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## TIMELINE

needs



11 February 2010 Mt Hope Site visit to begin discussion

about Aboriginal community



Forbes
An idea for a community project using fire is first discussed

19 March 2010



Forbes
Concept plan and start as a
Lachlan Catchment Management
Authority funded project

1 July 2010



Dalton, Darbys Falls, Nangar, Wattamondara, Ootha, Trundle, Mawonga, Goologong, Cowal, Grenfell Community support is found

1 March 2011



23 March 2011
Paddocks Alight
A decision is made for the project name



1 May 2011 Sydney Russel and Milton visit Fire Conference to better understand the New South Wales situation



**5 May 2011**Dalton, Darbys Falls, Nangar,
Wattamondara, Ootha, Trundle,
Mawonga, Goologong, Cowal, Grenfell

The biodiversity monitoring is commenced before the start of burning



1 July 2011 Cape York Milton and Russel investigate fire knowledge in northern Australia

and the fire sites are chosen



29 August 2011 West Wyalong Community training in fire awareness



1 September 2011
Nangar
A training session is held
for new staff to help with
biodiversity monitoring



1 September 2011
Forbes
OEH, RFS, FireSticks, NCC, and the Community meet for the first Steering Committee



Nangar
A training session is held for new staff to help with biodiversity monitoring

7 September 2011



10 September 2011
Nation Wide Announcement
Success - CfoC funding from
Australian Government is
announced



1 November 2011
Forbes
Steering Committee meeting



1 December 2011 Tasmania Russel presents our work to the Ecologists of Australia



1 March 2012 Cowra Community discussions



**12 April 2012 Condobolin**Community discussions



**1 September 2012**Mawonga
First Fire workshop



1 November 2012 Paddocks Alight Filming the story



**Glen Innes**Milton is invited to share the progress of the project with people from other communities across New South Wales

1 March 2013



2012 to 2013
10 experimental sites
It is recognised by funding bodies that our monitoring is important; providing a unique blend of science and practice



1 May 2013
Condobolin
Cool burn - Youth forum and demonstration burn



21 June 2013

Darbys Falls

Cool burn



1 August 2013 Walgett Cool burn - Firesticks invitation for Michelle and Larry



1 September 2013 Cowal Cool burn



1 September 2013 Wattamondara Cool burn



4 October 2013 Mawonga



Mawonga Victor Steffensen visits for the first time to share burning knowledge

29 October 2013



**30 October 2013 Murrin Bridge**Victor helps with burn planning at Murrin Bridge



1 April 2014

Mawonga

Monitoring of grass recovery begins



9 April 2014 Grenfell Cool burn



14 May 2014
Mawonga
Victor Steffensen visits a second time and the Gaambawananha
Ngurambang team start a great partnership



15 May 2014 Murrin Bridge Victor's second visit continues



16 May 2014 Shadforth Victor's second visit continues



16 May 2014 Eugowra Victor's second visit continues



17 May 2014 **Darbys Falls** Victor's second visit continues



14 July 2014 **Cape York Wenlock** Community trip to Cape



Nangar Community discussion and planning using the information gathered in Cape York

14 August 2014



3 September 2014 Girralang 1st visit to Girralang



26 September 2014 **Murrin Bridge** Cool Burn



30 September 2014 Girralang Victor Steffensen visits with Peta-Marie Standley from Cape York NRM and a new

burn is commenced



Orange Fire Forum bringing together a varied audience to share fire knowledge

1 October 2014



**25 November 2014** Girralang Site inspection with community



Girralang Site inspection with the Gaambawananha Ngurambang team

11 March 2015



11 April 2015 **CSU Orange Burn** Orange LALC partnership spreading the fire to others



1 May 2015

**Sydney - Nature Conservation Council Bushfire Conference** 

Joint presentation between the Gaambawananha Ngurambang team (Orange LALC) and Central Tablelands Local Land Services. Community mentoring and sharing



6 May 2015 Girralang Site inspection with the Gaambawananha Ngurambang team



14 June 2015 Cape York Mary Valley Community trip to Cape York



29 July 2015
Girralang
Site inspection with
the Gaambawananha
Ngurambang team



**Girralang**Site inspection with the Gaambawananha
Ngurambang team

9 September 2015



Albury
Asked to share knowlege
between Wagirra community and
Orange LALC

22 October 2015



9 - 10 February 2016
Darwin

Michelle and Larry visit Darwin CSIRO to share the southern burning story with northern Aboriginal community leaders



9 April 2016

Orange

A partnership burn between RFS, Gaambawananha Ngurambang team (Orange LALC) and Central Tablelands Local Land Services is performed



29 April 2016

**Mullion South** 

Team meeting with Local Land Services, RFS and Gaambawananha Ngurambang team to check Ophir/Orange cool burn results



24 - 25 May 2016

**Mullion Sharing Event** 

Cool Burn at Mullion with Local Land Services, RFS, Gaambawananha Ngurambang team and the Albury Wagirra team



7 June 2016
Coffs Harbour

Milton meets with other "Cultural Burning" members from across Australia to discuss the future of burning projects



30 June 2016

Sydney

Michelle and Milton present "Lighting the Path" project story to NSW Aboriginal Local Land Services representatives



7 September 2016

**Mullion South** 

Group assessment of vegetation recovery after Cool Burn. Plans are made between partner groups for burns in the next year and a discussion reviewing the success and shortfalls of the project.

# Lighting the Path

## FOREWORD

Once upon a time it was common for Europeans to try to imitate Aboriginal fire to maintain country. The newcomers could see how fire replenished grasslands and controlled scrub, and how rapidly forests thickened without fire. In 1846 Thomas Mitchell observed.

The omission of the annual periodical burning by the natives, of the grass and young saplings, has already produced in the open forest lands nearest to Sydney, thick forests of young trees, where, formerly, a man might gallop without impediment, and see whole miles before him. Kangaroos are no longer to be seen there; the grass is choked by underwood: neither are there natives to burn the grass.

In southwest Western Australia in 1836 HW Bunbury wrote.

TBv the1 extensive bush fires... every two or three years... the country is kept comparatively free from under wood and other obstructions, having the character of an open forest through most parts of which one can ride freely; otherwise, in all probability, it would soon become impenetrably thick... This has already been proved in the case of Van Diemen's Land, where, in consequence of the transportation of the Natives to Great or Flinders Island, and the consequent absence of extensive

periodical fires, the bush has grown up thick to a most inconvenient degree... It is true that we might ourselves burn the bush. but we could never do it with the same judgement and good effect as the Natives, who keep the fire within due bounds, only burning those parts they wish when the scrub becomes too thick or when they have any other object to gain by it.

In rural Australia the value of fire was well accepted until about World War Two. Grazier Lew Scott recalled of the 1920s.

Native grass in those days, you don't see it now... Because it's not burnt, you have to burn to get native grass... you would light it up at about ten o'clock in the morning and three or four o'clock it would all go out, the next day you would light it up again. The bush was alive with possums and wallabies and kangaroo rats. The fire only went slowly... it was only a little fire, it never used to get up in the trees and burn the possums... the real oldies followed the burning patterns of the natives in keeping the place green... learnt to burn little patches, that they wanted for their existence the same as the blackfellow - of course not winter and not spring - because you kill all the little birds and animals - and so summer burning.

Then a terrible orthodoxy descended. Fire officially became an enemy. "Prevent Bush Fire" notices lined roadsides; children were taught the dangers of fire; since the 1980s landholders can be prosecuted for lighting a fire on their own land; today they can be prosecuted for fighting a fire on their own land.

This came about because Aborigines were stopped from burning and non-Aborigines did not burn properly, so forests thickened and scrub spread. From 1939 big killer fires became increasingly frequent and deadly, yet trying to prevent them by banning fire simply made fire worse, because fuel built up. Australia is made to burn: if fuel is there, fire will come. Aboriginal people know this. For generations they have had to watch good country go back to scrub and debris - not everywhere of course, but in enough places to make fire a hazard when it comes. Where they can, especially in the Centre and North, Aboriginal people keep up their old alliance with fire to clean and refresh country and protect species.

Now people in the southwest and southeast too are beginning to be heard. Their expertise in managing fire and no fire and in protecting plants and animals is being accepted. This book describes fire management trials in central west New South Wales. For seven years people there have been learning

to adapt traditional cool fire to modern conditions - "for the benefit of everyone", as this book says. The work has far to go. Cool fire is the most common and probably the most important traditional fire, but the team warns, "Our knowledge of cool burning is very limited", and they are a long way from the summer burning Lew Scott mentions.

Yet they know much more than they did when they began. They can burn with success, and they have the alliances to learn more: to trial burn, to invite traditional fire managers from elsewhere to come and teach. to support young people while they learn. They are inching back towards traditional fire knowledge.

This book summarises their journey and their future: "A journey to heal people and country", they call it. They mean to bring country alive in the Aboriginal sense - people, plants, animals, birds, reptiles, insects, special places.

This was unimaginable when I was young. The change is one of the best things to happen in my lifetime. The future is catching up with the past. The old people would have been delighted.

#### Bill Gammage

Australian National University Author of "The Biggest Estate on Earth".













## **ACKNOWLEDGEMENTS**

#### No False Expectations but a huge Thank You to Everyone

In 2011 The Australian Government through the Caring for Our Country program invested funding in the former Lachlan Catchment Management Authorities "Paddocks Alight" project. This enabled our team to commence with on-ground trials of traditional burning and monitoring the effects on biodiversity. In the following years financial and in-kind support was also obtained through the Lachlan Catchment Management Authority and later continued by the Central Tablelands Local Land Services through the NSW Governments Catchment Action and the Australian Governments National Landcare Programmes.





#### Special thanks to our friends and partners

It is very important for us to point out right from the beginning the intentions of this book and the journey it describes. This is not a resource describing how to go about lighting cool burns across New South Wales and it certainly does not give anyone an excuse to not abide by the fire regulations of the State. Our knowledge in bringing cool burning back is always developing and even though we have been treading this path for seven years. we, more than anyone else understand how much there is still to learn and how dangerous a little fire knowledge could be if used incorrectly. Equally working through cultural protocols requires time and sensitivity and together we all respect and follow working to these.

We have attempted to document and describe our journey and that of our regional communities in exploring the practice of cultural burning and the possibility of using cool burn techniques as a tool in restoring the health of both people and the land. The path has not been easy but, we are proud of the progress and stronger for the many partnerships built along the way.

Although we will acknowledge as many people as possible throughout the book we are incredibly grateful to one of our key partners, the NSW Rural Fire Service. They have supported and contributed enormously through training, support

at fires and communication within their teams. In particular we would like to say thanks to Paul Smith, Simon Curry, David Curry, Geoff Selwood, Ray Astil and the many other fire volunteers who have come and helped at our burns.

In our very early beginnings we formed a strong positive relationship with the Winangakirri Aboriginal Corporation, primarily through Steve Meredith and were able to commence the much needed experimental component of the project. There were many other sites where we were able to start burning, including Murrin Bridge community at Lake Cargelligo and private lands, and we thank everyone for playing an active role. Special thanks to the farmers and land managers: Vince Heffernan, Richard Gibson, Alan McGufficke, Jan Grey, Mikla Lewis, Dylan Gower, Mal Carnegie and Damian Cullenward. We would also like to thank Oliver Costello, Bruce Hansen, Waminda Parker, Garry Germon, Christian Hampson, Jeff Boyd, and Paul Houston for their early participation and support through the steering committee.

In recent years we have been able to form a very strong partnership with the Orange Local Aboriginal Land Council and the Gaambuwananha Ngurambang team now journey as friends with us to bring balance back to country.

A localised loss of knowledge about the subject of traditional burning was always going to be difficult but this has been made less of an obstacle through close contact with Dr Peta-Marie Standley from Cape York NRM and Victor Steffensen of Mulong. Their amazing field camps in Cape York allowed us to introduce so many people to the practice of cool burning. In addition these camps opened opportunities to meet Indigenous people from throughout Australia, share experiences and start new friendships. Thank you to all the people of Cape York in particular for walking with us on their country and sharing. Finally we are all especially indebted to meeting and speaking with Dr Tommy George Musgrave and his grandsons, Dale and Lewis. It was a great privilege to learn new skills from traditional fire practitioners.

# THE FIRST BUSH FIRE

#### Abridged from a version first written by C. Peck, Australian Legends.

Many, many years ago Australia was very different. It was not the dry place we now see with stunted trees and swathes of dry tall grass. There were dense dark forests with tall trees and a green hue caressed the entire landscape. But the weather began to change, the seeds from much bigger brighter flowers than we see today failed to germinate and deserts appeared in the lands to the west.

At the head waters of the bila now known as the Cox's River, close to the place called Cullen Bullen lived a clan of peaceful people. We do not know the name of this clan but their women were beautiful and in every generation there was a woman of exceptional beauty with the special name of Krubi. This clan stayed apart from other clans for reasons now unknown. It may have been to protect their beautiful women from being stolen by the young men of other districts or it may have been because of the ruggedness of the mountains where they lived.

In the south lived a great leader that had united many of the clans. His people and his power possibly extended as far south as Victoria and north to the Burragorang Valley, it may have even been the area

we now know as the country of the Wiradjuri, but much of this knowledge has been lost over time.

The name of this great leader has been lost but he was well-liked by his people and admired for his skill as a hunter. He never forgot his responsibilities even as a leader and continued his role in sharing the work loads of daily life with his people.

While visiting the people in the north of his country, the great leader heard of the small remote clan along Cox's Bila. He decided to visit and entice them to be members of his great nation. On his first visit he concealed himself in a wombat skin cloak so that he could watch the clan without being noticed. He was a very big man and even the biggest wombat would not have completely covered his body, so he also used the country to shield his presence and stayed hidden behind rocks as he approached the camp. As the great leader watched the people of the clan, he saw that they were cooking kangaroo using hot stones and using the stems of waratah bushes wrapped around their hands. These bushes provided safety against the heat of the stones and prevented their hands being burnt.

As the great leader watched the clan going about their business his eyes came upon the most beautiful girl. Her name was Krubi and the great leader was so captivated that he jumped from his hiding position and raced down the hill toward the clan. The people were frightened and scattered in all directions from the camp. Krubi was also frightened and she fled into the nearby bush to escape from the warrior. She soon realised that she was the one that the great leader was pursuing but she was very quick and agile so was able to match the speed of her pursuer.

The great leader pursued Krubi through the country for a very long time but she was good at hiding and was often able to conceal herself as he rushed past. However the great leader was also very smart and quickly realised that he could not hear her footsteps anymore through the dry leaves and sticks so re-traced his path to start his chase once again. Krubi knew of a stream close-by with waterfalls, boulders and large deep pools, so she headed there for refuge. She knew of places within the pools and waterfalls where she could hide so headed for the stream with the great leader close behind. In particular she

knew of a large pool at the base of a waterfall where she could climb over the edge and hide within the water. With great speed and agile steps she slipped over the edge of the boulders and hid within the water.

The great leader approached the edge of the sharp drop into the pool but thought the climb down to the pool would be too difficult for Krubi. He decided that she must have again hidden and that he had run past her so re-traced his steps. He went all the way back to the now deserted camp, but did not find Krubi so returned to his own home.

Whenever the great leader found the opportunity he visited to watch Krubi's clan and perhaps gain another view of the beautiful girl. The people of the clan were very smart and even though they became accustomed to the leader watching them, they knew he was looking for Krubi. The clan kept her out of his sight whenever he appeared making sure that she remained safe with her people.

One day from a distant viewing point the great leader sat watching the clan, but unlike the other days, the clan was unaware of his presence. They were

working around their camp as usual and then at the side of the clearing where the camp had been placed the great leader viewed Krubi. Unfortunately for the great leader. Krubi also saw him and raced for the bush. This time he did not pursue her, but instead took two sticks and started rubbing them together to start a fire. He tended the embers and added dry grass and ferns until the first wisps of flames appeared. He continued to add fuel to the flames and blew upon the small fire to encourage the flames to grow. As he did this the wind pickedup the flames and swept the fire toward Krubi and her clan's small camp.

The flames were high and as they swept toward the camp the people of the clan ran for safety. Some people were too slow and perished in the flame and their bodies lay upon the charred black earth. As the great leader made his way through the hot embers and coals he burnt his feet but there were no waratahs in this place to wear and prevent his skin being blistered. He checked all the bodies and he slowly made his way through the blackened landscape but did not find Krubi Eventually he came to two small mounds of clay, freshly placed on the black

earth. This was special magic, used only by special people with knowledge. He wondered if indeed Krubi had made these mounds, but how could a women have such knowledge because in his people this could not happen. This magic was used to invoke the power of the Great Spirit and if she really had this power he would never find her and even worse he would now himself be under this power and lost to never find his way home.

As the great leader turned to look around him the smoke appeared thick and as he watched he saw that the seeds that lay on the ground from the now blacked bushes and trees had begun to germinate. He did not know which direction to go and as he wandered the bushes that had grown from the fire thickened so that he could not see in any direction. The smoke remained thick and he could not see the direction of the sun He kept wandering for days but he was indeed lost. The magic was the work of Krubi because during her travels she had seen the special corroboree where the knowledge had been given and she had learnt to paint herself in a special way.

The surviving people of Krubi's clan found a new site for their camp after the terrible fire but the landscape was never the same. After a year they noticed that the plants that emerged from the fire flowered but the seed the flowers produced lay upon the ground and did not germinate. There were no new fruits or tubers to collect for food and the people wondered why their once plentiful lands were now barren.

Krubi decided to speak again to the Great Spirit and went back to her old home and found the special clay. She painted herself and sat waiting in the stillness of the special place. She spoke with the Great Spirit and was given a message. In front of her curled a small smoke wreath, followed by a small flame. In a short time the fire grew and the flames spread across the landscape. Krubi now understood what was needed by the country and soon after the fire the seeds began to germinate again, fruit appeared and her people again had food.

People knew from that time forward that fire would be needed to replenish country and manage the cycle of providing people and animals with food. This is why it is important to continue these traditions and care for country.





## CONCEPT

The "Paddocks Alight" project, later to become "Lighting the Path", started as a grand concept to explore how traditional burning techniques could be used for the benefit of everyone in what was then our Natural Resource Management Region (NRM) of the Lachlan River Catchment. Primarily we were concerned with how fire could be used as a tool to enhance biodiversity but we were also hoping to explore if cool burning could help farmers in the agricultural landscape. The long-term vision was to provide Indigenous groups within communities with the skills and training (Rural Fire Service accredited) to be recognised as "Fire Practitioners". Teams would then be hired on a commercial basis to cool burn and restore landscape health while also giving people much needed access to traditional lands

We recognised from the start that science would be an important part of being able to successfully communicate our results but as the project evolved we also understood that the science was there more as a secondary finding to enhance and emphasise traditional knowledge. It was important to use the findings of our experiments to support the already existing knowledge of community rather than in reverse, which

had in the past pervaded investigations into fire ecology.

In possibly the most important step of the process, even before we had financial support, we took the project concept to the community. In a series of community evenings held in Cowra, Condobolin and Forbes information about how traditional burning was beneficial to biodiversity and the landscape was revealed in open discussion and occasional PowerPoint slides. The plan was to ask the community for their support through giving our team access to burn on their land. We knew for the purpose of the experiments that at least 10 properties containing four, 5ha plots suitable for burning would be the minimum. One of the four plots would remain unburnt for comparison, but the others would be burnt at varying times during the cooler months of the year. As mentioned earlier, the plan was grand and each plot would be monitored for mammal, bird, reptile and plant diversity. The project was overwhelmed with offers of locations to commence our work and after a bit of sorting, the sites were found and the work commenced. In general, and to the credit of Michelle Hines and her two field assistants Tom. and John the work was completed. It

had been hoped that monitoring and burning at these sites would continue for more than just a year, but funding and a rearrangement of NRM regions caused a major shift in the project focus.

In recent years the project has shifted more upon an awareness of traditional burning techniques. community participation to capture existing forgotten knowledge and limited experimental field trials. The number of sites has been reduced to one case study design coordinated in partnership with the Gaambuwananha Ngurambung Team from Orange Local Aboriginal Land Council. The Rural Fire Service joined the project from the outset and has maintained a strong connection, partnering with ground crew support during our burns and valuable knowledge about legislation. Together the project partners are learning and sharing a new understanding as we "Light the Path" in a journey to re-instate Indigenous care for our landscape.













"TRADITIONALLY WE HAVE SEEN FIRE AS A BAD THING SIMPLY BECAUSE WE GET THESE HOT BUSHFIRES THAT ARE DESTRUCTIVE AND THOSE FIRES AS A BAD THING. BUT NOT ALL FIRE IS. IT'S A TOOL SO IN THE SAME WAY THAT PEOPLE CAN OVER STOCK AND DESTROY THE LAND GRAZING. [BUT GRAZING] CAN ALSO BE A TOOL FOR REGENERATION WHEN IT'S USED APPROPRIATELY SO GOTTA LEARN TO USE THE SAME UNDERSTANDING AS GRAZING USE THAT WITH FIRE CAUSE OUR NATIVE GRASSES THAT ARE ADAPTED TO THIS COUNTRY ITS REALLY VITAL TO MAKING THEM WORK WELL.

"IOURI VISION. IT WOULD BE FILTER OUT RIGHT THROUGHOUT THE STATE AND WE START THIS TRADITIONAL BURNS AND JUST EDUCATE LANDHOLDERS AND JUST AUSTRALIA AS A WHOLE AS TO THE BENEFITS OF ABORIGINAL LAND MANAGEMENT BECAUSE. TO BE QUITE HONEST ABORIGINAL PEOPLE WERE THE BEST LAND MANAGERS SINCE, YA KNOW, ALMOST SINCE TIME BEGAN...THE BEGINNING OF TIME".











## HISTORIC PERSPECTIVE

#### **A Complex Puzzle**

The history of the New South Wales landscape and people differs from that of northern Australia in several significant ways. Firstly, the time frame of settlement by Europeans has been over 200 years and major changes have resulted in every facet of the region. As white Australians spread across New South Wales they were accompanied by the trappings of their homeland. To the detriment of their new home they came with fences, sheep, rabbits, foxes, cats and a myriad of other pests and weeds. Perhaps the worst baggage however, was the concept of land ownership and the unquestionable opinion that whatever they did would make this a better country. As a result we are left with a landscape that has no resemblance of what was first seen by Europeans and possibly beyond ever attaining again.

A key factor in the difficulty of now restoring the New South Wales landscape has been and remains problematic, the loss of knowledge about past Indigenous practices. As Australian Aboriginal people were forcibly removed from their lands

and denied the ability to continue passing traditional knowledge to younger community members, land management skills soon disappeared. The totem system giving individuals the obligation to care for specific animals and advise others about their care led to exploitation of the most useful species to the point where some became extinct.

In recent years it has been increasingly more evident that a key management tool previously used by Indigenous Australians was fire. The true problem in the fire equation has been the loss of appropriate fire to care for the landscape, because if we were to recognise any fire, it could be argued that in some areas there might be too much fire. It is all too evident in the summers of modern Australia how fire has become a nightmare of immeasurable proportions sweeping across a continent that is now out of tune with this force. We now spend our costly resources fighting what was once seen as a useful positive means of improving the landscape for hunting and the production of food plants and medicine. The everyday use of fire in small areas during the cooler months of the year when many plants are dormant has given way to large hot fires that sterilise everything in their path.

The little knowledge we still have in southern Australia about what fire may have been before European colonisation suggests something similar in theory to what is currently used in northern Australia by Traditional Owners. It is no loss of self-esteem but just a sad reality to admit that we have lost much of the knowledge about how to use fire to enhance country in New South Wales. This is why many of the people in this book have taken the journey north to Cape York where traditional holders of fire knowledge willingly share for the good of the nation. Experts in the field including Dr Tommy George Musgrave. his grandsons Lewis and Dale as well as Victor Stephensen have helped kick-start the process.

These people have helped pass-on valuable concepts about "reading country" and evaluating the health of the areas we try to restore. Unfortunately in the south, much of the country is considered "sick" and the real challenge is finding areas that are relatively healthy to use as a comparison and to set the standard for future achievements.

The message is also finally being conveyed to everyone that sick country and sick people are one-in-the-same. Removing Indigenous Australians from their connection to country has had catastrophic psychological ramifications through loss of personal esteem, value in the community and a reason for existence. In many instances elders are no longer given the respect that cemented the families into a peaceful community with purpose. Knowledge was passed to grandchildren that were happy to be instructed and charged with holding stories that would ensure their survival. When this knowledge was lost people had no purpose for their daily activities, the country was not productively managed and both became sick.



INTENSE HOT INFREQUENT KILLS DEATH WRONG TIME BIG WRONG PLACE CANOPY SCORCH HURTS EVERYTHING NO RESPECT EGO DRIVEN REDTAPE DESTROYS FRIGHTENING SELECTIVE UNPREDICTABLE FINANCIAL LOSS UNMANAGED ASSET PROTECTION WILD TOXIC WRONG ASSETS ANIMAL DESTROYING ENVIRONMENTAL DESTRUCTION RUINS THE CYCLES IAW





"THE LACK OF HANDS ON OUT THERE IS UNREAL. ALL AND EVERYONE'S SCREAMING WHERE IF THEY HAD DONE SOMETHING IN THE FIRST PLACE TO CONTROL IT. BE IT BREAKS OR BURNING AREAS. THAT SORT OF MANAGEMENT

DAMIAN CULLENWARD, CANOWINDRA



# PROJECT BEGINNING

#### A humble beginning and a shared spark to "Light the Path".

Early in 2010 while taking a canoe trip down the Lachlan River to learn about the cultural history of the Wirradjuri people, Milton Lewis and Russel Hill sat talking beside a camp fire. Russel, a Wirradjuri man, and passionate about his history and family felt deeply compelled to make Australia a better place for everyone. He had worked hard with young Indigenous people through sport but could see that to make a real difference he needed to find a mechanism that could give people a sense of belonging and worth. Milton, an ecologist mostly specialising in conservation management of threatened species had dedicated his work to making the landscape a better place for fauna, flora and people. He and Russel shared the frustration of wanting to do more in making their country better for everyone while understanding that it takes community participation to really make the difference

They sat watching the fire, chatting about the things they had done in their past and eventually the conversation took a course toward traditional burning. Milton's previous work with the endangered Gouldian Finch in the Northern Territory had led him to start but never complete some crucial research about grass and fire. This had given him, a tantalisingly short exposure to the management of traditional lands through burning and a grounding knowledge in understanding how different types of fire are vital in providing seed for birds. He had learnt a little about the feeling of heeling a sick land and its' animals but more importantly how to recognise some of the signs that reveal a land in sickness. Before living in the north he had viewed fire from a perspective that pervades the thinking of most modern European white Australians - something to be scared of and prevented at any cost. Encounters with northern fire and the custodians of fire knowledge taught him respect, a little confidence but most importantly a much deeper love of how people can be part of the land with fire as a tool rather than an enemy. Fire can heal and bring people together.

Russel in his own unbelievably enthusiastic fashion set off across the country dragging Milton along to give a series of discussion evenings with people from all parts of the community. They could both see that what they were trying to do had the potential

to bring people back to the land, and in doing this could heal a sick land and its people.

Russel and Milton had a deal - Milton would bring science into the project and Russel would bring the people. They set about playing their parts in the process and before anyone could blink they had a project and were off and running. The Lachlan Catchment Management Authority with the encouragement of Peter Sparkes helped with start-up funding and then were very lucky and encouraged by substantial funding from the federal "Caring for our Country" scheme.

Time moves on and Russel as well. His and Milton's legacy lived on with help from Michelle Hines and Larry Towney directing and working the project along the next stage of the journey. That journey is what we hope to reveal in the following pages; the people, the events and the learning. The work continues and the benefits accrue, in small steps at the start but as time continues it is hoped that momentum will build. People will be given "new" old roles, confidence and seen once again as valued custodians of Australian biodiversity.

The land and the people may once again be healed.





























"I THINK IT (FIRE) HAS GREAT RELEVANCE TO US. IT'S SOMETHING THAT HAS BEEN MISSING FROM OUR LANDSCAPE FOR A COUPLE HUNDRED YEARS AND I THINK THAT THE LANDSCAPES' THE POORER.

VINCE HEFFERNAN, DALTON



### BURNING AND FIRE

#### No False Expectations but a huge Thank You to Everyone

Fire has many forms, some beneficial and others detrimental to both people and wildlife. All Australian's are closely acquainted with the very hot fires that occur mostly during the southern summer but now more frequently also in spring. These fires burn through thousands of hectares blackening and scarring the landscape. In their wake they leave people and wildlife dead or homeless, plants charred beyond recognition and habitats that may never recover to their former state - at least in a human's life

In contrast, the not so subtle difference of a burn conducted by knowledgeable Indigenous peoples opens the landscape and enhances its beauty and biodiversity. The canopy of the trees remains relatively undisturbed, with the overall flame height rarely exceeding half a metre and animals having ample opportunity to escape.

Perhaps the first hurdle is understanding how a "cool burn" (often described as fire used by Indigenous Australian people) differs from any other form of fire. The essence to the cool burn takes two almost distinctive forms: positive habitat management and a healing connection with country from an Indigenous perspective.

It is difficult to describe in generalised terms the cool burn. We now have experience watching and helping with many of these fires but we always feel the need for more knowledge because every place and its flora and fauna requires subtle adjustments in technique. These burns are often ignited from one or two points and you will hear people describe the process as creating circles of fire from each ignition point that upon contact with each other extinguish. These are often very small burn circles of a few hundred square metres that are manageable for a small group of people equipped with nothing more than green branches to guide the flames in the appropriate direction. However, this is just one technique and we have also observed the use of fire lines in northern Australia. In these instances the country is often in flood plains containing swamps and moist areas that naturally control the extent of the burn. Here, the fire is lit using a role of melaleuca bark that is walked through the grass in a trail, creating a low wall of fire for several hundred metres.

We have learnt that the guiding principle of the cool burn is one of care for the country, plants and its wildlife. Fire is not

a task to be rushed and it can only be used when the time is right. The process of reading country to know exactly when and how to burn is a skill with a high level of expertise gained only through training from very knowledgeable people that have walked and understood their country and after a lot of practise. In very simple terms the people with this experience notice when country is not in balance. This may be a site dominated by a particular plant species causing the gradual loss of other plants, too many tree saplings requiring thinning or the loss of habitat such a grasslands required by animals such as kangaroos for food. However, on our collective journey in trying to understand fire and how to bring its healing power back to New South Wales we have come to understand only the basic first steps. More than anything else we have come to realise that in the detail of fire application in our southern country there are many subtle differences compared to the country of our brothers and sisters in the north.

#### What does this mean for the Tablelands and western slopes of New South Wales?

The patches of native bush that remain in New South Wales, especially in the

Central Tablelands where European settlement entered more than 200 years ago are sick. Although a lot of knowledge has disappeared insight has been gained through many conversations as we walked country with people that are able to regularly practise fire management in the north.

We have come to understand better the patterns of the season in the south as we searched for the best times to apply fire. Our summer is hot, very dry and often exposed to unpredictable hot winds. The autumn however sees cooler weather with showers of rain that can be used to our advantage in cool burning. In the months of April and May the dry grass from summer remains but there can be an underlying layer of green new growth allowing a burn to creep over the surface yet not cook the soil and the roots of the plants. The mornings are often foggy and help to slow the fires from the night before as they dampen the woodland leaf litter. We have also learnt that spring can be good for burning but it must be before the hot westerly winds and dry days usually seen in October descend. The seasons change, the rain does not always fall when predicted and it is also

important to be patient. If conditions are wrong the fire should not be started.

The few large trees that remain in our country carry the scars of hot recent fires high into the canopy. Walking country is difficult because there are thick almost impenetrable walls of wattles (Acacia) that have germinated over very large areas after landscape sized hot fires. Amongst this are thickets of small trees competing against each other for light and nutrients that have also emerged after these incorrect fires. This imbalance has been allowed to continue creating what is now seen as a fire hazard because as these wattles reach maturity and die along with the eucalypt saplings that could not compete they fall to the ground as fuel for another hot fire.

We now see that these fuel loads could have been reduced by simply applying smaller burns across the ground during cool wet months when many people think it is impossible to burn. The frequent large hot fires have now created dominant vegetation patterns that depend on such fire for their existence. If you keep using hot fire, only plants that can survive will continue to exist and reproduce. The plants that

are unable to survive this regime will disappear. The responses of trees with what appears to be thick luxuriant growth from the trunks is nothing more than survival and if repeatedly exposed to this treatment will be lost. Yes, many of our plants have evolved to cope with fire and indeed reproduction is even enhanced for some species with fire but to keep the balance it must be the correct fire.

We have learnt that it is possible to burn during autumn and this is the most appropriate time in our region. These fires are slow, creeping through and across the leaf litter at walking pace. The flames rarely reach more than 30 - 40 cm in height and when they reach a fallen dry log merely go around rather than burning everything in their path. Patches remain unburnt and this is good, allowing space for animals to retreat within and areas for later burning when conditions are again best for that area. The mosaic we have all been told about is created so easily but it is a slow process and not performed merely to reduce fuel loads. Cool fire is used to manage, enhance and heal both country and people.

The re-birth of fire in the Central Tablelands and western slopes we hope will be a slow learning journey. Many people have started the journey and together we are all collecting information to help each other. In the beginning we knew very little, but after a few years we have started to see the signs of country needing the healing hand of cultural burning. We recognise the congestion of scrub that has not been properly managed, the loss of important plants to culture but most of all we see that there is a very long journey ahead before we are truly confident in understanding how to achieve the best balance by applying cultural fire.

















"AS AN ABORIGINAL PERSON ITS KIND A. IT'S A NATURAL FEELING WHEN YOU DO A BURN OR YOU DO SOMETHING CULTURAL ... AND ALTHOUGH WE HAVEN'T BEEN PRACTISING TRADITIONAL CULTURE. IT'S STILL INSTILLED INSIDE OF US ... WE CAN SENSE IT'S THE RIGHT THING THAT WE'RE DOING."

PROJECT FIELD OFFICER, FORBES

#### CULTURAL FIRE

SPIRITUAL, EVERYONE'S BUSINESS, NATURAL. SUSTAINABLE, CEREMONIAL, CONTINUOUS,

FRIENDLY. COST EFFECTIVE. RESPECTFUL, CALM, MOSAIC, CARE. COOL. SMALL TREADING SOFTLY, DUTY, SACRED CANOPY. CONTROLLED. SEASONAL MANAGEMENT. MANAGED, PROVEN. COMPLEMENTS ANIMALS. PLANNED. HOLISTIC, ENVIRONMENTALLY FRIENDLY. LORE. HEALING.













# "FIRE BURN is Vital To OUR CULTURAL PRACTICES AND CARING FOR COUNTRY"

## THEY DON'T REALISE HOW CONTROLLED it is — how peaceful. When we was OUT THERE WE WERE HAVING A YARN AND WE HAD OUR BACK TO IT (THE FIRE). THE FIRE WAS GOING BEHIND US BUT IT WAS ONLY CREEPING ALONG YOU KNOW..."

PETER INGRAM, WAGGA WAGGA



## WE STEPPED OVER IT (THE FIRE) AND WE DIDN'T HAVE TO WORRY, WE WALKED THROUGH IT AND STOOD IN THE MIDDLE AND IT DIDN'T WORRY US AT ALL'

DI MCNABOE, DUBBO



"THE TREES WERE PROTECTED AND YOU COULD SEE THE RINGS AROUND THE TREES. THE FIRE DIDN'T GO RIGHT UP THE TREE AND YOU COULD SEE THE LITTLE PLANTS WERE NOT BURNT... THEY WERE STILL ALRIGHT. THE GRASSES. YOU COULD STILL SEE WERE GREEN AT THE BOTTOM AND THEY STILL HAD GREEN SHOOTS COMING UP...THEY DIDN'T GET HARMED IN ANY WAY".

NEIL INGRAM, ORANGE







### INITIAL METHODS

Monitoring and experimentally investigating the influence of cool burns and whether we could show positive benefits for the native biodiversity of southern New South Wales was always very important. However, we would like to emphasise that this was secondary compared to the needs of the Indigenous people. The science in this project was always to back-up the knowledge and needs of the people and to be used by these people. The true experimental investigations of burning and the response of native plants and animals had been conducted thousands of years ago and the people we consulted in many instances knew that the results would be good for the health of country. We just needed some contemporary science to give these people a more modern approach to describing how this burning technique could be used positively in management.

In the first year of the project we started at a blistering pace determining which 10 of the many properties offered by landholders would be used for monitoring the effects of cool burning. Our initial community meetings had sparked (ha ha) such a wealth of enthusiasm we found ourselves travelling far and wide.

The first need was to commence the collection of baseline data and this not only included biodiversity measures but also the current knowledge and interest of the community. Our community side of the work was collected through video interviews thanks to the expertise of Vera Hong and was such a success that it was later compiled, again by Vera, and purchased by SBS Television. Looking back now it is probably not surprising to see that the early reactions of people, although positive, showed quite limited understanding of the cool burning methods. Thankfully many of the community are now very well informed and often show a great deal of understanding about how the techniques can be used.

The landscape we were dealing with was best described as cleared agricultural lands so it was no surprise that early monitoring yielded not much more than house mice (Mus musculus) especially considering that there was a mouse plague at the time. There were five main objectives to this project:

 Investigate the influence of fire in the design of better grazing management in the Lachlan region

- Investigate the interactions of selected native grass species with a range of fires
- Monitor the interactions of native fauna. within a controlled range of fires
- Facilitate a better understanding of how traditional burning may have been used in the Lachlan region for the purpose of re-initiating these processes
- Engage the community in proficient effective management of fire to produce productive outcomes for both biodiversity and agricultural production

During the first three years while the project team was still based in the Lachlan Catchment and with the funding support of Caring For Our Country we were able to collect comprehensive data about the species that occurred on our research properties. To collect this data we conducted seasonal trapping of small mammals and reptiles, spotlighting transects, dawn bird abundance transects and vegetation monitoring plots.

Following on from the baseline monitoring we were able to conduct experimental burns on eight of the 10 properties during the following autumn. In the next few years following these burns, monitoring was again conducted and the responses of wildlife to cool burning watched with eagerness. At this point the results are mixed but on the properties where patches of native vegetation neighboured the burn sites we did observe a small (statistically nonsignificant) rise in native species. This has been very promising given that the burn areas were very poor initially in the presence of either native plant species or animals.

In a separate experiment located at Mawonga in the western arid rangelands of New South Wales another investigation commenced. At this site we fenced 30 plots (25m x 25m) and burnt 10 in the autumn, 10 in spring and the remaining 10 were kept unburnt as controls. These plots were monitored over the next few years for changes in grass diversity and some of these results are presented later in the book.















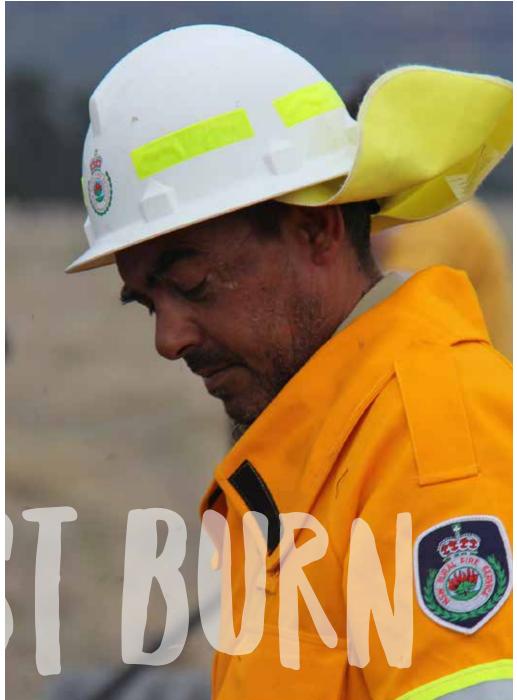




"...it's [cultural burning methodologies] QUITE COMPLEX. YOU CAN CHOOSE WHEN YOU BURN NOT JUST ACCORDING TO THE SEASON. BUT YOU ALSO NEED TO TAKE INTO ACCOUNT RAINFALL AS WELL AS SOIL TYPES WHICH WILL OFTEN BE INDICATED BY THE TREES AND GRASSES YOU HAVE GOT ON THE COUNTRY."

RICHARD GIBSON, TRUNDLE







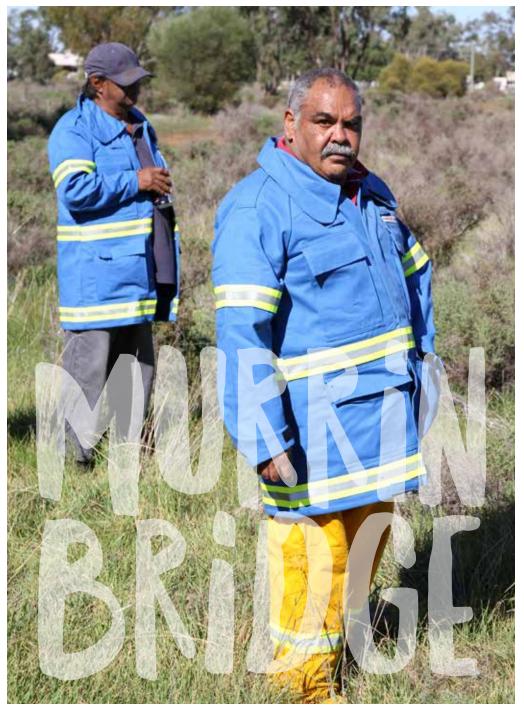


## "it's good to see ELDERS AND YOUNG PEOPLE TOGETHER — MEN AND WOMEN. AND THAT'S THE ONLY WAY WE ARE GOING TO UNITE AND GO FORWARD"

# "WE DO UNDERSTAND THE IMPORTANCE OF LAND — WE ALL KNOW AND THAT WE NEED TO EMBRACE OUR COMMUNITIES...SO THIS IS ONLY STRENGTHENING WHAT WE BELIEVE IN.. THE SPIRIT WITHIN US WILL GUIDE US AND DRIVE US"

NEIL INGRAM, ORANGE AND QUOTING RAYMOND (PAT) FRENCH, ORANGE













### "YOU Fix THIS COUNTRY AND YOU'LL Fix yourself. HEALTHY COUNTRY. HEALTHY PEOPLE"

NEIL INGRAM, ORANGE

### FIRST RESULTS

Thinking back about the years we have been investigating the results of cool burning, possibly the most complete information has come from work on the Indigenous owned property of Mawonga. Our good friend Steve Meredith and the Winangakirri Aboriginal Corporation gave us the chance to light fires within an extensive area of regenerating native grasslands. We installed 30 study plots and seasonally burnt during spring and autumn with the view of watching how native grasses might react to cool burning. These grasslands also contained a high proportion of weeds that in some areas dominated the vegetation, so it was also a great chance to include these species in the experiment.

Six months after our spring burns it was clear that many of the grasses had responded positively and were showing pronounced flushes of new healthy growth. One grass however, hairy panic (Panicum effusum) was not showing signs of recovery. Twelve months following the burn clarified the results with all native grasses, except hairy panic, growing strongly and producing large numbers of flowering stems and seed. A surprising result at this point was that almost all of the weeds species we had observed

before burning and still within our nonburn control sites had vanished leaving us with almost pure stands of healthy native grass. An outstanding result for anyone wishing to recover native grasses for either conservation or grazing.

### **Key Findings**

- Spring burns within the grasslands of the western rangelands reduced weed densities.
- General tussock health and seed. production appeared to have improved following burning.
- Burning had no significant effects on ground litter, plant species diversity, grass density or height.
- Tall bottlewasher Enneapogon *intermedius* and rough speargrass Stipa scabra responded positively to the burn treatment with increased tussock density and seeding spike number.
- Hairy panic responded poorly with plants either dying or not producing new growth for over 12 months.

Our early results clearly supported the beliefs of Aboriginal people that cool burning was beneficial at least for native

grasses in western New South Wales.

Later analysis indicated that the results were all statistically significant for all but one species of grass in growth responses and seed production. It is not understood if the disappearance of weeds was a result of burning or increased competition from healthier grasses but either way this significant finding is a positive result for improving the health of country.

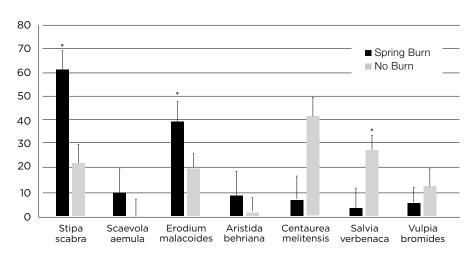
Finally, we were astounded to find that within all our fenced plots, but particularly within the burnt areas

there was an outstanding regeneration of emu bush *Eremophila longifolia* from both seed and root stock.

We suspect this has happened because of both the effect of fire and the removal of grazing pressure by goats and rabbits.

Tall bottlewasher grass without burning (page 88) showing large amounts of old dead leaves from previous years. The same plant (page 89), 12 months after a spring burn showing ample fresh growth and new seeding stems.

### Density responses of the most common plant species before and after cool burning













## "A LOT OF THOSE FELLAS WON'T BELIEVE IT UNLESS THEY SEE IT WITH THEIR OWN EYES... YOU'VE GOT TO HAVE THE EVIDENCE TO CONVINCE THEM"

NEIL INGRAM AND TERRY MCCLEAN, ORANGE

## I FEEL THAT WE ARE IN A LEARNING PROCESS EACH DAY OF OUR LIFE AND WF NEED TO BE ONES THAT CAN WORK TOGETHER FOR OUR CHILDREN AND OUR GRANDCHILDREN"

DAVID MAYNARD, MUDGEE













# THINK WE GOTTA FIND WAYS TO MAKE THIS WORK IN OUR GRAZING ENTERPRISES. SO THE CHALLENGE IS REALLY INTEGRATING THIS INTO GRAZING OPERATIONS."

VINCE HEFFERNAN, DALTON











"I HAD AN APPRECIATION OF IT (FIRE) AS A CULTURAL PRACTICE. AND CAME WITH AN INTEREST IN HOW YOU CAN USE IT AS A LAND MANAGEMENT TOOL. WHAT STRUCK ME WAS THE IMPORTANCE OF THE WORKSHOP TO THE COMMUNITY. THE REINTRODUCTION OF AN ANCIENT PRACTICE AND HOW THAT CAN ADD TO A SENSE OF IDENTITY FOR ABORIGINAL PEOPLE."





"YOU COULD SEE THAT IF YOU PICK THE RIGHT TIMES. THE RIGHT WINDS AND THE RIGHT AREA TO BURN... YOU CAN DO IT SAFELY WITHOUT HAVING TO FEAR THAT THE FIRE WILL GET OUT OF CONTROL AND WE WILL GET INTO TROUBLE... BECAUSE WE BURNT IN A BAD WAY. I CAN SEE HOW WE CAN BURN IN A GOOD WAY WITHOUT GETTING INTO TROUBLE. WE CAN DO it nice and easy."

DI MCNABOE, DUBBO

AS I WAS COMING HOME FROM THE VISIT TO CAPE YORK AND THINKING ABOUT THE BURNING I SAW. I STARTED TO REMEMBER BEING WITH MY DAD IN BATHURST AND GOING OUT TO BURN ON HIS COUNTRY. IT WAS A LONG TIME AGO AND I AM NOT SURE WHAT TIME OF YEAR WE BURNT. BUT I DO REMEMBER THAT WE WERE NOT WEARING HEAVY WINTER CLOTHES AND IT WAS NOT SUMMER EITHER. I THINK IT WAS PROBABLY AUTUMN OR PERHAPS SPRING."

JILLEAN BOWER, LITHGOW









# "YOU COULD SEE THE LITTLE INSECTS AND ANIMALS GETTING AWAY FROM THE PATH OF THE FIRE. THAT'S A BIG THING—WE DON'T WANT ANY OF OUR ANIMALS HARMED IN ANY WAY"







# "I'VE TAKEN A LOT OF THINGS IN... AND HOPEFULLY I'LL GO BACK HOME AND GET THE OLD PEOPLE AND SEE iF I CAN TRY AND DO BURNS."

OMMUNITY PARTICIPANT, WELLINGTON

A JOURNEY TO HEAL PEOPLE AND COUNTRY 107





## "YOU SEE HOW THE FIRE TRICKLES THROUGH THE BUSH AND PROTECTS MOST OF THE TREES AND SHRUBS

GREG INGRAM, ORANGE LALC



# "IN RFS WE TEND TO BURN TO REMOVE FUEL AND OUT HERE [CULTURAL BURNING] its burning to make things grow better and cultural significance."



"...WE COULD SEE THE PATTERNS OF CIRCLES GOING ACROSS THE LAND AND THEN DOWN A BIT FURTHER COULD SEE ANOTHER PATTERN OF CIRCLES. THEN THE CIRCLES BURNT INTO ONE ANOTHER AND THEY WENT OUT. YOU COULD SEE THEY BURNT ONE ANOTHER OUT. SO THERE WASN'T A BIG WALL OF FIRE GOING ALONG AND IF IT DOES GO INTO A WALL THAT'S JUST THE CIRCLES MEETING UP. THE SMALL CIRCLES OF FIRE PUT THEMSELVES OUT AND THAT WAS REALLY GOOD TO SEE. PEOPLE WERE WALKING AROUND THERE WHILE THE FIRE WAS BURNING AND NO ONE FELT AT RISK. THEY COULD SEE THE PATTERNS. AND THEY COULD WALK WHERE THE CIRCLES WERE BURNT OUT. THE SMOKE STAYED REALLY NICE AND WHITE. WHAT WE CALL NICE HEALTHY HEALING SMOKE."









"I THINK THE STRATEGY FORWARD IS TO LINK IT WITH THE ENVIRONMENT THAT'S CRUCIAL AND MOB TOGETHER BUT THE WIDER COMMUNITY

NEIL INGRAM, ORANGE











# "iF THEY (PEOPLE) ALL WORK TOGETHER THEN THEY CAN ACHIEVE HEALTHY BUSH AGAIN"

DI MCNABOE, DUBBO



### CONCLUDING THOUGHTS

Everything in life that is worthwhile often takes patience and effort. Ngalgali Murri Path "Lighting the Path" has not been without its hick-ups and moments of frustration over the course of the years since we sat by the camp fire. Some of these rough patches still continue but perhaps our networks and skills in communicating have evolved to be more eloquent in making people understand that we are just trying to heal the country by supporting community to take this on. In the great majority of discussions we have been able to show many people that whatever your view about fixing either the problems of the community or the decline of our biodiversity we all want the same positive results. Our way of searching for healing options has been to take a very old and proven method and try to give it relevance in a very different landscape.

Perhaps the greatest challenge has been to convey to the public that the fire used in traditional management of country is not in any way the same as the fires seen on the television news. We keep trying to convince people that fire is not all the same and that the techniques of cool burning are positive in managing the landscape and not destructive. This has been a difficult task and we have

managed to sway the opinions of a few people but for anyone wishing to tread the same path be aware that is comes slowly.

Looking back across the years we can be happy with the progress. At the start of the journey you could see that the majority of people were skeptical about the value of ancient fire knowledge. There were a very few that understood what we were trying to achieve and it was those few smiling faces and words of encouragement that perhaps spurred the team to continue. Our very first fire camp had teething problems that were beyond the control of mere humans.

The wind howled across Mawonga and the drought had sucked all life from the grasses we intended to burn. However, we did burn a few small plots and the results of this work gave us a lot of insight about burning in New South Wales. Many of the grasses responded positively and flourished after the fire, the weeds disappeared from the area and the country looked good. As a secondary lesson we also learnt that our plots required fencing because rabbits and goats will eat every blade of grass that appears after a burn. They also eat "Emu Bush", a highly valued medicinal plant, which now grows strong within the burnt areas.

Our perseverance resulted in many more burn camps that spread the word of "cool burning" initially across the Lachlan Catchment and as time went on across a large area of New South Wales. A re-structuring of the New South Wales Catchment Management Authorities into Local Land Service lead to this fire project team being unable to continue the focus of the burning in the western districts of New South Wales. Although this resulted in not being able to continue work at Mawonga or Murrin Bridge, the shift enabled the team to take the message to new communities. A wonderful partnership developed with the Gaambuwananha Ngurambang team from this shift.

In the search for knowledge we were able to learn from community in Cape York.

As part of the path to sharing knowledge around 80 people from our region were able to travel north to watch traditional methods of burning being practiced by recognized custodians. Never before had anyone been able to take such a large number of people so far.







"IT'S BEEN A PRIVILEGE AND I'M REALLY EXCITED ABOUT LEARNING...WHICH AS A YOUNG PERSON I DIDN'T HAVE THE OPPORTUNITY TO LEARN. HOPING TO TAKE THE KNOWLEDGE BACK AND TEACH THE YOUNG PEOPLE IN OUR COMMUNITY HOW TO DO IT [BURNING] IN A PROPER MANNER SO WE CAN BRING OUR COUNTRY BACK





"I LIKE THE IDEA OF THE COOL BURNING. THE DIFFERENCES BETWEEN THE FIRES. THE RESULTS FROM ANIMALS FROM BURNING AND THEIR REACTIONS WAS FANTASTIC. [BE] GREAT TO IMPLEMENT SOMETHING IN OUR STRUCTURE [AT] HOME AND GETTING ONSIDE WITH THE RFS... TALKING TO FARMERS AND A LOT WERE REALLY INTERESTED SO I THINK THINGS ARE MOVING IN THE RIGHT DIRECTION."





### PHOTO CREDITS

Milton Lewis: Front Cover, Inside Front Cover. 4. 5. 10. 12. 16. 18 a b c. 24. 25. 27. 29. 30. 32, 24, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 49. 52. 53 b. 54. 56. 59. 61. 62 a b c d. 63. 65. 67, 68, 69, 71 a b c, 72 c d, 73 c, 79, 80 a b, 81. 82, 83, 85, 86, 87, 88 a b, 90, 91, 92 a b, 93, 95, 96. 97. 98. 100. 101. 103 a. 104. 106. 107 a b. 108. 109 a b, 110, 114, 115, 116, 117, 119, 120, 121 a b, 122, 124, 126, 128, 129, 130, 133, Inside Back Cover.

**Melissa Schrader:** 18 d e. 55 a b c. 76 a b. 77

bc.

Michelle Hines: 72 a, Back Cover.

**Angus Arnott:** 53 a c, 103 b c, 112, 127.

Catie Guise: 35, 73 a b, 132.

John Jerrard: 72 b.

Mat Carnegie LCCC: 39





