species observed in a single visit compared with the full list of what has been observed over many years. On the Latz property, we observed only 20 % (49 out of 252) of the total species that can be found on the block when comparing with Peter's list (*I don't feel too bad though, 49 is a great count in one hour!*).

A wander around the block also highlighted the presence of large dead trees that still remain in place. Land for Wildlife encourage members to retain old wood as it provides a home for native reptiles and Termites (Order: Isoptera) will recycle the nutrients in time to be reincorporated back into the soil. Peter also noted that his theory is that the removal of large trees will shift the balance of biomass (the total quantity or weight

***Top-Bottom*: Wild Passionfruit (*Capparis spinosa var. nummularia*) is protected to various levels by ants on the property; Stalked Puffball (*Podaxis pistillaris*) had sprouted up in the low-lying areas; Ruby Saltbush (*Enchylaena tomentosa var. tomentosa*) was fruiting profusely and providing an abundance of food for Australian Ringneck Parrots (*Barnardius zonarius*) as a result; Woolly Copper Burr (*Sclerolaena lanicuspis*) was one of the many Chenopods that have regenerated in the absence of Buffel Grass (*Cenchrus ciliaris*).**

***Clockwise from Top Left*: A majestic Ghost Gum (*Corymbia aparrerinja*) stands tall over the property, Ant (Family: Formicidae) burrows were often surrounded by a larder of grass seeds, a Long-tailed St. Andrew's Cross Spider (*Argiope protensa*) had strung a web between a grass stalk and its flowering head; several Snail (Class: Gastropoda) shells were seen across the property, plenty of dead trees are retained on the property to recycle nutrients and maintain biomass.**

*(Continued from page 5)*

of organisms in a given area) and therefore he retains them on the block to keep the balance—what a great way to look at it! The importance of balance is often overlooked and wood isn't excluded from the tally.

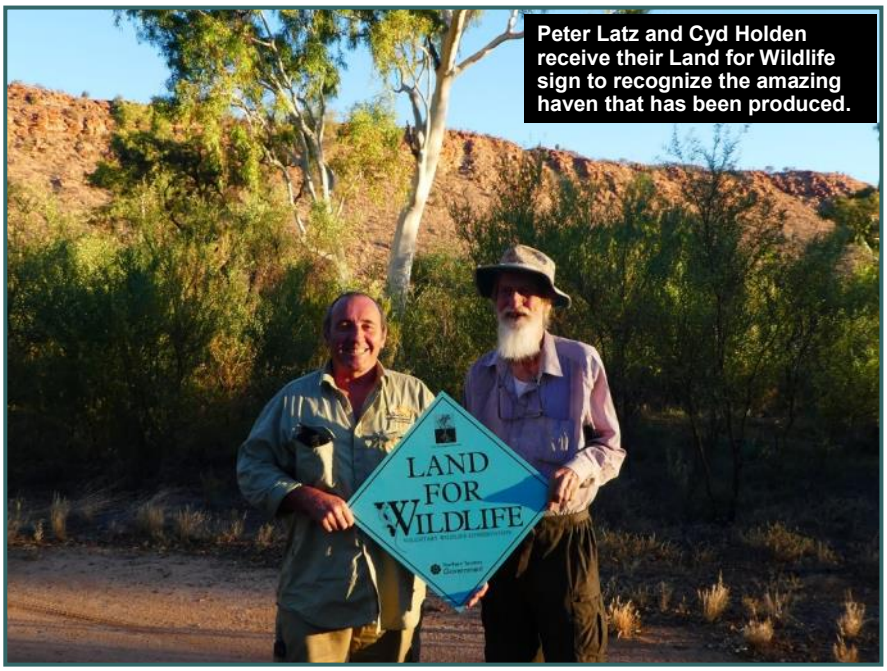
The property assessment also gave the Land for Wildlife an excellent opportunity to learn from such a knowledgeable team. Discussions included the difference in the health of two of the Wild Passionfruit (*Capparis spinosa var. nummularia*) bushes on the site. One is well protected by Ants and thus is in a great condition, while another isn't as well protected and thus is inundated with the adults and larvae of the Caper White Butterfly (*Belenois java*).

Several species of birds were observed on the property, including an abundance of Australian Ringneck Parrots (*Barnardius zonarius*), who were seen feeding on the fruit of Ruby Saltbush (*Enchylaena tomentosa var. tomentosa*). Red-tailed Black Cockatoos (*Calyptorhynchus banksii*) were seen feeding on the seed of dried Bindieye (*Tribulus eichlerianus s.lat.*) to the north of the block, while the tell-tale '*Panpanpalala'* call of the Crested Bellbird (*Oreoica gutturalis*) was heard nearby (see this video on LFW YouTube to hear the call).

Since taking on the Buffel removal task on his own block, Peter has since been working to remove the grass from the neighbouring block to the west, the drainage line across the road that leads onto his own block, as well as the Intertexta forest and Alcoota. What a busy man!

Peter and Cyd received their sign, which is now hanging on the fence to recognise their hard work and the wonderful biodiversity that has resulted from it. Furthermore, the Land for Wildlife team are thankful to have more enthusiastic Buffel-busters on board!

To read more on the importance of native plants in central Australia, check out: *Latz, P.K. (1995). Bushfires and Bushtucker: Aboriginal Plant Use in Central Australia. IAD Press: Alice Springs, NT.*




**Peter Latz and Cyd Holden receive their Land for Wildlife sign to recognize the amazing haven that has been produced.**

The fire devastation at Intertexta forest earlier this month (*Images B. Gilfedder*).

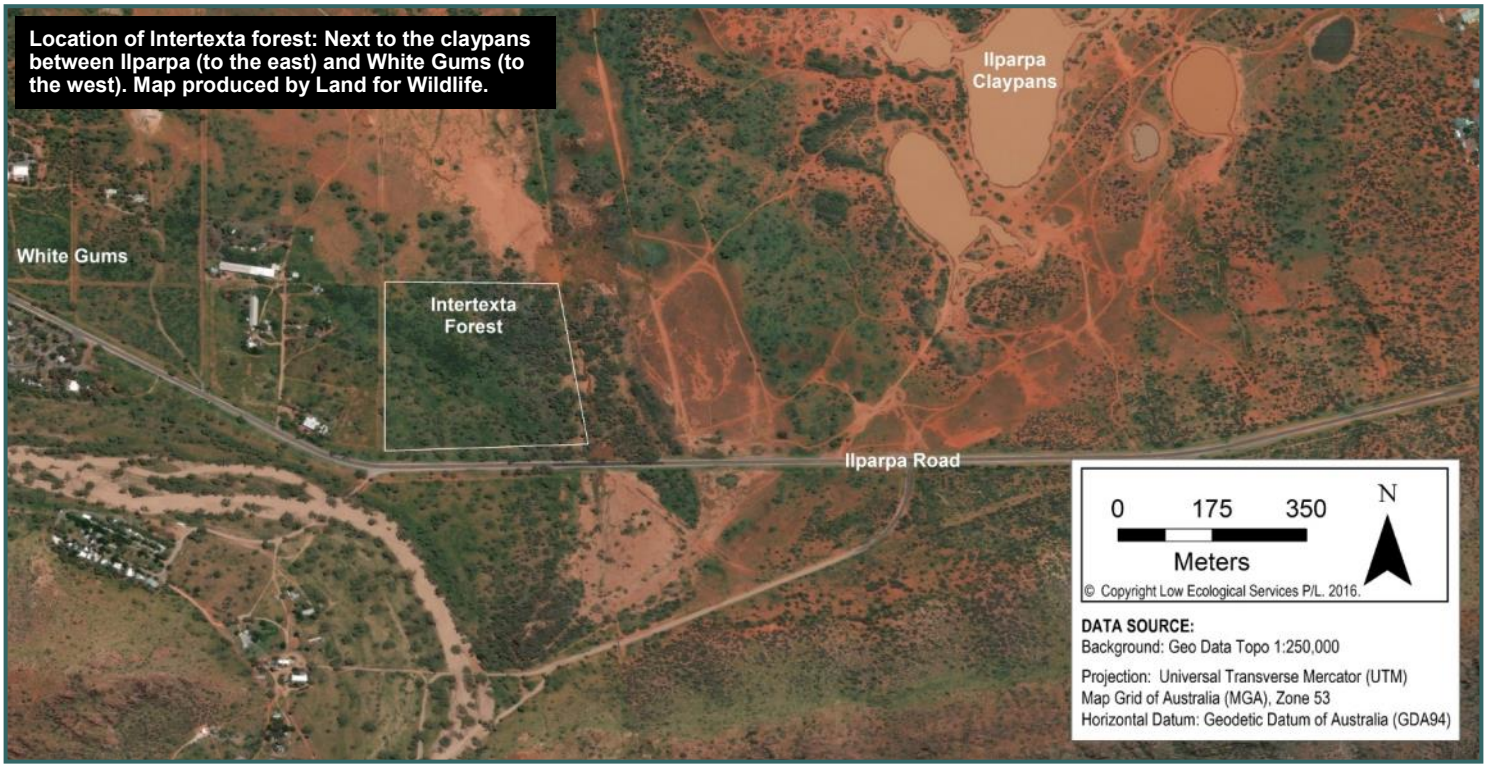
# Intertexta Forest Under Fire

## *Images by Barbara Gilfedder*

Earlier this month, a fire (suspected arson) took hold on the roadside at Ilparpa and spread into the Intertexta forest. This patch of vegetation is unique as it has a large stand of Bastard Coolabah (*Eucalyptus intertexta*), as well as a range of other native forbs and grasses. Peter Latz and others have been working hard to remove Buffel Grass (*Cenchrus ciliaris*) from the Intertexta forest and thus now it is largely Buffel-free.

Barbara Gilfedder of the Field Naturalists Club of Alice Springs sent in some photos of the forest, both before and after. Following the fire, a large River Red Gum (*Eucalyptus camaldulensis*, pictured above) had been completely destroyed. A tree such as this, which has taken over 100 years to get to this size and provided hollows for native wildlife, is now decimated. The 'wiry tree with the dark trunk' is the Curly Pod Wattle (*Acacia sessiliceps*, see over bottom centre and bottom right), which is a species that is unlikely to recover from the burn.

Further back from the road, the groundcover and shrubs have also been burnt. For the Bastard Coolabahs it is hoped that the thick lower bark will provide enough protection that they will survive. The Buffel Grass removal in the area has meant that native vegetation has been allowed to flourish and therefore the fire that spread would not have been as furious as it otherwise would have been. Fingers crossed for some heavy rain in the coming months, which could result in some flooding of the forest and revive the living trees after their ordeal and allow grasses and understorey forbs and shrubs to regenerate.




Location of Intertexta forest: Next to the claypans between Ilparpa (to the east) and White Gums (to the west). Map produced by Land for Wildlife.

# Fire Management

*"Fire should be viewed as a tool to be used, not as something to be feared and only suppressed. We advocate the confident use of appropriate fire to achieve a balance of ecological, economic and social (including cultural) priorities".*

***But...***

*When fire management goals are not met it can result in "...economic loss, compromises biodiversity values, undermines the maintenance of cultural and natural resources, and gives rise to social conflict".*

*"Major social conflicts over burning can arise when the wrong people burn country, thus risking damage to cultural and natural resources".*

**Edwards, G.P. *et al.* (2008). Fire and its management in central Australia. *The Rangeland Journal* 30, 109–121.**

*(Continued from page 7)*

While fire is a natural part of the central Australian landscape, it's hard to not be disheartened by the effect of deliberately-lit fire and the harsh manner in which it affects areas of natural importance. If you see a fire taking hold, be sure to ring '000' and report it as soon as possible.

You can read more about the impact of wildfire in central Australia at the LFW blog article from August 2017 and in Fiona Walsh's article in the July 2017 LFW Newsletter.

For more information on fire regulations, head to the Bushfires NT website and download the Bushfires Act NT.

*The Intertexta forest has been nominated for inclusion on the NT Register of Significant Trees and is awaiting assessment and processing by the committee (pending funding). For more info on the register, visit the Land for Wildlife website.*

**The many green faces of the Intertexta forest, including a healthy canopy and lush groundcover (*Images B. Gilfedder*).**

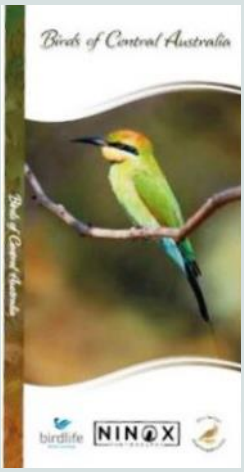
**Intertexta post-fire (*Images B. Gilfedder*).**

# Birds of Central Australia

The Birds of Central Australia photo guide by Lisa and Peter Nunn of Ninox Photography has been launched this month. The brochure was made possible with assistance from Birdlife Australia and the Alice Springs Field Naturalists Club, and is a must have for anyone wanting a compact and portable guide.

It features 100 photos of the most commonly encountered local bird species in a handy fold-out guide that fits easily in your glovebox or backpack. While it focuses on the Alice Springs region, many species are common to arid Australia in the wider sense. For species that are dimorphic, both male and female images have been included to help you with identification.

You can purchase the guide from Birdlife Central Australia meetings and any of the upcoming stalls attended by the Field Naturalist Club of Alice Springs.



**Buffel Grass (*Cenchrus ciliaris*) on a roadside.**

# A Buffel Grass Story

## *By Des Nelson*

*Having recently heard the sometimes repeated view that CSIRO was responsible for the invasion of Buffel Grass in central Australia, I would like to present some observations of my own. I do not write of hearsay. I had first-hand experience of all places and events here described.*

In the early 1950's I observed a fairly large stand of small black-headed Buffel Grass near Barrow Creek. This strain also occurred patchily along the banks of the Todd River. It was a minor part of the vegetation. I believe this may have been the Buffel historically accepted as having been introduced during the era of camel transport in the 19th century, either accidentally from studding from worn saddles, or deliberately planted. It is hard to find these days.

After World War 2, the cattle industry was deemed to be of maximum importance to the prosperity of central Australia. Much effort was expended to improve it. Pasture improvement was one category to be promoted. Some cattle stations were provided with bulk quantities of Buffel Grass seed, I believe by the Federal Government, before any works by CSIRO or other departments were developed. In the workshop of a station on which I was a teenage jackaroo in the early 1950's, was a room full of chaff-bags of such Buffel seed. When I did a bore run I carried a bag of seed in my truck and threw out hands-full as I drove. A primitive methods but it did work to a minor degree.

Before CISRO arrived on the local scene, two Browns sowed Buffel on their properties in the 1950-1951 seasons. Burge Brown on Murray Downs, 400 Km NE of Alice Springs and Jim Brown on White Gums near Honeymoon Gap.

CSIRO was established on a permanent basis in Alice Springs with the arrival of Bob Winkworth in 1953. 'Winky' travelled widely in the district learning the country, meeting the people and studying the flora and hydrology of the region. Later he established study sites in the bush and began work on a small paddock on the Arid Zone Research property, commonly known then as the Animal Industry Branch, or AIB Farm. Here, small plots of proposed pasture plants were sown, among them strains of Buffel. The work began in 1960, by which time we were into the third year of a terrible drought. The little plots had to be irrigated to survive. In 1958, the first year of the eight year drought, a small exclosure had been built just south of the Alice Springs Airport. Here deep ripping had been done on a clay-pan and Buffel seed sown into the deep trenches. Known as the 'Scald Site', the drought ensured it would fail.

Local conditions became very grim as the drought progressed. Much of the countryside was completely denuded of ground cover in the pastoral areas. On field trips I found it better to travel into sand-dune desert country which was free of dust, while Alice Springs was enduring massive, towering dust storms. Cattle were starving and dying. Turboprop and pure jet passenger aircraft had replaced piston engine craft by this time. Their engines were more sensitive to the effects of dust-laden air.

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Two schemes were promoted by officers of the Northern Territory Government. One was to establish some pasture to enable the cattle industry to survive. The other was to eliminate dust for the airline industry to survive.

Now came a period of great activity. A dust exclusion zone was declared, mainly to the south of Alice Springs; then came a large-scale planting of Buffel Grass, not just on the dust exclusion zone but on many of the centre cattle stations. Two tractor towed machines were used, the Paech pitter and the opposed disc plough. Clay-pan areas were ploughed and planted in a spiral pattern, visible clearly from the air today.

**A dust storm in the vicinity of the Harts Range, NE of Alice Springs (*Image William Pedersen; Courtesy of the National Archives of Australia*).**

To assist these programs a variety trial was established by the NT Government in the Quarantine paddock, SW of Alice Springs. There, in the 1970's, six strains of Buffel plus Birdwood Grass were extensively planted in rows, four runs for each strain. When the grasses had become well established, cattle were released into the area, enabling observation as to which of the grasses were preferred for grazing. The seed of the three most preferred strains were used in planting many thousand hectares of pastoral country. There is speculation that a specific central Australian strain of Buffel Grass originated from trial plantings of adjacent strains. The extensive plantings in the Quarantine paddock would be the most likely place of origin of such a strain.

The mechanical sowing of Buffel by the Land Conservation Unit of the Conservation Commission of the NT was a huge success and without doubt, along with a series of above average rainfall years, has given us the Buffel landscape we have today.

Part of the success of Buffel may be due to the fact that plant breeders have produced strains that are specifically Australian. There are many Australian developments such as the Kelpie and Blue Heeler Dog; there are Australian Cattle breeds; the renowned Waler Horse; Australian Chooks; Federation Wheat, and so on. So, with Buffel we have strains like Biloela, Gayndah, West Australian and others.

It is hard to describe to those who did not experience it, the conditions present during the 1958-65 drought. Thousands of kilometres of utterly bare ground. Every breeze blew dust. Colossal dust storms reduced visibility to nil. I did much field work during this period. One morning I awoke to find my swag half buried in drift. On another occasion I drove to a photo site 80 km SE of town to find a fence there had been buried by moving sand. To the north of town I spoke to a station manager whose job then was to drive around, shooting cattle which were too weak to walk. I never imagined beasts would become so thin, looking almost like cardboard cut-outs. You could push them over from the side. They were too weak to rise again.

No wonder that the belief that some saving pasture could remedy things was so widespread. Buffel Grass was believed by pastoralists and scientists to be the answer. If some of those who are here today were living during those devastating

**Left: Successful establishment of Buffel Grass in pits across a hard scald south of the Alice Springs Airport (Image R.I. Keetch 1979).**
**Right: Two spirals of Buffel Grass in the trial south of the Alice Springs Airport (Image R.I. Keetch 1979).**

**Native grass plains on Hamilton Downs Station in 1954, prior to the spread of Buffel Grass (*Image Neil Murray; Courtesy of the National Library of Australia via Trove*).**

*(Continued from page 10)*

conditions, they would have agreed. Only one professional person in my memory spoke against the sowing of Buffel. When asked what he thought about it, botanist George Chippendale said, “I don’t think it is a good idea”.

Reclamation work took place in selected areas during the drought. One such place was the former Simpsons Gap Station. Limited area, rugged terrain, limited pasture, grazing livestock and Rabbits reacted together to leave the place denuded and eroded by wind and water. CSIRO helped with the earthworks, and Buffel seed was sown. South of Simpsons Gap, White Gums Station also suffered, but careful management had kept the landscape in a less eroded state. The Yeoman’s Keyline system was employed to promote pasture growth that included Buffel Grass. Much of the effort was frustrated by Rabbit grazing. We had a serious problem with Rabbits in some places in the centre, contributing to vegetation damage. Rabbits contributed greatly to the removal of ground cover at Uluru. The gorges around the Rock were bared. Conservation Commission got to work with its machinery sowing Mutitjulu Gorge with Buffel, with eventual spectacular success.

Although it was hoped that Buffel Grass would come a useful part of the ground vegetation, few realised that it would reach its current dominance, particularly on hillsides, alluvial, and calcareous soils. My personal opinion of Buffel is ambivalent. If I were a pastoralist I am sure I would encourage it. Otherwise, I am saddened by the effect on places where it is so dominant that it is a serious fire hazard and has eliminated large areas of wildflowers. In my sixty-five years of bush observations in the centre, 1967-68 was the time of most profuse and widespread growth of wildflowers. With the covering of Buffel, such a display will not occur to the same extent. Tests with a radiometer were made in the rural residential area just south-east of Alice Springs in 1990. These showed that shading of the ground under Buffel tussocks was about equivalent to that of night time, effectively reducing the chances of other species competing for light, as well as nutrients.

Buffel Grass is here to stay. It is not my intention to discuss here what means can be used in its control but I do have opinions. I will mention that by sheer hard work, personnel at the Alice Springs Desert Park have done a wonderful job at eliminating Buffel from their domain. If you want to see a piece of local country looking as it should, have a look at the Desert Park landscape. How ironic is it that the work done there was performed by the Parks and Wildlife Commission of the NT, the direct descendant of Conservation Commission of the NT whose Land Conservation unit was largely responsible for the very successful spread of Buffel Grass in central Australia.

It can be seen that the part played by CSIRO for the Buffel Grass invasion was not the major one by a long shot.

***~ Des Nelson OAM, Retired botanist, Alice Springs***

## Cane Toads

While on the subject of the defence of the CSIRO, this would be a good place to lay to rest another furphy, the ridiculous claim that the organisation (then CSIR) was responsible for the introduction of what we refer to as Cane Toads into Australia.

The facts, gleaned from “Cane Toads”: Editor Karl Weber, Public Affairs 2010 are; ‘With the approval of Commonwealth Director-general of Health, Dr John Crumpton, and with the sanction of the Premier of Queensland and the Australian Prime Minister, the director of the Queensland Bureau of Sugar Experiment Stations, William Kerr arranged for Entomologist Reg Mungomery to sail to Hawaii in April 1935 to collect 102 toads. The first release, of 2400 toads took place into the Gordonvale, Queensland area on August 19th 1935.’

***You can read more about Des and his horticultural experience in the May 2017 Newsletter.***


Buffel Grass (*Cenchrus ciliaris*).

# The Use of Flupropanate for the Management of Buffel Grass

***By Chris Brown***

The Weed Management Branch held a workshop on the use of Flupropanate at the Desert Knowledge Precinct on the 4th of May 2018. The Flupropanate information session was delivered by Bill Dobbie who is the Australian manufacturer of Taskforce (liquid Flupropanate) in Australia. Chris Brown has kindly forwarded some information for those that missed the session.

As highlighted at the information session, the use of Flupropanate has been a game changer for management of Buffel Grass (*Cenchrus ciliaris*) in South Australia where it is declared.

The Advantages of using Flupropanate for the control of Buffel Grass:

» When applied at the recommended application rates for the control of Buffel Grass, Flupropanate will control both mature tussocks and residual seed banks. Results from SA have indicated that control can last up to 2 years in many instances, where there is no need for follow up after initial treatment.

» Unlike Glyphosate, which is a non-selective herbicide, Flupropanate is selective when applied at recommended rates. This allows for the retention of native grass and forb species in areas sprayed for Buffel Grass control.

» The advantages of retaining native species in Buffel Grass treatment areas means that there is increased competition and reduced chances of Buffel Grass recolonising these sites post treatment.

» A major benefit of using Flupropanate for Buffel Grass management is that plants do not need to be actively growing for application to take place. It can be applied when tussocks are desiccated (hayed off and not actively growing) and this greatly expands the window for control programs.

The use of Flupropanate for the control of Buffel Grass:

» The recommended rates for applying Flupropanate for the management of Buffel Grass are 300 ml / 100 L of water at an application rate of 1000 L / Ha which equates to 1 L / 10 $m^2$ when spot spraying. The use of a spray dye was recommended by Bill Dobbie as a visual cue to ensure evenness of coverage of both tussocks and inter-tussock spaces (bare ground).

» Ideally the application of Flupropanate should coincide as close to the onset of rainfall events as is practical to maximise its efficacy. Flupropanate requires a minimum of 25-30 mm of rainfall to allow for it to be moved into the soil profile and the root zone of the plants where it will be readily up taken by plants.

» Results using Flupropanate are not immediate (as with the use of glyphosate) and it may take 6-8 weeks before there are signs that tussocks are being affected.

There are various ongoing trials using Flupropanate in the NT being undertaken by Weed Management Branch, DENR and Parks & Wildlife in an effort to help better understand the herbicides effectiveness in the longer term and in local conditions.

The use of Flupropanate is covered under the Australian Pests and Veterinary Medicines Association (APVMA) in the Northern Territory under APVMA Permit 9792.

A granular formulation of Flupropanate (GP Flupropanante) is also available to be used for the control of Buffel Grass under APVMA Permit 81613. Trial results to date for both SA and the NT using granular formulations are still underway with mixed results to date.

South Australia has been at the forefront of much of the investigation and use of Flupropanate for the control of Buffel Grass and have produced a number of useful factsheets readily available such as Buffel Grass Control and Buffel Grass Decision Tool for Buffel Grass Control which are designed to assist landholders/users managing Buffel Grass.

***~ Chris Brown (Regional Weed Officer, Weed Management Branch, NT Government)***

Olive Pink Botanic Garden Curator, Ian Coleman, atop Annie Meyers Hill.

# Property Profile

## *» Olive Pink Botanic Garden*

*Note that sections of this article were written for the Australian Plants Society Alice Springs Inc. and the Field Naturalists Club Alice Springs as part of a joint walk of Olive Pink Botanic Garden the groups ran at the end of April.*

Regular visitors to Olive Pink Botanic Garden over the years will have noticed a big change taking place as Buffel Grass (*Cenchrus ciliaris*) has been progressively removed from sections of the garden and the species regeneration is remarkable! The Land for Wildlife team joined Constance Spencer and the Olive Pink Botanic Garden curator, Ian Coleman, on a walk and talk to learn more. Olive Pink Botanic Garden are a long-time Land for Wildlife member, having signed up to the program in 2007, so we thought it would be a good opportunity to see how far they've come.

The property was gazetted in 1956 as the Australian Arid Regions Flora Reserve, established by Olive Muriel Pink (affectionately known as 'Miss Pink') and her gardener, Johnny Jambijimba Yannarilyi. Prior to this the land was unoccupied and grazed by feral Goat, Rabbit, and Cattle populations. Miss Pink lived within the garden until her death in 1975, regenerating the vegetation on the property throughout her time there.

Following her death, the early 1980's saw increased development with the establishment of irrigation and the construction of a visitor centre. Consequently the garden opened to the public in 1985 as the Olive Pink Flora Reserve. Olive Pink Botanic Garden was listed on the Register of the National Estate in 1995 and the garden was renamed Olive Pink Botanic Garden in 1996.

**A Painted Lady Butterfly (*Vanessa kershawi*) feeds of flowers at Olive Pink Botanic Garden (*Left*) and Crimson Foxtail (*Ptilotus sessilifolius*) brightens up rock crevices on Annie Meyers Hill (*Right*).**

**Nurses Hill in the foreground, which is Buffel-free at present and a stark contrast to the hill in the background.**

*(Continued from page 13)*

The garden has been worked on over the years by many hands, including Francis and Clary Smith, but is currently curated by Ian Coleman. Other permanent staff include Doug McDougall and Cyd Holden (see new member article this month). In addition to the staff on ground, the Garden is managed by a voluntary Board of Trustees. Recent times have seen the garden undergo a process of consultation with the public and a new master plan has been released, which outlines some changes to come to advance the garden and visitor experience.

The property itself is 16.1 Ha of land that sits adjacent to the Todd River, with Annie Meyers Hill to the north on the property and Nurses Hill to the south-west of the block. Annie Meyers Hill is a very important sacred site as it is the location of one of the *Ntyarlke* caterpillars *Ntarlkarle Tyaneme*, which is located at Barrett Drive T-junction.

***Left*: Land units on Olive Pink Botanic Garden, including *5.08 Broad Drainage Floor* (red) to the south-west and *1.03 Sadadeen Range Gneiss Hills* (dark blue) to the north and east. Neighbouring land units include *5.02 Sandy River and Creek Beds* (yellow) to the west along the Todd River, *4.08 Upper Terrace Flat* (maroon) and *5.03 Saline Drainage Floors* (light pink) to the north and *5.06 Confined Drainage Floor* (hot pink) to the south-east.**
***Right*: Vegetation types on Olive Pink Botanic Garden, including unmapped residential/infrastructure (yellow) to the south-west, *4 Witchetty Bush and/or Mulga on rocky hills of granite, gneiss or schist* (brown) to the north. Neighbouring *22 Large sandy Red Gum creeklines* (dark blue) sits to the west along the Todd River, additional unmapped residential (light blue) to the north and 4 (purple) to the south-east.**

(Continued from page 14)

The property encompasses two major land units—*drainage floor* (which makes up the majority of the garden area) and *gneiss hills* (which surround the garden). The landscape is an erosional landscape, hence the drainage floor land unit, and controlling floods resulting from heavy rains will be a perennial issue. Several control methods, including recent attempts to slow water flow down the gully with shrub and tree pruning waste, have been used and are quite effective.

There is also one mapped vegetation type, which is *Witchetty Bush and/or Mulga on rocky hills of granite, gneiss or schist*, and the remainder of the property hasn't been mapped. Though much of the unmapped garden has been deliberately planted, hence the name!

**Wanderrie (*Eriachne* sp.) has replaced Buffel Grass (*Cenchrus ciliaris*) on the hillsides, among other natives.**

Since the property became established, controlling Buffel Grass has been a challenge of an ongoing nature. As for feral species, traps have been loaned out to the garden to control Cats (*Felis catus*) and Spotted Turtle-doves (*Streptopelia (Spilopelia) chinensis*) over the years with fluctuating trap rates. Rabbits have also been observed and controlled in the past but numbers have decreased over the years and are rarely seen now.

Olive Pink Botanic Garden joined the Land for Wildlife team as a member as they were keen to provide support towards the aims of Land For Wildlife, space for workshops and demonstrations, and to encourage community interest in the Land For Wildlife scheme. Land for Wildlife have in turn helped provide information resources to the curators and workshops for three of their Green Army teams, as well as ongoing support in the form of trap loans and ecological advice. So how have they been going of late?

The APS / Field Nats walk and talk began at the entrance to OPBG and ran along the outside of the fence line abutting the Todd River to demonstrate the work that the OPBG Landcare group have been undertaking. The Landcare group are relatively new to establish, but with some hard work and muscle power, Buffel is starting to make way for some native grasses such as Purple Plumegrass (*Triraphis mollis*), Erect Kerosene Grass (*Aristida holathera var. holathera*), and Woolly Oat-grass (*Enneapogon polyphyllus*), among others. Some species have been planted and are doing well, including Dense Cassia (*Senna artemisioides nothosubsp. sturtii*) and Bluebush (*Maireana sp*.).

The walk continued into the formal gardens. The first hill to go under the mattock was Annie Meyers Hill, which has been cleared of Buffel until half way up the slope (marked with some pegs and flagging tape) and the area has been allowed to naturally regenerate with grasses such as Wanderie (*Eriachne sp*.) and forbs such as Crimson Foxtail (*Ptilotus sessilifolius*).

**A Crested Pigeon (*Ocyphaps lophotes*) shade party under a Latz's Wattle (*Acacia latzii*), which is named after our new LFW member Peter Latz.**

***Left to Right*: Red-budded Mallee (*Eucalyptus pachyphylla*) providing a nectar feast for native Ants, Euro (*Macropus robustus*) with a joey, Common Rock Fig (*Ficus brachypoda*) clinging to the hillside, Native Fuchsia (*Eremophila latrobei*) without flowers.**

*(Continued from page 15)*

Further up the slope, some Kangaroo Grass (*Themeda triandra*) is holding on in patches amongst the Buffel and plans to clear selected areas to allow natives to expand their range is in the works. Some management of Buffel Grass around selected trees (*ie*. Common Rock Fig, *Ficus brachypoda*) has taken place as a fire management tool. Selected shrubs do well among the rocks, with some hardy Native Fuchsia (*Eremophila latrobei*) staking a claim for space.

We continued back down the hill after a moment of soaking in the view to see the impact of Euro's (*Macropus robustus*) on the native forbs in the low-lying areas. A few individuals stuck around to demonstrate their ability to eat the soft succulent grasses and forbs. We then continued on over to Nurses Hill, which has also gone under the mattock of late. Olive Pink Botanic Garden successfully hosted three Green Army programs, the recent team of which had the hard task of getting Buffel under control over the second hill on the site. The native species present on Nurses Hill is testament to the hard work of the Green Army teams and OPBG staff. We paid a quick visit to the sand dune and heath areas on our way out, where we interrupted a pigeon party and spied a Painted Lady (*Vanessa kershawi*) butterfly feeding on Salty Heath (*Frankenia cordata*) inflorescences.

While Buffel Grass control is an ongoing concern for many, OPBG are certainly on the right track and are making a considerable impact on the regeneration of native plants on the site.

*Thanks to Connie Spencer and Ian Coleman for showing the Land for Wildlife team and others around Olive Pink Botanic Garden—the hill climbs were a great way to get the blood pumping early on a Sunday morning!*

**Salty Heath (*Frankenia cordata*) in bloom.**

**Talking about Tietkens Daisy (*Rhodanthe tietkensii*) on page 2 got me thinking about the yellow flowers scattering the roadside at the moment. They are Small Yellow Button or Common Everlasting (*Chrysocephalum apiculatum*).**

## Further Reading

Click the link symbol to be redirected to the article

- *Article* • Should I kill spiders in my home? An entomologist explains why not to
- *Article* • World's oldest spider dies aged 43 in Western Australia
- *Article* • 'Frog hotel' on outback station becomes social media hit
- *Article* • Where Do Birds Flock Together? Australians Are Mailing In Feathers to Help Find Out
- *Article* • These shocking katydids are one of Australia's weirdest insects

Cheers,

*Caragh, Candice and Bill*

*Do you have any stories or images to share? Get in touch! We are always looking for members to share their experiences via our social media and newsletter. Email us with your suggestions of articles or topics that you wish to hear more about.*



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