LAND FOR WILDLIFE NEWS

Newsletter of the Land for Wildlife Scheme in Alice Springs Municipality, NT *Vol.1 No.2 April 2003*

Land for Wildlife Update

The 12 month Pilot Program of Land for Wildlife in Alice Springs is ¾ complete. To date interest has exceeded expectations with 23 properties totalling 1766ha registered as *Land for Wildlife* within the Municipality and three new applications since January 2003. This information has been provided to the Environment and Energy section of the Australian Bureau of Statistics and will be incorporated into a publication titled, "Australia's Environment: Current Issues and Trends".

The future presentation of the *Land for Wildlife* program in Alice Springs is under consideration. It is unlikely that the Natural Heritage Trust will provide another year of funding for the *Land for Wildlife* program in 2003/04. It has been proposed that the Alice Springs Town Council (ASTC) approach the NT Government to have them take on responsibility for the program in the long term. In the interim, it is proposed that the ASTC provide the funding for the financial year 2003/04 but this will not be known until the ASTC budget is handed down at the end of June.

Early, on a sunny fly infested morning in the middle of March, seven participants discussed and learnt from each other about native grass and Buffel ID. This stimulating hour was lead by Land for Wildlife Advisor and Senior Botanist for the Southern Bioregion of the Northern Territory, Dave Albrecht, and has been synopsised in the article "Battling Buffel".

The Devolved Grant "Cat Trapping and Feral Cat Diet Analysis Project", coordinated by Sue Ripley, is underway. The sampling for the "…Diet Analysis" aspect of this project has altered from the information outlined in the letter circulated on the 5th of March 2003. Now samples for analysis will be collected from scats instead of from stomach contents. Traps are available to each Land for Wildlife Registered property. Please contact Sue Ripley, Phone: 8952 5073, to receive a trap.

The next newsletter is due to be produced in June, so if you have any contributions to make or requests for articles please contact us via email: lfw@astc.nt.gov.au or phone: 8955 5222 during business hours.

In this Issue

Workshops and Events

Wed 7 May

APS monthly meeting 7:30pm at the Botanic Garden. Guest Speaker: Dr Tony Bowland on a rare arid zone plant, *Acacia peuce*.

Wed 14 May

Field Naturalists monthly meeting 7:30pm staffroom at OLSH off Sadadeen Road.

Wed 04 June

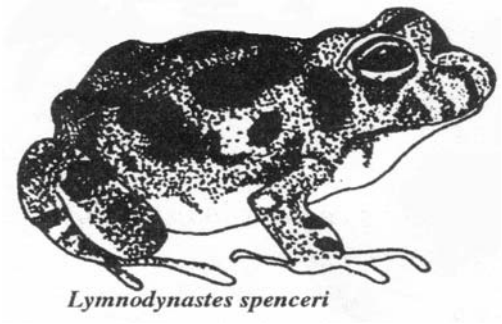
APS monthly meeting 7:30pm at the Botanic Garden. Guest Speaker: Bill Peachy on mulch.

This newsletter has been produced with the assistance of the Alice Springs Town Council and the Commonwealth Government's Natural Heritage Trust.

Alice's most frequently recorded Burrowing Frog

There have been 52 reports of Spencer's Burrowing Frog (*Lymnodynastes spenceri*) recorded in the Parks and Wildlife Biological Records Scheme for the Municipality of Alice Springs.

This portly little frog has relatively smooth skin and a variable colour range. Blotches of deep red to dark brown through to pale grey cover the upper surface of its body with the belly being mostly white. The feet of this species are partly webbed to approx. halfway up the toe.



Lymnodynastes spenceri

Its preferred habitat to burrow into is the sand of ephemeral river and creek beds.

Spencer's Burrowing Frog can breed at any time of year following heavy rainfalls and will even travel into the hills to breed in the rockholes.

Compiled by Stuart Traynor from notes.
Pictures supplied by Parks & Wildlife Commission NT

Battling Buffel

During the process of conducting property assessments and participating in the Grass Seedling ID Workshop a lot of knowledge has been shared in relation to Buffel Grass. People commonly ask what are the alternatives for control and readily share their experience. This article aims to address some of the commonly asked questions through sharing the knowledge collected through Land for Wildlife so far.

Identification

Although there is one species of Buffel Grass (*Cenchrus ciliaris*) it is highly variable and approximately 80 varieties/cultivars have been introduced to Australia. These vary from a tall woody stemmed variety that you find in drainage lines to the smaller variety with black flower heads. You need to become accustomed to identifying the species from seedling to mature stage and when Buffel is in both a fresh and dry state if you want to effectively control it.

To begin with it is recommended that you look at the flowering plant as these are easiest to identify. Look for characteristics such as: how it holds it leaves, where it has leaves, do any hairs occur, is there any distinguishing colouration and most importantly, is the characteristic consistent on other flowering Buffel plants? A lot of the characteristics that you see in a flowering plant will be present when a plant is not flowering and it is being familiar with a combination of characters that make it easier to identify Buffel.

With very young seedlings you can gently pull them up and see the old seed at the base from where germination occurred. Also there is a red/pink tinge on the white base of the plant through out its life.

Native Grass Seedlings

At the seedling stage you will need to become accustomed to identifying the difference between Buffel Grass and Purple Plume (*Triraphis mollis*) as both species have the red/pink tinged base. As mature plants the difference between these two plants is quite obvious.

Two other native, annual grass species have similar leaf shape to Buffel Grass when they are seedlings; Button Grass (*Dactyloctenium radulans*) and Summer Grass (*Urochloa piligera*). The most obvious difference is that these two species are a brighter shade of green compared to Buffel, with Summer Grass also having a somewhat waxy looking leaf.

A good book to assist with ID of native grasses is M. Lazarides, "The Grasses of Centralia Australia", published in 1970 by Australian National University Press in Canberra. Although this book is no longer in print, there are copies in libraries in town.

Urochloa piligera **sheath, leaf and seedhead**

Life Cycle

Rumour has it that although Buffel Grass produces a lot of seed it has a low germination rate. This is, in fact, just a rumour. A lot of arid zone plant species have a dormancy period in the seed and with Buffel it generally won't germinate for approximately 10-12 months. Buffel Grass seed is viable for at least 5 years although the germination rate reduces markedly after 4 years of age. So, seedlings that you are now seeing could be from seed that could be at least 10 months old. Following rain a number of crops will result.

Here is a scary thought; it is possible for Buffel plants to live for up to 20 years.

Another factor that makes this plant so successful in arid conditions is the underground vegetative reproductive structure referred to as the butt. Not only are butts a food store but also the points from where an apparently dead Buffel plant may resprout tillers (stems) when conditions improve and the plant springs back to life.

When is it Seeding?

If a flower head comes apart easily or has begun to fall apart, then it has already gone to seed. Flower heads will also appear to be drier and darker in colour. When you can see yellow bits on the flower head, you are looking at the male flower parts (the anthers) and the pollination stage of the reproduction cycle. It is possible for the flower heads on one plant to be at different stages of reproduction and this is important to recognise when deciding upon the control method that you will employ.

Control Methods

It takes a whole swag of different methods to control Buffel Grass and what you do and when you do it is dependent upon the condition of the plant, the area that you are controlling and what the weather has or is about to do.

By far and large the most commonly practiced combination of control methods includes: when it rains, wait for it to germinate or become healthy; then pull and fork areas of high priority and/or spray broad areas with glyphosphate; before seed has set, mow, slash or hand pick the heads to reduce the seed bank. The latter can extend the opportunity to spray and reduce the risk of creating viable seed that is resistant to herbicide. When the soil moisture is exhausted, chipping, slashing, mowing and burning are the most commonly employed methods of control.

Glenn and Evie Marshall in front of some of the Buffel that the Marshall Mob has removed during the past four and a half years (Feb 2003)

Physical Removal

There is something really satisfying about chipping. The results are obvious and instantaneous. ***Keep in mind that unless you are prepared to continue you are making it worse by "cultivating the soil" and opening a space for more germination***. Besides the well practised method of pulling plants following rains, an adapted garden fork or sharpened shovel can work wonders and save the back.

Simply sharpening the edge of a long handle shovel (less body bending than with a short handle) can make cutting through the roots, below the stem base and butts, easy work. Angling for a shallow cut or three into the ground can have a mature plant quickly removed, from a number of soil types, in moist and dry conditions. Some people prefer to chip out Buffel especially in rocky areas or as clay soils dry out. For those eager individuals, *LfW* Landholder Dave Leonard has supplied us with the design of his Buffel Removing Fork that you find enclosed with this issue.

Spraying with Glyphosphate

There is a small window of opportunity to effectively poison Buffel. The best time to poison is when leaves are bright green, fully open and flat. You need a good area of fresh leaf to take in the poison. If you have recently mown, then you need to wait for enough leaf to regrow so that it can absorb enough poison to kill off the rootstock. Also, if you have just sprayed, don't mow or slash the Buffel until it is completely dead so that the plant can pump enough of the poison around its system for it to be effective. When poisoning has been unsuccessful it becomes more difficult to physically remove the tussocks.

Slashing/Mowing

Although this method is helpful in reducing both the seed bank and the fuel load you need to be aware that mown Buffel Grass will regrow as a larger, denser tussock if not controlled to a low height and will continue to shade out native species. Also, when Buffel Grass has been mown and then you try to remove it by digging it is harder to remove than plants of the same age that have not been mown.

Reducing Seed Bank

It is useful to prevent seeds from entering the system especially adjacent to areas that have been cleared of Buffel Grass. How you go about removing the seed heads is dependent upon what area you are dealing with and the time that you have available. Some Landholders have been able to hand pick the seed heads and subsequently burn the pickings. The plant does not becoming denser with hand harvesting as it does when it is slashed or when poisoning has been unsuccessful. If the plant seed heads have been hand harvested and the plant is not a fire threat it can be left standing until the next rains when it can be a priority plant for pulling/forking or spraying.

Burning

Burning trials have been and continue to be conducted. Dave Albrecht has noted that burning does kill a lot of seed so you only get one crop following rain instead of four or five crops of seedlings. More research and monitoring is required for this technique of controlling Buffel Grass. Please note that permits are required before burning can take place. We are in the early stages of planning a workshop regarding the use of fire to control Buffel. When more information is available regarding fire as a control method we will pass it on.

Biological Control

Cathy Pirrie commented, during the ID workshop, "…on a recent drive to Tennant Creek I noticed that Buffel was encroaching further into areas of native vegetation…. … it has the potential to invade 2/3 of Australia. Is there a biological control available?" At this point in time there are no biological controls, other than herbivores, available. Dave Albrecht added to this that, "…because the pastoral industry, particularly Queensland, rely on Buffel for stock feed, biological control wouldn't be sanctioned."

Innovative Approaches

- Denise and Geoff Purdie have utilised Buffel Grass that they have removed to stabilise a road across a sandy creek bed that runs through their property.
- Allowing herbivores, such as cattle, to remove the seed heads and fuel load is one of a number of methods that Leslie and Dave Reilly employ to control Buffel Grass.
- The Cramer Family have observed that Buffel Grass doesn't grow in areas of regular traffic and are testing a large metal roller to establish if regular rolling will reduce the density of tussocks.
- The late Frances Smith would pull tussocks of Buffel in the Botanic Garden and Undoolya Park to use it as sunshades or frost protectors for recent plantings by placing them on top of tree guards.

Have you any innovative approaches to handling or using Buffel Grass? Please email them to lfw@astc.nt.gov.au.

Dry Times

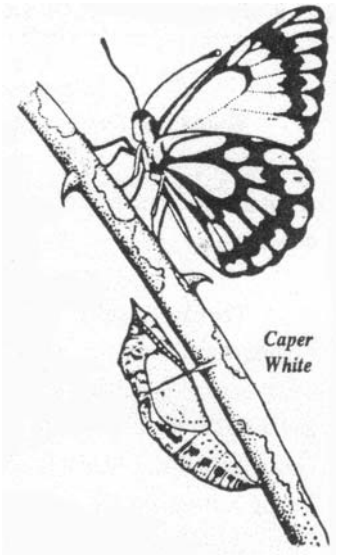
Dave Albrecht mentioned at the ID workshop that although 10 years without rain would initially lead to an increased fire risk, prolonged dry conditions may greatly reduce the number of viable seeds. On Dave's block during the eight months of dry, prior to November 2002, the native grass and ground cover remained in a dry state. This was beneficial for protecting the soil from wind erosion and reducing dust. So, it is possible to remove Buffel and not suffer from locally increased dust levels. Do keep in mind that the dust storms that occur during times of drought have usually accumulated over many kilometres. You may still be inundated with dust although you have excellent ground cover on your property.

Future

Initially, you may not notice much regeneration of native species following the removal of Buffel Grass, especially if there is little or no rain. With time and favourable weather conditions, the native species will come to dominate in areas that are maintained Buffel free. Approach Buffel control from a realistic viewpoint. Think about what area you can maintain Buffel free for a sustained period of time and what other control methods are most suitable for other areas of your property. Where possible, commence control in an area with minimal infestation and work out from there. At the end of the day you can only manage the area within your control. From little things, big things grow.

Caper White Butterflies
(*Anaphaeis java teutonia*)

This species of butterfly gains its common name from a combination of wing colour and its close association with plants from the Caper Family. Caper White Butterflies are a migratory species that are common around Alice and are wide spread across the continent. Although the wings of these butterflies are predominately white and black, orange markings on the female and light yellow markings on the male can give a butter coloured appearance.



Each stage of the life cycle of this butterfly can usually be witnessed where you find a Wild Passionfruit Bush (*Capparis spinosa*), especially one that appears to be a collection of green sticks. Once the eggs laid on the underneath of leaves have hatched, the larvae commence consuming the foliage of the Wild Passionfruit Bush.

Within a short period of time, the plant is defoliated and pupation takes place, there can hundreds of chrysalises on an individual plant. This burst of reproduction often occurs in late summer / early autumn and by the following spring the Wild Passionfruit has usually completely regenerated.

Compiled from notes and pictures supplied by Parks & Wildlife Commission NT

Photo Monitoring Techniques

Why photo monitoring?

This monitoring technique can clearly demonstrate changes through time and is useful for showing others what changes have taken place. A minimum of effort can result in a great deal of information being collected. A picture is worth at least a thousand words. With a well selected monitoring point, information in relation to soil stability, density of plant species, growth rates and much, much more can be easily interpreted without having to perform mathematical calculations and without the worry of identifying every species present. Although minor variations in photos are inevitable from one monitoring to the next monitoring, the less variation the better. Being consistent with the camera

position and focusing will provide the best results for subsequent interpretation.

Creating consistent monitoring Photos

- First decide what you want to record. Is it trees and shrubs? Herbs and grasses? Is it masking of the neighbours house by screening plants? Is it the changing array of daisies or the density of Woolly Cloak Ferns?
- Once you have an area that you want to monitor through time, your first consideration in photo monitoring is the position of the sun. Take your photos with the sun behind you and the lens, in a north/south direction. East and west facing photos can result in washed out pictures but this is not always avoidable and at times you may need to employ shadow to accentuate the lie of the land.
- Fixed points to work from are an asset. For large scenes use two star pickets, spaced 10m apart, as your fixed points. One painted with 10cm or 20cm black and white bands is a reference point within the photo and the other is the location from which the photo is taken. For consistency, take the photo at the same height each time and at the same zoom level, e.g. 50mm, and at the same time of day.
- Think about the amount of sky that you do or don't want in the photo. Focus on the area of interest and use the sky to give your subject a relative scale, e.g. ground : sky ration of 5:1.
- Use the first monitoring photo as your reference when taking subsequent photos to ensure that view of your site is consistent.
- If it is possible, include a blackboard at the base of your reference star picket with the date and site location using lettering that will be clearly visible in the photo.

How often to photograph

Photographing your monitoring point at regular intervals and during times of significant change, i.e. flood, fire, slashing etc. is most helpful when it comes to interpreting the information collected. Not only is the time of day important when taking your photos but also the time of year needs serious consideration. Take your photos between 10am and 2pm for the best colour saturation of film.

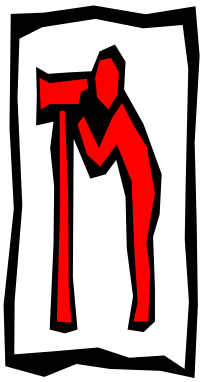
Ideally, if it is possible, conduct your photo monitoring on the first day of each month you will quickly build up a databank that will allow you to easily see the variation in the landscape through the seasons and in relation to the climate. A minimum of four photos, one for each quarter, in a year will also demonstrate the changes relatively easily. It may then be easiest to conduct your monitoring on an anniversary, birthday or when bills are due so that these events serve as a reminder.

Record on the back of your developed photos the location, time of day and the date that the photo was taken.

Other useful information to collect

- Rainfall data together with the min. and the max. temperatures.
- External factors that may have affected the area, e.g. fire, earthworks, Buffel chipping or spraying.
- What is in flower and fruit within the frame of the photo. This allows you to develop your botanical knowledge of the species names and their reproductive cycle over time. It will assist you to understand whether a species has a set reproductive cycle or whether it responds to climatic conditions.
- Evidence of animal presence within the frame of the photograph i.e. scats, scratching, grazed plants etc. and an indication of how fresh or old it is.

This extra information is relatively easy to collect and greatly assists with the interpretation of changes through time. Remember, for the best results, being consistent is what is important.



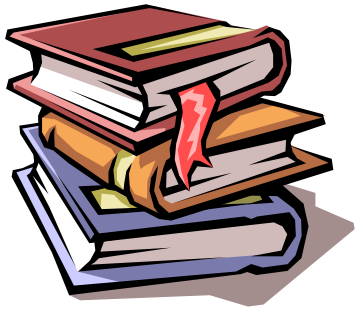
For information on or assistance with planning a more detailed monitoring program please contact us, the *Land for Wildlife* Coordinators, so that your specific project needs can be met.

Books worth a look …

"A Guide To The Geology And Landforms Of Central Australia". R.B. Thompson wrote an easy to digest publication explaining the creation of our central Australian landscape from a Geologists perspective. Colour figures and plates clearly illustrate the terminology and concepts of land formation.

Many of the parks and reserves in the area are used as reference points and visiting them along with this book brings a whole new dimension of awe into our landscape.

Currently this publication is available, **free of charge**, from the Department of Business, Industry & Resource Development at Minerals House, 58 Hartley Street, Alice Springs **while stocks last**.



David Tongway's, **"Rangeland Soil Condition Assessment Manual"**, was published by CSIRO in 1994.

Using layman's terms, this book quickly leads you to appreciate the complex interactions and associations that lead to soil stability. Excellent photographs and figures illustrate examples of soil conditions across of a number of Rangeland types (Rangeland is an introduced term relating to the area that stock can range over in search of their sustenance).

Well worth a look for assistance in understanding the relationships between the elements and interpreting a soils history and future.

Workshops and Events

If you're holidaying in Victoria, take in FIRST BIENNIAL CONFERENCE on
Developments in Weed Management
Wed-Thur – 20-21 August 2003, Bendigo, Vic
Weed Society of Victoria Inc.
The aim of this series of conferences is to provide weed managers with info on Environmental Weed Management, Weed identification, Weed control technologies and underlying principles of integrated weed management relevant to Victorian conditions.
For further information contact RG and FJ Richardson through E-mail: richardson@weedinfo.com.au

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Buffel Removers Fork Type 1

Materials:

- One piece of 80mm diameter metal pipe or similar (the width of the fork).
- Two pieces of 15/20mm diameter metal pipe approx 130mm in length or use whatever will fit over the tines of the fork.
- Two lengths of 6mm diameter (or thicker) round metal bar (for bracing).
- One short piece of 12 x 12mm metal bar, to support the middle tines.
- Two sets of nuts and bolts. These are to clamp the device onto the fork (an alternative is to tie it in place with wire).
- One four tined garden fork.

Construction:

- Bend the two 15/20mm pieces of pipe to fit over the curved tines.
- Drill holes in these for the clamping bolts and weld the nuts onto the pipe over these holes.
- Fit these short pipes to the fork and clamp on.
- Weld the 80mm pipe to these short pieces. Ensure that there is approx 150mm between the tip of the tines and the centre of the 80mm pipe (distance no greater than 150mm for loamy or clay soils– in sandy ground it may work well with greater depth).
- Weld the 2 lengths of 6mm metal round bar for bracing between the 80mm and short pieces of pipe (refer to illustration).
- Slide the 12 x12mm bar under the middle tines and weld it to the large pipe so that the tines are firmly supported.
- Start digging!

CAUTION:- Do not weld directly to the tines! The heat of welding will change the grain structure of the steel and it will become brittle and break just beside the weld.

Disassembled device.

Buffel Removers Fork Type 1 in action.

Use:

- Use your weight to drive the fork vertically into the ground beside the Buffel clump.
- Pull back on the fork so that the 80mm pipe is the fulcrum and bears on the ground as the tines move forward and up.
- Push the fork forward through the loosened soil and repeat, lifting and pushing the Buffel out of the ground.

Disadvantages:

- Must be tailor made to your particular brand of fork.
- Doesn't work when the ground is hard and dry.
- Can put a lot of strain on the tines and handle.
- "Cultivates" the ground in the process.

Advantages:

- 100% success rate in soft ground – gets out all the roots.
- Easy on your back.
- Little disturbance to the plant resulting in minimal seed drop.

DHL 30/3/03