

REPORT TO THE KURRAJONG HEIGHTS COMMUNITY APRIL 2021





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Burnover training ... our crews can trigger this shield of water to protect them when trapped by a fire

CAPTAIN'S MESSAGE



To The Community:

Protecting the community and the environment from wildfire is a priority for the KH brigade.

But we couldn't achieve this without community support.

The community support of our low intensity mosaic block burning program has helped keep us safe for more than 60 years.

The community also supports us in many other ways like - clearing your house blocks of fuel, donating equipment, time, etc.

Your support is truly invaluable to us.

Thank you very much!

Brian Williams



Brian Williams has led our Brigade for the last 37 years and has been a member for 53 years.

He is wearing the commemorative cap created to mark the 2019-2020 summer fires



70 YEAR AWARDS TO BILL & ALBERT

On Saturday 20th June Bilpin RFS gave a Lap of Honour in their Cat 1 Tanker to veteran firefighters Bill Johnson Snr and Albert Newton.

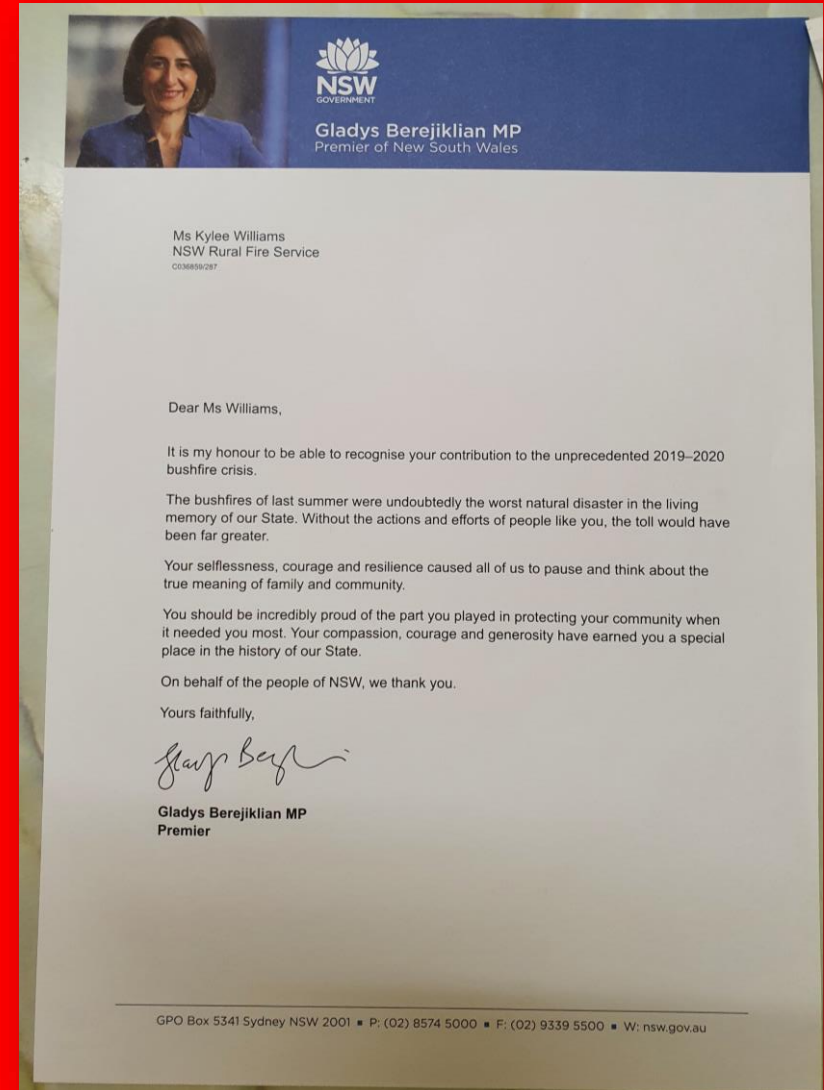
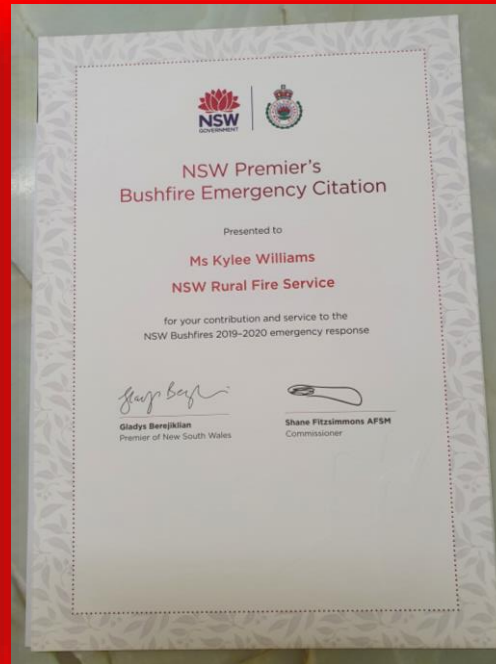
They left the fire shed at Bilpin and travelled to the Cut Rock at Kurrajong Heights before returning to Berambing and then back to the fire shed.

Federal MP Sue Templeman then pinned their 70 Year Medals to them and a cake was presented in their honour



PREMIER'S BUSHFIRE CITATION

- The Premier, Gladys Berejiklian, gave an award to all our Brigade members who fought the Black Summer fires. These are Kylee Williams examples



STATE OF THE BUSH



- A drive down Bells Line of Road or Putty Road will reveal a great variation in recovery from Gospers Mountain Fire
 - Some areas are completely destroyed, the trees are skeletons and we can expect it to take a century to recover
 - Some areas, typically those that had been hazard reduced, are already back to full health
 - In other areas where the canopy has been destroyed, the sunlight and rain have resulted in huge growth; these areas will require regular treatment to help restore them to health
- See a dozen galleries of our area following the fires [here](#)
 - These include the Lithgow Anti Aircraft Batteries which were exposed for the first time in many years



This is the walking track alongside Buralow Raad on the south west side of Kurrajong Heights.

The photo was taken in May 2020 and shows the full recovery of the bush after the back burn that protected the community a few months earlier.

As can be seen the canopy has remained in place and the cool burn has had the desired effect of removing all the fuel.

MARK & TANYA'S STORY



- Mark & Tanya Jol's story was printed in the Volunteer Firefighter – the publication of the VFFA

- You can download the story [here](#)

Or

- Download the full magazine [here](#) and turn to p19

- In addition to their submission Mark & Tanya Jol also feature in this video of the Gospers Mountain Fire around their home:

HAZARD REDUCTION WORKS

Hazard Reduction Works

By Mark & Tanya Jol

Mark & Tanya Jol are active members of the Kurrajong Heights Rural Fire Brigade. Mark is a Deputy Captain and Tanya is Secretary. They live on 53 acres to the west of the Heights in a new home purposely built to withstand the effects of the fire and ember attack and had created a large Asset Protection Zone around the house and shed using hand clearing and their slashers.

The land to the south had not been burnt for more than 18 years and the Jol's application to hazard reduce the area was put onto the waiting list. The land between the house and Belts Line of Road had been mostly cleared with the slashers but contained a large number of gum trees. The land to the north of Belts Line of Road had been hazard reduced 4 years previously.

With their preparation and a competent RFS crew from Killara, they were able to save the house and shed. They lost some other shedding, an old house on the other side of the property, a large stackpile of logs that they were using for firewood and some staking for use as building material.

When the Gospers Mountain fire arrived from the west on December 21st it was spotting 400 to 500 meters ahead of the fire front into the area around the house and the bush to the south. The house is protected to the south by a large cliff and when the southerly wind hit with a lot of force it drove the fire up the cliff and around the house. The APZ did its job.

The fire arrived with such intensity that it burned into the crown of the trees on both sides of Belts Line of Road but then quickly self-extinguished thanks to the hazard reduction. This is despite the 40 degree heat and the very strong southerly winds.

A video that was made of the fire around the house can be viewed here:
<https://9raflwaite.smimgroup.com/kuh/raflwaite/NDW/Belts-Mountain-Gospers-Mountain-Fire/Mark-Tanya-Jol-Video/>

It is now 6 months since the fire came through and it was really interesting to walk with Mark through his property and see the effect of the different fuel levels on the bush.

All the bush to the south burned incredibly hot with the 18 years fuel and it has created a grassy carpet of gums. The area has been devastated and all the wildlife has been destroyed including a group of wallabies and lone birds that lived by the creek.

On the immediate north side of Belts Line of Road the fire has taken out the canopy on the ridge. This is the area that was hazard reduced and the trees are all going to live but the lack of canopy has allowed the sunlight in and this area is already starting to get dense with new growth. It will need to be hazard reduced in the next one to three years as the fuel will build up much more quickly than where the canopy exists.

Figure 1: In this photograph Mark is standing in the area to the side of the house that had been slashed and hand cleared. The trees are starting to recover. New trees to the south are delicate.

Another view of the extent of the damage is in the following photograph:

Figure 2: In at dusk.

Figure 3: The bush between the house and the road has ignited a new gum tree every few yards. The trees will survive thanks to the hazard reduction.

Figure 4: Just six months after the fire, the trees will live but the canopy will take years to recover and in the meantime the fuel loads will become very large.

This is a pretty amazing recovery when you consider how hot the fire was and how much damage was done only a few hundred yards away.

But the most amazing sight is just over the ridge top:

Figure 5: The canopy is there in full and you can hardly tell that a fire has been anywhere near.

Figure 6: You can see the ambient bush as far as the horizon.

Mark & Tanya eventually got some sleep on the night of 21st December when the wind died at about 12pm. The next morning they fully expected to discover the fire had gone through to East Kurrajong and were amazed that it had stopped in the hazard reduced area and afterwards self-extinguished over the coming days and weeks.

The hazard reduction very clearly worked.

Mark & Tanya's submission to the NSW Enquiry can be read in full here:
http://nrfs.org.au/enquiry/2019_bushfireenquiry/MarkandTanyaJol.pdf

Their summary of what needs to be done is to the point:

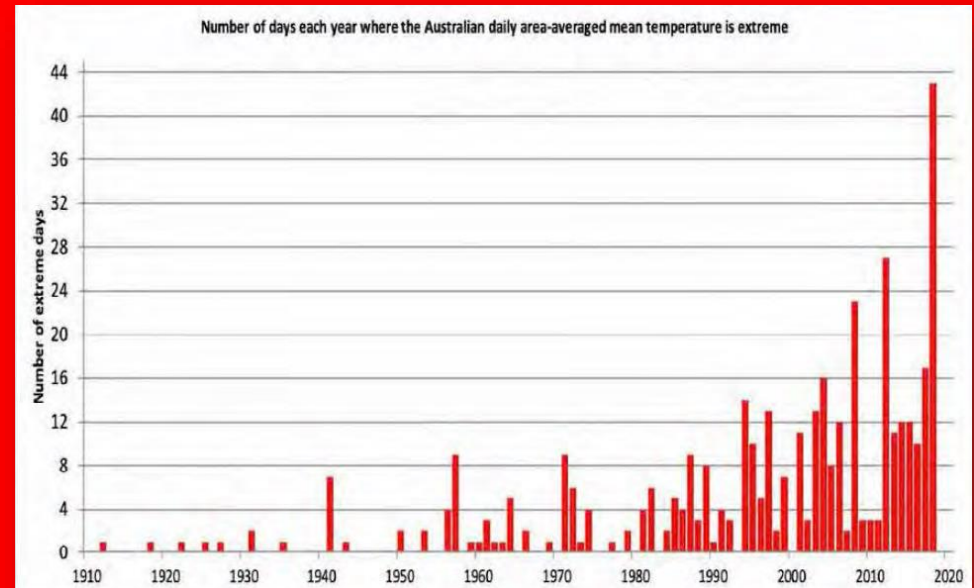
- The most critical thing that we Australians now must change is the attitude that we have developed around the subject of fire. Our society now teaches us from our infancy that fire is bad, that it is damaging and something to be shunned. Our bushland however needs fire to survive. It requires the cool burn process to protect its fauna and flora and various eco systems. There is no question but that the cool burn methods that our indigenous forebears used are the best methods that we can implement to protect what we have left. It has to be clear to even the very short-sighted that what we have in our bushland environment, that is in any way worth protecting, has been protected by fire for thousands of years before now so to change these practices, as Europeans have been doing for the last 200 yrs will come and has come at a cost. So, we must embrace fire. Respect it, yes. Fear it, also, but understand it and embrace what it can do, no, what it must do for our environment.

34 Winter 2020 The Volunteer Firefighter The Volunteer Firefighter Winter 2020 35



CLIMATE CHANGE

- Climate change has provided a convenient excuse for those that seek to prevent hazard reduction and proper land management
- The reality is that as long as we refuse to manage our land in the way Australia's aboriginals perfected before Captain Cook's arrival, our bushfire disasters will become more frequent and more damaging
- Add climate change to the mix and the picture becomes even more threatening ...



This is an extract from the BOM submission to the Royal Commission. The trend is clear.

Our current very wet summer combined with loss of the canopy after the Black Summer fires has meant record growth in fuel levels.

This will present a new challenge in coming years when we get another year like 2019 with prolonged drought, a total lack of ground, fuel and canopy moisture and fires on such a vast scale across the state that resources to deal with any individual incident are well beyond breaking point

GOVERNMENT ENQUIRIES / 1



- Your brigade and its members submitted responses to the:
 - NSW Enquiry
 - Federal Royal Commission
- A link to these submissions can be found on our website [here](#)

NSW INDEPENDENT BUSHFIRE
INQUIRY

Submission
by
Brian Williams
Captain (35 years)
Kurrajong Heights Rural Fire Brigade




Image: Blue Mountains National Park, Bilpin. Taken 6th January 2020

2019/2020

Page 1 of 23

Or click on the submission to access it directly



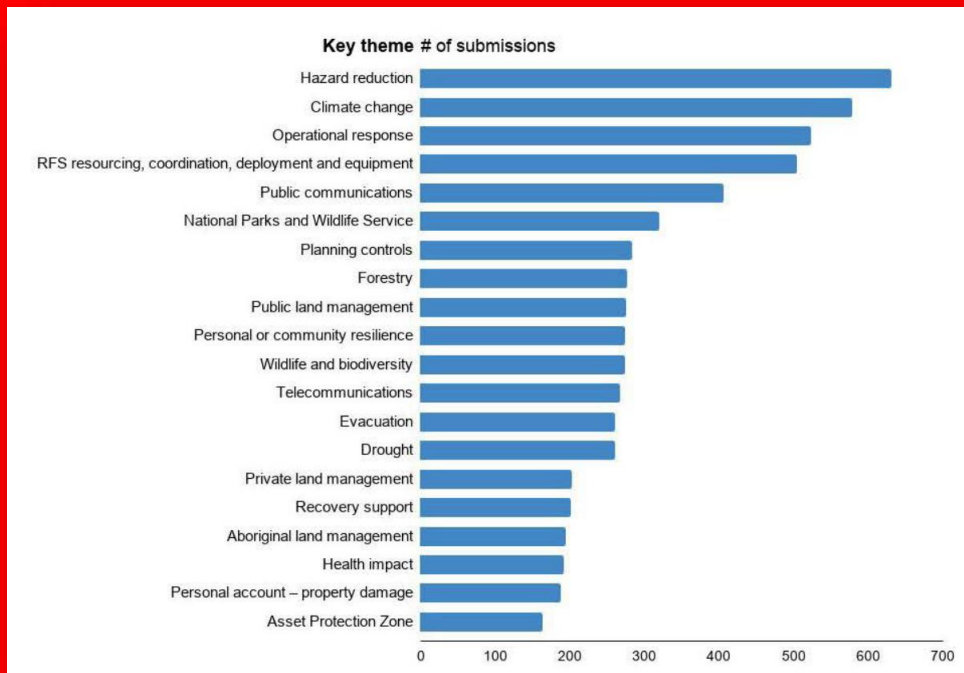
GOVERNMENT ENQUIRIES / 2

• NSW Enquiry

- The Final Report can be accessed [here](#)
- All recommendations were accepted by the NSW Government
- Hazard Reduction was the #1 Key Theme of all submissions

• The Royal Commission

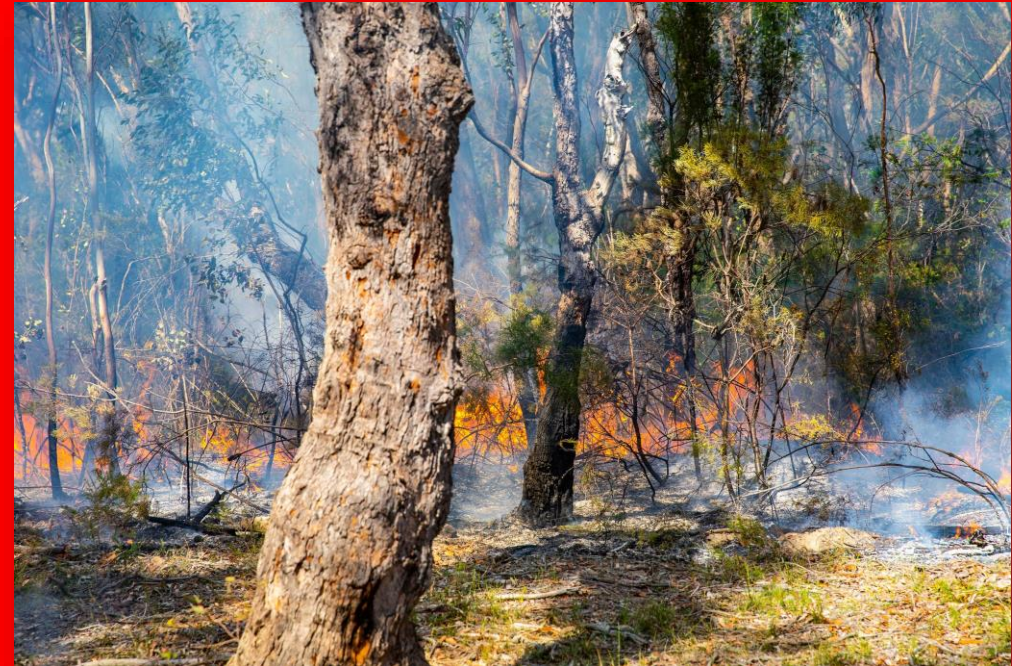
- The Final Report can be accessed [here](#)
- The Appendices can be accessed [here](#)
- A primary objective of the commission was to better define the Commonwealth role and the government has stated that it will introduce new legislation to allow it to declare a national state of emergency. This [ABC story](#) covers this



MIDDLE ISLAND HR BURN



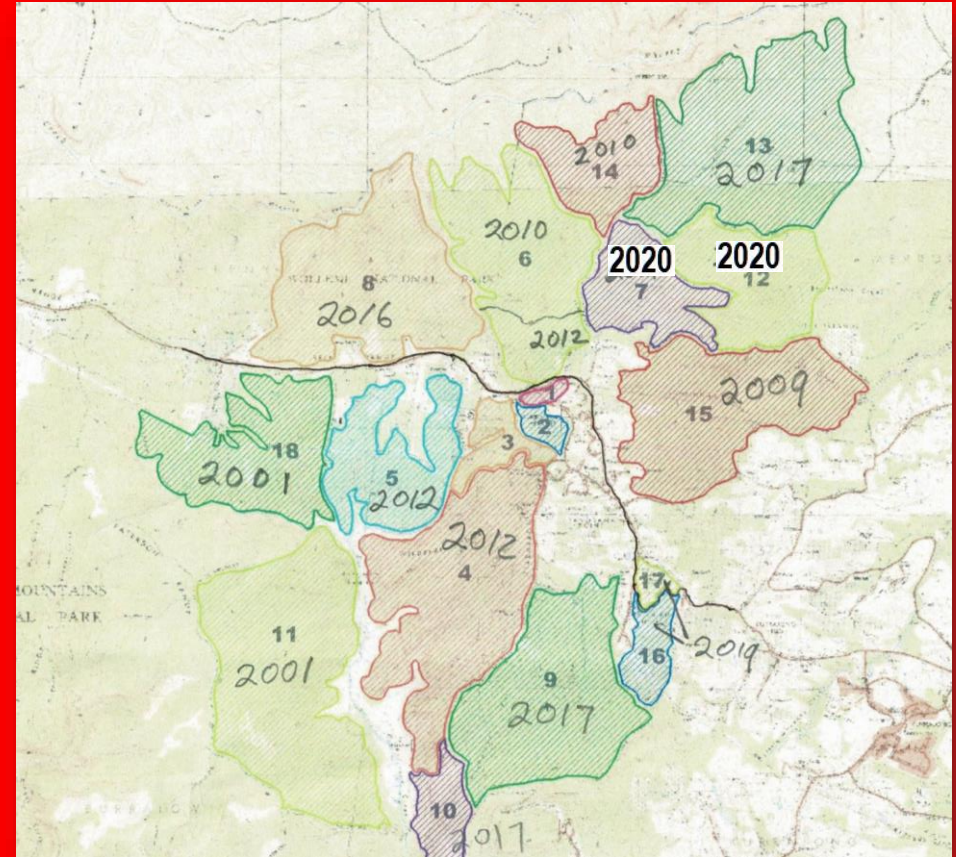
- The Brigade conducted a Hazard Reduction burn in the area to the North of Kurrajong Heights in September 2020
 - The bulk of the burn was conducted in one day using two RFS teams and one NPWS team. These teams burned the perimeter of the required area and a RFS helicopter was used to ignite some of the less accessible area in the centre of the burn
 - An objective of a Hazard Reduction burn is to maintain a low flame height – ideally around 1m – and to reduce the fuel on the forest floor while leaving the canopy untouched
 - The koalas can just run up the trees and look down on it all ...



MOSAIC APPROACH



- The KH Mosaic approach to hazard reduction has been in use since the brigade's inception
 - The zone pattern is three plots deep and the cycle of hazard reduction is 12 years
 - In an extreme fire at least one of the zones will provide a 'block'
 - The low heat burn protects fauna and flora
 - Each burn only covers about 70% of the area – stay out of the gullies
- Time since HR burn
 - 1 year – fire can self extinguish
 - 5 years – fire can be easily managed
 - 9 years – fire manageable because it's slowed by adjoining block

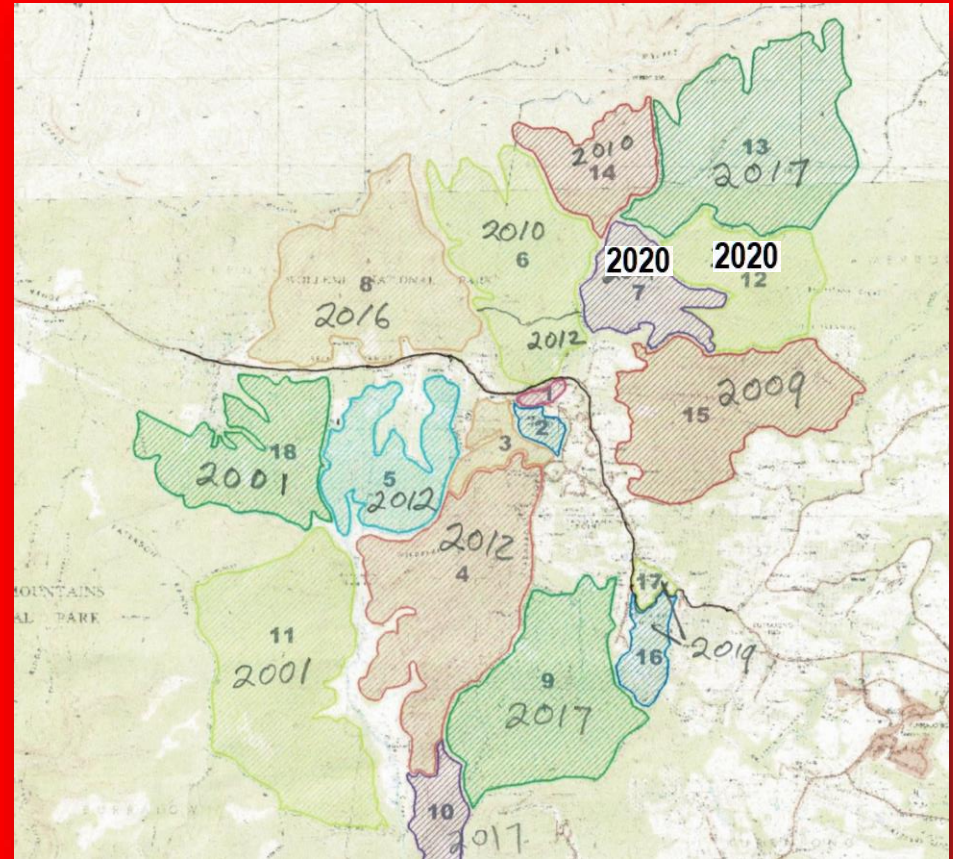


Our mosaic approach has created a protection zone around the Heights

2021 HR PROGRAM



- The Brigade has two Hazard Reductions planned for 2021
 - Block 6
The Wheeny Gap block
 - Block 15
The Little Island Block
- The brigade will do these HR's as soon as conditions allow
- If the current rain patterns continue, we may not be able to get these done before Spring
- The Wheeny Gap HR will likely be done first. As it is at higher elevation and is more exposed to the northwest winds, it will dry out sooner



REGULATION CHANGES REQUIRED



- All aspects of the [Assessment Code](#) need to be complied with before permission is given to complete hazard reduction
 - Even where the provisions are complied with, permission may still be withheld
 - Many brigades put this all in the 'too hard' basket and don't do HR as a result
 - The last page outlines the length of time required between HR burns, up to 30 years!
- After Gospers Mountain Fire, and with huge growth following rain .. plus climate change we need to see this document change so that HR burns can be based on fuel loads
- The bureaucratic provisions also need a complete review

BUSH FIRE ENVIRONMENTAL ASSESSMENT CODE

for

New South Wales

February 2006

NSW RURAL FIRE SERVICE

...for our community



STAFFING & TRAINING



- Our Training Officer, Steve Body, has been very busy this year training a couple of batches of new recruits
- We currently have 66 members on the brigade strength ... not all are active
- More pics [here](#)



Here's Steve tying us all in knots

STAFFING & TRAINING



Andy Macdonald coaching Julie Braithwaite in radio procedures

HANDING OVER THE HAT



Gary Jol hands over the hat of the Senior Deputy Captain to his brother Mark Jol. Gary will remain in the Brigade as a Deputy Captin

CALLOUTS

- Issue permits
- Emergency response
 - Bush fires
 - Structure fires
 - Motor vehicle crashes
 - Search and rescue
 - Ambulance assist
 - Storm damage

Rollover on Bellbird Hill. The driver of the white ute saw what was happening and was trying to reverse back down the hill to get away from the trailer.



NEW EQUIPMENT



- Our new equipment in the last year includes:
 - 1 x Freezer
 - 2 x fire pumps
 - 1 x blower
 - 1 x chainsaw
 - NBN and Wifi connection in the shed
 - Large TV/monitor which is invaluable for presentations and training
 - An Apple iPad for each truck
 - FLiR camera donated by the VFFA which allows us to detect hot spots

Many thanks to the Kurrajong Heights Community for the donation of the freezer and two brand new fire pumps. Our other ones have been in service for more than 3 decades!





SAYING THANK YOU

- The Brigade gave Appreciation Awards to the Kurrajong Heights Hotel and the IGA for all their support during Black Summer. More pics [here](#)



And a big 'Thank You' to all in the Community who keep filling up the donations hat at Ricky's

VISIT BY COULSON

- Shawn Dugan and JT from Coulson Aviation visited the Brigade and explained what it was like to fly the RSF's 737 'Marie Bashir' at tree top height at 10 knots above a stall
- Coulson are committed to training Australians to fill these demanding aviation roles and JT is a local who clearly loves his job and Shawn is enjoying doing the training ... and the flying



THE EARLY DAYS / 1



- Brigade established 69 years ago
 - Small number of families on the mountain
 - Everyone pitched in
 - Hazard reduction was a walk on a Sunday afternoon with a box of wax matches
- First fire engine was Land Rover ute
 - Still in the fire shed
 - Some knapsacks and flat shovels
- Shed opening in 2004
 - Many members still with us



Photo credit: Kurrajong Heights RFS Facebook page



Photo credit: Kurrajong Heights RFS Facebook page

THE EARLY DAYS/2



- Prior to the 1990's much of the hazard reduction work was conducted by loggers like the Bucketts:
 - They logged up to 90km from the mill
 - They'd put in all the tracks we'd use for fire trails
 - They logged selectively and would thin the forests and do hazard reduction
 - All at zero cost to the community
- Stock were grazed through the area
- By the end of the 1990's most of the Crown Land and State Forests had been turned into National Parks
 - The logging and grazing have stopped
 - From this time the fuel loads have grown and grown and grown

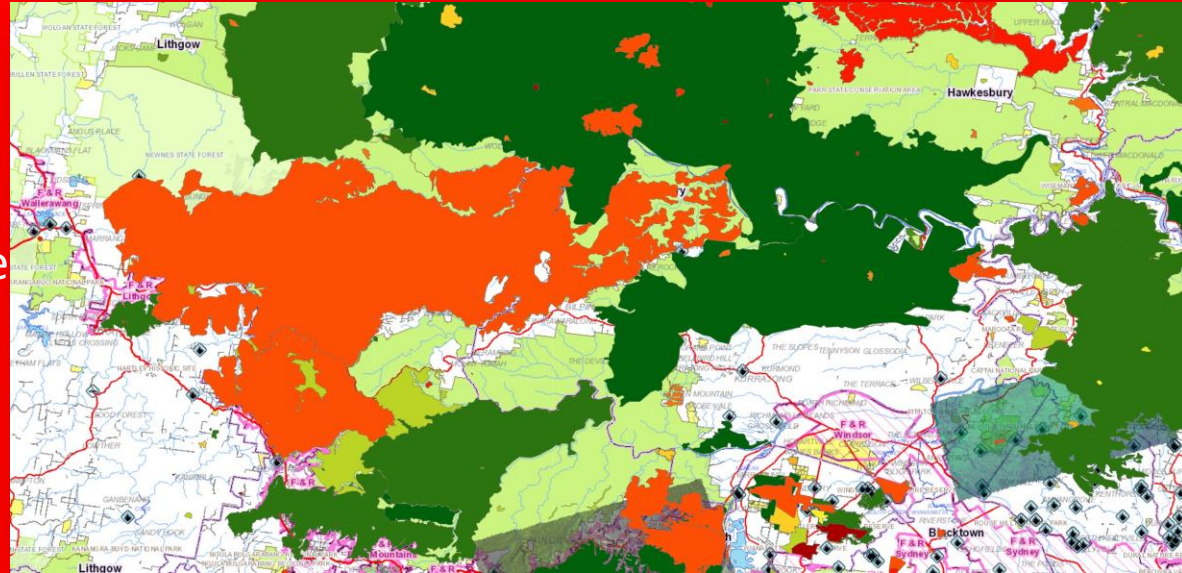


The Buckettt family mill on Bells Line of Road



MAJOR FIRES HISTORY TO 2017

- All our major fires have started in the Wollemi or Blue Mountains National Parks & have been mainly driven by hot and strong NW winds
 - In 2001 the fire entered Yarramundi and Blaxland Ridge with the loss of 14 houses. 4 people sustained injuries. A further 12 houses were destroyed in the Blue Mountains
 - In 2013 the State Mine Fire quickly moved to Bilpin covering over 30km in one day. It was stopped by a back burn along the Mountain Lagoon Rd



The Green shaded areas are the 2001/2002 fires which were stopped at Kurrajong Heights. The red shaded areas are the State Mines Fire in 2013 which was held on the Bilpin to Mountain Lagoon Road



MAJOR FIRES HISTORY TO 2021

- In 2019/2020 the Gospers Mountain Fire consumed 515,000 hectares and had a perimeter of 1,380km
- As in 2001 the fire was stopped at Kurrajong Heights
- A full account of the Gospers Mountain Fire can be found on our 2020 Report to the Kurrajong Heights Community ... see this [link](#)

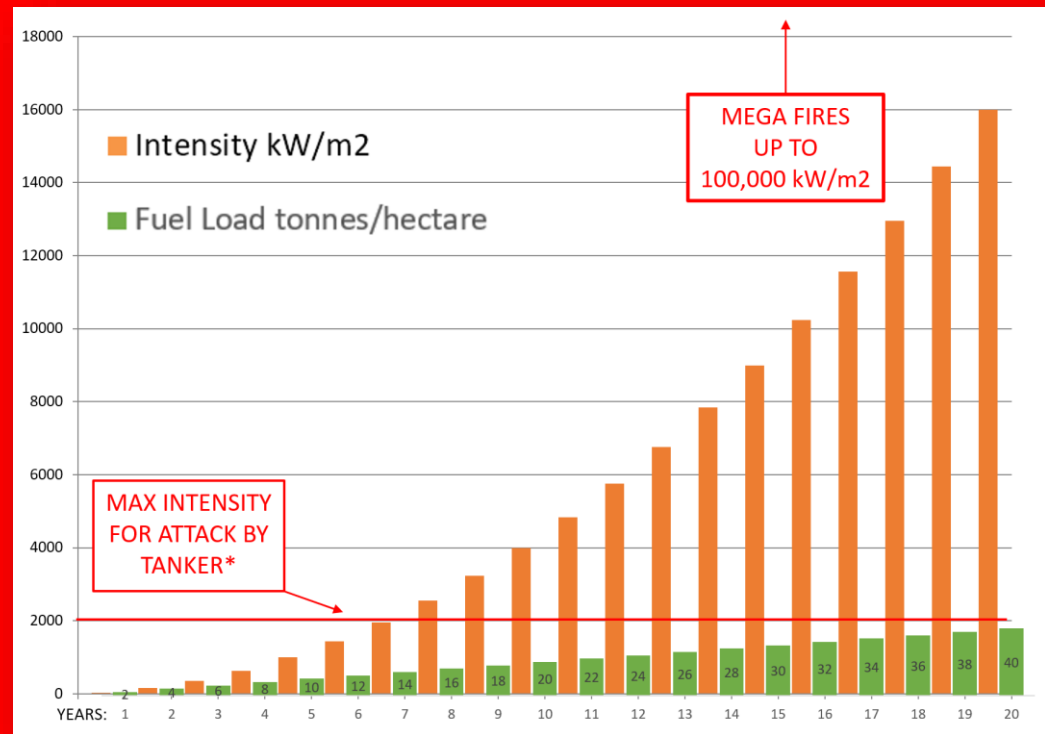


The Brown shaded areas show the extent of the Gospers Mountain Fire which was stopped at Kurrajong Heights

FIRE SCIENCE REVIEW / 1

- Fuel load increases by 2 tonnes per hectare per annum. The fire intensity grows exponentially
 - After 10 years the unmanaged fuel load will be 20 tonnes per hectare and will have a fire intensity of 4,000 kW/m²
 - Each kW is the same as a 1 bar radiator
 - 2,000kW/m² is the maximum that can be tackled by fire brigade tankers. 4,000 is the maximum by any man using any device i.e. Large Air Tanker
 - Some recent fires have registered an intensity of 100,000 kW

People burn the fuel or the fuel burns the people



Fires run on a combination of oxygen, heat & fuel

Reduce the fuel = reduce the fire

FIRE SCIENCE REVIEW / 2

- Hazard Reduction (HR) burns should be a 'cold fire'
 - Leaves gullies unburnt as retreat areas for animals
 - Hollow logs retained & recolonised
 - Koalas just run up the trees & are safe

- Wild fires over country with no hazard reduction are 'hot fires'
 - Every living thing is destroyed
 - Complete silence after a fire
 - Soil runs off with the first rain
 - Chokes creeks and gullies
 - Kills the fish
 - May take 100 years to recover



This is taken from the lookout at Burralow Rd in mid-January following the back burn on December 22nd 2019. It was a cold fire and all the leaves are still on the trees

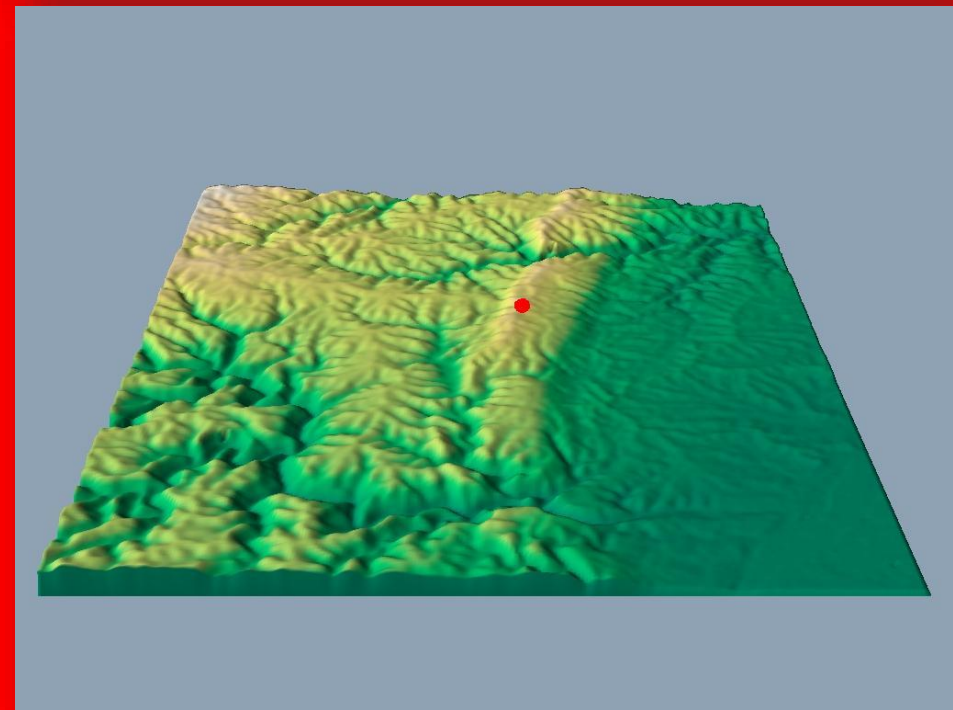
It could be safely burnt thanks to HR in 2012

The window for HR is not narrow and ideal conditions usually exist for 4+ months every year

FIRE SCIENCE REVIEW / 3

- We're in the worst possible environment to defend
 - Surrounded by bush on 4 sides
 - Top of a mountain ... for every 10 degrees of slope the fire doubles in speed and the intensity quadruples
- Hawkesbury BFMC* covers
 - 2793 square kilometres
 - Windsor in the south
 - Berambing in the west
 - 80km north of Windsor on the Putty Road
 - East to the Old Great North Road

Land Manager	Approx % of BFMC area
National Parks & Wildlife Service	69%
Forest Corporation	1%
Department of Lands	1%
Local Government	1%
Private	28%



3D Map of Kurrajong Heights

* Bush Fire Management Committee

RFS ACTIV



- The RFS introduced this new App which will manage communications and in time replace the pager system
- It has a lot of functionality:
 - Incidents
 - Crew availability
 - Messaging system
 - Diary
 - Document store
 - Contacts
 - Map with access to different layers including water
 - Personal tracker



The screenshot displays the RFS ACTIV web application interface. The top navigation bar includes a 'HOME' button and a location dropdown set to 'Kurrajong Heights'. The main dashboard features several key widgets:

- Summary Widgets:** A 'Total Turnouts' widget showing 1, 3, and 6 for WEEK, MONTH, and YEAR respectively. A 'Members Available' widget showing 1 / 69. A 'Incidents Open' widget showing 0. A 'Top Turnout Members' widget listing STEVEN BODY 2, MARK JOL 2, and ANDREW JONES 2.
- YOUR FEEDS:** A section with tabs for BROADCASTS, DISCUSSIONS, and EVENTS. It contains a search bar and a list of recent events and broadcasts, including training sessions and assessments.
- MEMBERS:** A section with a search bar and a list of crew members, including KURRAJONG HEIGHTS 1, KURRAJONG HEIGHTS 7, and individual members like ANDREW JOL, ANDREW JONES, ANDREW MACDONALD, ANDREW OLMOS, ANDREW WATERHOUSE, ANGELA BROWN, BILINDA PEARCE, and BEN TUNNMAN.
- TURNOUTS:** A section with a 'MEMBER TURNOUT COUNT' bar chart showing turnout counts for various dates from Dec 12th to Mar 3rd.
- AVERAGE ARRIVAL TIMES:** Two line graphs showing 'AVERAGE ARRIVAL TIMES - INCIDENT' and 'AVERAGE ARRIVAL TIMES - HEADQUARTERS' over the same period.

CAD

- The Computer Aided Despatch system is being progressively introduced on a region by region basis. It will:
 - Despatch by appliance – rather than Brigade – to access the closest and most appropriate resources
 - Integrate communication with FRNSW
 - Provide automatic vehicle location
 - Provide a status panel and comms in addition to the existing radio network





NSW RURAL FIRE SERVICE

Computer Aided Dispatch (CAD) Information Flyer

As part of the Commissioners 9 Priority projects, NSW RFS is moving to a new integrated dispatch system to improve our response time to incidents by ensuring the nearest, most appropriate resources are dispatched.

What is CAD and when is this coming?

- Computer-Aided Dispatch (CAD) is an integrated dispatch system that will bring together our existing dispatch processes and systems to enhance the way we respond to emergency incidents
- The computerised call receipt and dispatch system (Vision 5) will help streamline the dispatch process and improve our response time by ensuring the closest, most appropriate resources are dispatched
- CAD will initially be rolled out to the 18 Centralised Dispatch Districts within the first quarter of 2021
- The transition to CAD will bring about significant and positive changes to the way we respond to incidents, and ultimately support our members to better serve our communities

NOTE: As CAD initially rolls out to the 18 Centralised Dispatch Districts, you will be provided with communications, support materials and engagement sessions to help prepare for the upcoming transition.

What will be new with the introduction of CAD?


Dispatch by appliance
The dispatch process will now be based on appliances rather than Brigade / District boundaries, so that the nearest most appropriate (and capable) resources are dispatched to an incident.

Inter-CAD Emergency Messaging System (ICEMS)
ICEMS will allow information to be passed automatically through CAD. In the initial phase, ICEMS will be the primary system of communication between NSW RFS and FRNSW to facilitate more seamless information sharing. Linking ICEMS with other agencies is being considered in the future phases.


Automatic Vehicle Location (AVL)
As the current system (Noggin OCA) currently is unable to tell where the appliances are, where available, AVL will now provide CAD with real-time data on the location and availability of appliances (whenever they are within a GRN coverage area).

Status Panels
As CAD rolls out to each of the 18 Centralised Dispatch Districts, the status panels will also go live at the same time. This will be an optional tool to use in addition to the existing radio network and communications for providing appliance status updates when within a GRN coverage area.


What are the benefits?




Faster, more effective response



Better informed decision-making



Consistent dispatch process



Alignment with other Emergency Services

NSW RURAL FIRE SERVICE

ENVIRONMENTAL DAMAGE




- We have been using this fire trail north of BLOR for over 60 years. Access was only through private land
- The NPWS decided to 'regenerate' the track and used a large excavator to destroy 100 year old banksias and other natives and lay them across the track to prevent its use by firefighters
 - We have brought this to the attention of the State Government and are hopeful that this and other traditional tracks will be preserved in the future

Hawkesbury GAZETTE

NOVEMBER 18 2020 - 7:30AM

Old-man banksias 'sacrificed' in fire trail closure at Kurrajong Heights



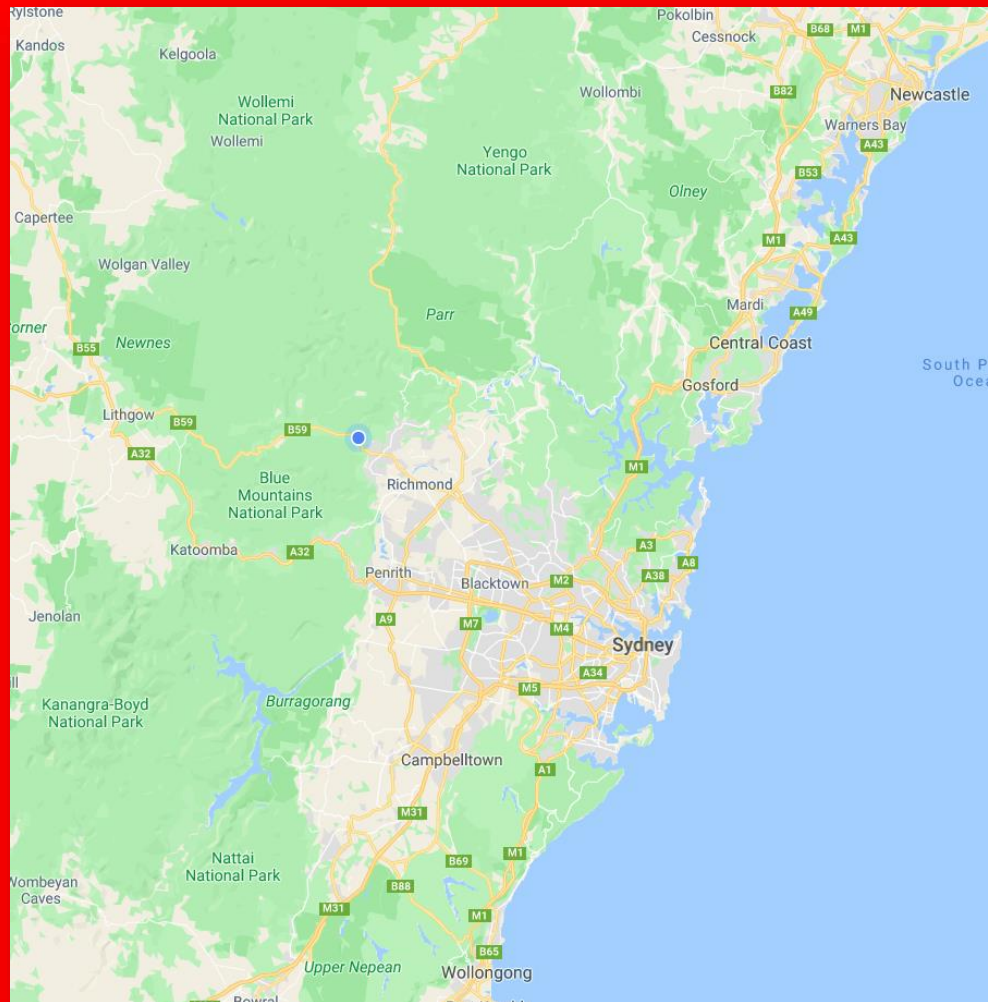
 **BANKSIA MEN:** A number of old-man banksias bit the dust during the closure of a fire trail just west of Kurrajong Heights.

[Read the full story](#)

PARK MANAGEMENT



- National Parks manages over 7 million hectares of land
 - It completed HR over 135,000 hectares in 2019
 - In the previous 5 years a total of 635,000 hectares were burnt
 - This amount is double what was burnt in the previous decade
- This is an average of 1.9% per annum
 - Another way to look at this is it would take more than 50 years to complete HR in our parks
- The NSW State Government needs to provide the manpower and budget to NPWS to allow them to manage our Parks properly and avoid in the future the environmental damage suffered in the Gospers Mountain Fire
- At a local level your brigade enjoys an excellent working relationship with the Parks service



National Parks completely encircle Sydney and comprise 69% of our Hawkesbury land

BRIGADE WEBSITE



- Brigade Website

- This is the link: <http://khrfs.org/>
- The [Community](#) section has information on how to:
 - Prepare a bushfire plan
 - Places of refuge
 - Safeguard your property
 - Report a fire
 - Fire equipment
 - Staying informed
- There's lots more useful information!

- Our Facebook page is

<https://www.facebook.com/KurrajongHeightsRFS>



THANK YOU ALL VERY MUCH!!

- Please remember all the people who looked after us so well during the Black Summer Fires
- Many thanks also to all the neighbouring brigades, others from further afield and a very special thanks to Fire & Rescue NSW



Thanks!

LOCALS SUPPORTING LOCALS
 THESE GENEROUS BUSINESSES & OTHER ANONYMOUS SPONSORS ARE MAKING THIS EVENT & OTHER FUNDRAISING FOR K.H. RFS POSSIBLE