

BUSH FIRE bulletin



The journal of the
NSW RURAL FIRE SERVICE



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Commissioner
NSW Rural Fire Service
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FOREWORD

I am delighted to be writing this foreword in my new role as Commissioner of the NSW RFS. The Service has been a significant part of my life for more than 40 years and I am deeply honoured and privileged to be Commissioner of such an extraordinary organisation.

While I'm excited by the opportunity, I am also very mindful that it is a great responsibility and one with significant challenges in the months and years ahead. 2019/20 was the toughest fire season we have experienced to date and it has taken an enormous toll on many. During the worst conditions, we saw the best of our people and we should all be proud of what we accomplished together.

Since coming into the role of Commissioner, I have made it my focus to ensure the NSW RFS is delivering for its volunteers and the community. Together, we need to ensure that the Service is ready to meet the challenges of the next decade. This means focusing on the things that matter most to our people and the community, and enabling frontline service delivery.

This work has been underway for some time, starting with the new approach to our operations structure across NSW. Our seven Area Commands have now come online, and are working with districts on implementing new ways of working to ensure our brigades and volunteers get the support they need. I look forward to seeing the results of this work and how it will enable district managers to spend more time supporting our volunteers.

We've established nine priority projects ranging from improving technology for our members, to ensuring our volunteers have access to the best and safest vehicles and equipment available. These projects are about supporting and equipping our people, and delivering a timely and appropriate response to the community. You can read more about these priorities on pages 12 and 13 of this edition of the Bulletin.

Recently, the NSW Bushfire Inquiry handed down its recommendations relating to the 2019/20 bush fire season. There are 76 recommendations – the overwhelming majority of which apply to or have an impact on the NSW RFS. Additionally, the Commonwealth's Royal Commission is continuing to take evidence on national natural disaster arrangements and there is already a number of recommendations which it has made for immediate implementation.

These significant programs of work, along with a difficult operating environment due to COVID-19 and its impact on the community and the economy, mean it is critical to look at how we are structured and positioned for the future.

Just as we have started to do across the Area Commands, there is the opportunity to streamline other areas of our organisation with a focus on supporting the delivery of frontline services – by reducing unnecessary processes and allowing people to focus on the things that matter most.

I'm looking forward to sharing more information with you as we progress our priorities, and hearing your views on how we can ensure we're delivering the best services to the community in the best possible way, with our members at the core.

Regards,

Rob Rogers AFSM
Commissioner





AFTER THE FIRES, A DIFFERENT KIND OF FIGHT

Since the start of 2020, COVID-19 has impacted every corner of the world and the state of NSW is no different. Like countless other organisations, the NSW RFS has had to change the way it does business in light of the ever present threat of a highly contagious and deadly virus.

Australia and NSW began to feel the effects of COVID-19 in March as workplaces closed down, large events were cancelled and social distancing measures enacted. At the time of writing, as new cases are still being reported across the state, it seems as though this will be our new normal for a while. COVID-19 has changed the lives of thousands of NSW RFS members, and will change the way the Service operates for the foreseeable future.

At a state level, the multi-agency response to COVID-19 is being led by NSW Health and run out of the NSW RFS State Operations Centre at Sydney Olympic Park. The same room that just spent six months as the focal point of operations over the gruelling 2019/20 fire season is now being put to use to fight a new foe.

You can read more about the collaborative effort on pages 8 and 9.

From March, the NSW RFS implemented a number of changes based on the evolving medical and government advice, including restrictions on non-essential events, activities and meetings. Non-essential access to Service facilities including HQ and Fire Control Centres was also reduced to protect the health and safety of members.

As of October, all NSW RFS facilities remain operational, however members are asked to please limit visits to NSW RFS locations. For brigades; meetings, training and events may be

held, provided COVIDSafe practices continue to be in place. COVIDSafe practices mean:

- If you are feeling unwell, you are not to attend a NSW RFS activity or location. If you're unwell, stay home and get tested.
- Consider whether the event can be held remotely to limit face-to-face interaction, especially if there's likely to be large groups or people who may be at higher risk of serious infection from COVID-19.
- If the activity or event is being held face-to-face, follow the current community restrictions on physical distancing including limits on the number of people allowed to gather in a space and the number of people per square metre in an indoor area.

A COVID-19 plan has been put together by the NSW RFS to provide guidance and allow for an appropriate operational response throughout the 2020/21 fire season while ensuring all personnel remain COVIDSafe.

This plan was drafted in consultation with and supported by other firefighting authorities and will be regularly updated as the situation and restrictions change.

You can find the plan and plenty of other information online at www.rfs.nsw.gov.au/coronavirus, including fact sheets for first responders, site and appliance cleaning and members in identified high risk categories.

On this site you can also find the NSW RFS COVID-19 Response Action Process, which outlines the process for all NSW RFS members regarding COVID-19 notifications.

This includes notifications of members with symptoms, confirmed cases and for members who return from overseas and are required to self-isolate. Border restrictions between NSW and Victoria remain to restrict movement between the two states.

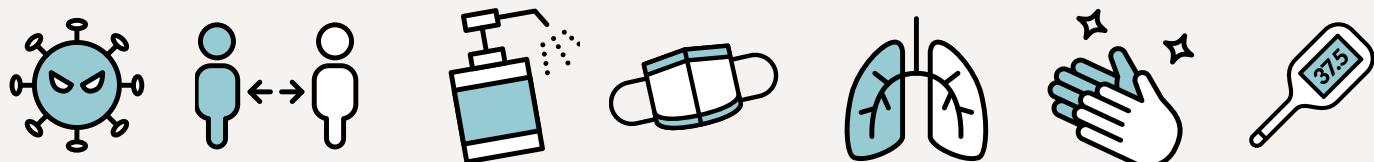
Residents in the border region, including critical service workers, can travel within the border region in either state with a permit.

To manage the response to potential cross-border fire activity, the NSW RFS and Victorian Country Fire Authority (CFA) are working very closely to provide localised support.

NSW RFS and CFA crews will still have the ability to respond either side of the border in the event of an incident or emergency. More information for NSW RFS members is available in the Operational Brief on MyRFS or One NSW RFS. ■

► MORE INFORMATION

For the latest information on COVID-19 and its impact on the NSW RFS, visit
www.rfs.nsw.gov.au/coronavirus



NSW RFS STAYS CONNECTED WITH MEMBERS

With the COVID-19 pandemic impacting on every aspect of our lives, there has been a renewed focus on connection with members through the NSW RFS Connect initiative.

NSW RFS Connect aims to keep members connected to the Service, keep members connected to one another and provide helpful health and wellbeing advice.

The online portal provides a wealth of information for volunteers and staff, as well as a series of live video broadcasts covering everything and anything to do with the Service.

During the height of the pandemic, the broadcasts took place every fortnight from April to July, and since July take place every month.

These live broadcasts have proved to be a hit, with thousands of members tuning in from all across the state to get the latest information and take part in the live Q&A sessions.

Photo: An episode of NSW RFS Connect being filmed.
Photo by Greg Allan.

Topics have included the technology being rolled out by the Service, brigade training and recruitment, the new Area Management Model and community engagement. Guests for the live Q&A sessions have included Commissioner Rob Rogers and Assistant Commissioners Peter McKechnie, Jason Heffernan and Kelly Browne.

You can head to www.rfs.nsw.gov.au/connect to watch previous episodes and get the latest wellbeing resources, tips and tools. ■





➤ FAMILY ON THE FRONTLINE

Noel Kessel spent much of the 2019/20 summer fighting fires with the Cottage Point Brigade. Then just as things were getting back to normal in March, the COVID-19 pandemic hit and Noel's wife Kate was suddenly on the front line as a registered nurse in a Sydney hospital. Both Noel and Kate share their story below of a hectic and dangerous twelve months.

Main image: Kate and Noel Kessel. **Below:** The Cottage Point 1 crew at the Mangrove Mountain staging area for the Gospers Mountain fire in 2019. **Bottom:** The Green Wattle Creek fire at Buxton in 2019. All photos by Noel Kessel.

NOEL KESSEL

“I'm Noel Kessel and my wife Kate and I have two beautiful children, Liorah and Avishai. I am a volunteer firefighter with the NSW RFS, attached to Cottage Point Brigade. Kate is a registered nurse with 27 years' experience.

During the past summer our crew were deployed to fight fires throughout various parts of the state. We spent shifts battling the mammoth Gospers Mountain fire to the north and west of Sydney, as well as fires at the Blue Mountains and the deadly Green Wattle Creek fire at Buxton to the southwest of Sydney. I also did a multi-day deployment at the Creewah fire near the Victorian border.

I have clear memories of the devastating fires which encompassed Sydney during 1994. I didn't think I would ever see anything as bad as those fires – I was wrong. I'm sure pretty much everyone would agree that the last fire season was the worst in recent memory.

There are a lot of challenges out on the fireground. Naturally, you always have in the back of your mind that firefighting is a very dangerous activity and things can go wrong very quickly, from wind changes to fire overruns.





One of the most dangerous parts of fighting fires is falling trees. On a number of occasions we had near misses with falling trees or large branches on main roads, trails and dirt tracks.

Every now and then without warning you would hear a loud crack and then a boom as a large tree crashed to the ground. That's probably one of the scariest parts of the job, especially at night.

But it's comforting to know that you are working with a bunch of competent and highly skilled guys and girls on the truck, and everyone looks after each other. You very quickly form a close bond with your colleagues and they become your extended family.

Once your truck arrives at the fireground and you put on your jacket and helmet, you become a different person. Firefighting is a dangerous activity and things can go wrong at any moment. You're there to make a difference in someone's life at their time of greatest need - to save their life, their property or their livelihood.

Throughout the fire season, we had good days and bad days. On the good days things went to plan and we saved many properties. On the bad days, the ferocious 'Red Monster' got the better of us. Buxton in mid-December was one of those days.

Upon arriving at Buxton, our crew immediately knew we were in for a very tough and difficult time. We were getting reports of numerous property losses and a number of serious injuries sustained by NSW RFS crews. As we drove down various roads, we could see the fire front had already been through and left a trail of burning houses.

There was nothing we could really do to save them.

We did however notice a couple of caravans up against a house that was well alright and quickly drove in and pushed the caravans away into a safe area.

We felt good knowing that although the house was gone, the owners would at least have their caravans to shelter in.

Later that afternoon down at Buxton we were involved in a fire overrun, which was a very scary experience. Fortunately the training kicked in and we all emerged pretty much unscathed.

Our truck on the other hand suffered a bit of damage, which is a small price to pay given what happened. I think we were all pretty grateful to get back home to our families that night.

We were debriefed at the scene by a critical incident team and given ongoing support afterwards. This is to the full credit of the NSW RFS.

I tried to keep the incident quiet from my children but this didn't last long as it was all over the news the next day, along with the tragic details of the five firefighters who suffered serious burns and the two who died when a tree fell onto their truck. Not only did it send a shiver up my spine, but it really spooked my son Avishai.

He became very attached and clingy, and was very anxious and emotional whenever I would head off to the fire station. On one occasion he grabbed me and cried while refusing to let go.

Left: The Green Wattle Creek fire at Buxton in 2019.
Below: Noel fighting the Gospers Mountain fire in 2019.
All photos by Noel Kessel.

Clearly this was all having an effect on him. On the upside, whenever I would return he would always greet me with a huge embrace and a hug.

My daughter Liorah seemed to be handling it all pretty well, even to the point that she joined the NSW RFS Cadet Program at the Northern Beaches. Obviously, it was also a challenging time for my wife when I was away. Often I would return home in the early hours of the morning and attempt to creep into bed without waking her. I didn't always succeed. Being alone with the kids and having to do almost everything single-handed was not easy for her, especially while she was also working full-time. Thankfully my parents were invaluable in helping us all out both physically and emotionally.

In March, things started to settle down but then we were faced with heavy storms and days of attending storm-related incidents all around Sydney.

And just when you thought normality was returning, we were hit with the COVID-19 pandemic. It was now time for me to hand over the baton to Kate, as she entered this new deadly battle. **„**

KATE KESSEL

“ I'm Kate Kessel and I'm a registered nurse at one of Sydney's largest hospitals, St. Vincent's Hospital in Darlinghurst, Sydney.

As the COVID-19 pandemic began to escalate, the daily routine at the hospital began to change. Within days, certain wards were being shut down and transformed into Intensive Care wards in preparation for the influx of the predicted thousands of COVID-19 cases. As the number of cases climbed, so too did our preparedness. Staff were being shuffled around the hospital and strict treatment procedures and protocols were being implemented.

We were instructed to treat every patient as if they were carrying the virus, which meant wearing full PPE including surgical gowns, masks, gloves and eye and face protection. We were split up into teams and were instructed to refrain from having physical contact with staff from other teams.

Every person who entered the hospital was also required to answer a few questions and have their temperature checked. It was all crazy. Early estimates were that around 45,000 people in NSW would contract the virus.

Thankfully, this has not happened.



We have been extremely lucky so far, especially in comparison to the rest of the world, and I pray that things will remain this way.

As the virus took hold around the world, the picture looked very dark and gloomy. As we entered into the lockdown phase, school was suspended for my children and we had to adapt to home schooling.

These were challenging times, but fortunately Noel was able to stay at home with the kids and soon enough they began to enjoy this new education concept.

The lockdown also meant that the children couldn't see their grandparents, to whom they are very close. The occasional visit was had, but with them on their balcony and us down below. Noel also took the children on a number of bushwalks, which was a great thing from a mental health perspective. The children also experimented in the kitchen and hot fluffy scones soon became a regular item on the breakfast menu.

Now that life is slowly returning to a somewhat normal routine, it is important not to be complacent, but to continue to maintain social distancing. The last thing we need is a second wave of this terrible deadly virus. **„**

NSW RFS HOSTS THE STATE'S COVID-19 RESPONSE

The State Operations Centre at NSW RFS Headquarters spent six months as the focal point for the multi-agency response to the 2019/20 bush fire season. Less than a month after the fire season ended, the same room was again full of busy people working on a statewide emergency – this time in response to the COVID-19 pandemic.

Since COVID-19 arrived on our shores at the start of the year, more than 4,000 people in NSW have caught the virus and tragically 55 people, at time of writing, have died.

In an extraordinary undertaking by NSW Health, more than 2.8 million people in the state have been tested for COVID-19.

The multi-agency effort to contain COVID-19 has been run out of the NSW RFS State

Operations Centre, functioning as the State Health Emergency Operations Centre.

The 2019/20 fire season highlighted the value of the Centre as a space that could easily house hundreds of staff from multiple agencies, enable these staff to coordinate an emergency response and also function

Below: The State Health Emergency Operations Centre in action in March.



as a meeting point for government and media. It was hardly surprising that the NSW government chose to utilise the space again to tackle the pandemic.

During this period, the Centre hosted representatives from a number of agencies that are coordinating the state's strategy for combating the COVID-19 pandemic, including NSW Health, NSW Police and the Australian Defence Force.

"The layout of the space lends itself to having a sense of order around what you're doing, and that's important because we are dealing with a once-in-a-hundred-year pandemic," says Susan Pearce, Deputy Secretary at NSW Health and the Controller for the State Health Emergency Operations Centre. "We're dealing with a situation that none of us have ever experienced before, so having a sense of order in the workplace is really important for people."

The design of the room is specifically engineered to enhance inter-agency cooperation and allow information to flow easily and quickly to the centre of the room in a crisis. This design has encouraged a whole-of-government approach to the state's COVID-19 response, rather than a fragmented agency approach.

"Having the ability to walk across the room and talk to people about an issue not only helps to get things done more efficiently, but it also builds relationships between the agencies that need to work together during these times," says Susan. "From my perspective, it's given me a much greater degree of insight into some of the challenges experienced by my colleagues in other agencies, and our relationships are much stronger and much more collegial now."

For the many staff working out of the Centre every day, it has been a long and busy six

months responding to the pandemic – particularly for the representatives of NSW Health and NSW Police. But they know that the pandemic could last for many more months come.

"It is an intense experience, but at the end of the day I think our sense of purpose about what we're here for keeps us going," says Susan. "The collaboration and support that we've had from our colleagues makes a world of difference – nobody thinks they are in this battle alone.

"We know that until there is a vaccine, or at least a treatment to minimise symptoms of COVID-19, we will be doing this fine balancing act. Learning to live with it has been a challenge for everyone in the community."

While the battle against COVID-19 in NSW is far from over, the multi-agency effort so far to stay on top of outbreaks and prevent uncontrollable spread of the virus gives cause for hope about the future.

Compared to many other states and countries all over the world, NSW has done a commendable job in controlling the pandemic – much of the work done in the same room that coordinated the response to devastating bush fires just last summer.

"We've got a world-class health system in this state and it has proven through this pandemic that our structures and our relationships are remarkably strong, and we're very proud of that," says Susan. "But we're also very happy – if you can be happy about anything in this situation – that our relationships with our colleagues in other agencies have really strengthened.

"I think once we're on the other side of this thing, it would be nice to think those relationships will exist well beyond COVID-19."



A NEW COMMISSIONER FOR THE NSW RFS

Following the resignation of NSW RFS Commissioner Shane Fitzsimmons in April to take up a new role as Commissioner of Resilience NSW, Deputy Commissioner Rob Rogers was formally appointed the new NSW RFS Commissioner in July.

Rob had been named Commissioner for a period of up to 12 months from 1 May 2020 when it was initially believed that COVID-19 restrictions would mean recruitment for the permanent Commissioner posting would not begin before the 2020/21 fire season.

However the easing of restrictions in May allowed the position to be publicly advertised in line with the normal recruitment process for NSW government roles. Following the recruitment process, Minister for Police and Emergency Services David Elliott announced the appointment of Rob as Commissioner of the NSW RFS.

"Rob Rogers has the outstanding credentials necessary to lead more than 70,000 dedicated NSW RFS volunteers that we depend on when bush fires threaten life and property," said Minister Elliott. "As Executive Director of Operations during our most devastating bush fire season, Mr Rogers oversaw the response to more than 11,400 bush and grass fires that burnt more than 5.5 million hectares, destroyed 2,476 homes and tragically took 26 lives."

For Rob, a member with more than 40 years in the Service, the Commissioner role is a great honour and an exciting opportunity.

But it is also a great responsibility, especially in light of the challenges the Service will face in the coming months and years.

"I'm excited by the opportunity but also very mindful of the challenges ahead, especially after last season's terrible conditions," says Rob.

"I look forward to continuing on the path we have set over the past few months with a focus on our volunteers and community – the things that matter most.

"The NSW RFS is an organisation that has been a part of my life for a very long time and I'm looking forward to continuing to build it and support its members into the future."

In the wake of the devastating 2019/20 fire season, Commissioner Rogers has outlined nine priorities for the Service over the next 12 months.

Main: New NSW RFS Commissioner Rob Rogers.

Below: Commissioner Rogers outside his brigade station at Belrose.
Photo by James Morris.



"The nine priorities are aligned to our Strategic Direction, which will continue to build upon the great foundations that have been set and position us well for the future," says Rob.

"These priorities focus on the things that will make a real difference to our members – so they can operate safely and effectively, and connect and work together to best serve the community."

You can read more about the priorities, including improved PPE and PPC, an integrated dispatch system and improved design of fire appliances, on the following pages of this issue.

With Rob's elevation from Deputy Commissioner to Commissioner, a shared arrangement was put in place to backfill the Deputy Commissioner (Executive Director Operations) role.

Assistant Commissioner Stuart Midgely served as Deputy Commissioner from 1 May to 30 June, Assistant Commissioner Jason Heffernan served from 1 July to 31 July and Assistant Commissioner Peter McKechnie is now filling the role until the position is advertised. ■

A LIFE OF SERVICE

Rob Rogers first became involved with the NSW Rural Fire Service in 1979 as a volunteer member of the Belrose Rural Fire Brigade, before being appointed Deputy Fire Control Officer for the Greater Taree District in 1995.

He has held various executive roles in the NSW RFS since 2001, including responsibility for Regional Management, Community Safety and Operations.

In 2011 he was appointed Deputy Commissioner, and served in that position until his elevation to Commissioner in May 2020.

Rob has also been involved in the leadership of the National Fire Danger Rating review, the enhancement of a statewide Fire Behaviour Analysis capability and the development of a strategic network for fire trails across NSW.

He was awarded the National Medal in 1995 and the Australian Fire Service Medal in 2004.



FOCUSING ON WHAT MATTERS MOST

The 2019/20 bush fire season was the worst in our history. While it brought great challenges for the Service, it also offered the opportunity to learn and improve, and reflect on how we can continue to deliver the best service to the community. As a result, in May Commissioner Rob Rogers announced nine immediate priorities for the NSW RFS over the next 12 months.

The priorities, aligned to our Strategic Direction, focus on the things that will make a real difference to members – allowing them to operate safely and effectively, and connect and work together to best serve the community.

OUR PRIORITIES FOR THE YEAR AHEAD

Personal Protective Equipment - head protection and respiratory protection

Safety of our members is paramount and we understand that, when it comes to firefighting, personal protective equipment is imperative.

We have heard from our volunteers that it is time to reconsider head and respiratory PPE provided by the NSW RFS for use during firefighting, and we agree. We will determine and make available the most suitable face masks, goggles and flash hoods to volunteers.

How will we know we've succeeded?

Head and respiratory PPE provided to NSW RFS members will be: evidence-based; fit-for-purpose; member supported.



Member availability and response system (RFS ACTIV)

Our shared purpose is to protect the community and our environment by minimising the impact of fire and other emergencies. To achieve this, operational response through effective systems is vital. With more than 70,000 members and nearly 2,000 brigades, we know that a common system for members to signal their availability to attend an incident, be called upon to attend an incident and accept the call to attend would be of great benefit. We will ensure that members have access to a standard availability and response system (where mobile phone coverage exists) that assists with seamless response to emergencies.

How will we know we've succeeded?

A member availability and response system that is: standard and accessible by all members (mobile phone app to support the paging system); live and dynamic – giving timely information on the availability and response of members to incidents; easy to use for rapid response; member supported.



Mobile Data Terminals for firefighting vehicles

Mobile Data Terminals (MDTs) in firefighting vehicles will be implemented to support members in operational response. Members will be able to jump in a vehicle and use a mounted MDT device to display the job they are attending, and they will have access to road and routing information. Information from the member availability and response system will show members allocated to attend, and job information in the system will automatically populate for completion of brigade incident reporting (BIRS).

How will we know we've succeeded?

Mobile Data Terminals: pilot in NSW RFS firefighting vehicles and establish rollout plan to the rest of the fleet; live and dynamic – linking information on calls, people, routing and in-field fire reporting; easy to use for rapid response; reduce administrative burden on brigades; improved capture of member attendance at fires; member supported.

Integrated dispatch system

We operate in a multi-agency emergency response environment in NSW, involving coordinated dispatch. Currently there are multiple dispatch systems across fire and emergency services agencies, and within the NSW RFS we store information across multiple systems to dispatch crews to emergencies. There is a real and pressing opportunity to integrate these systems for more simplified and transparent dispatch and reporting. We will implement a dispatch system that integrates with other fire agency systems and pushes data across to our internal support systems (ICON MDTs, BIRS).

How will we know we've succeeded?

Implementation of a dispatch system which: provides seamless and automated interoperability between agencies, in particular Fire and Rescue NSW; consolidates multiple internal dispatch systems for automated information flow; provides system efficiencies able to bring more districts onto centralised dispatch; is fit-for-purpose.

Design of fire appliances

Given the unprecedented circumstances of last fire season, in particular the tragic loss of our members and the number of vehicles badly damaged, we need to ensure the design of our fire appliances is fit-for-purpose for the future. In particular, we need to consider cabin ability to withstand tree strikes, high pressure low volume pumps, tanker protection systems and the viability and feasibility of lighter material.

How will we know we've succeeded?

Fire appliance redesign that is: evidence-based; fit-for-purpose; member supported.



One NSW RFS member website

Now more than ever, it is apparent that timely access to information and new ways of staying connected are needed. We recognise that our members want access to relevant and up-to-date information to support them to deliver the best service to the community. We will deliver a NSW RFS member website that does just that – supports our members.

How will we know we've succeeded?

Member website that is: accessible and easy to navigate; relevant, up-to-date and informative; member supported (accessed and favoured).



Electronic membership application system

At the heart of our Service are our members – and the first experience many of our volunteers have with us is when they look to join a brigade. We know we need a better solution to support new members to become volunteers with us and existing members to change their membership status (i.e. transfer, dual) – and which helps brigades, districts and the Service manage volunteer applications in a timely and effective manner.

How will we know we've succeeded?

eMembership application system that: provides a positive volunteer experience; streamlines the application process; allows for more timely decision making; gives better insights into applications for the brigade, the district and the Service.



Farm fire unit integration

Farmers are a critical part of the firefighting effort, and an important partner in managing and responding to the threat of fire across our landscape. We will work together to ensure farming communities are well prepared and will strengthen response communication with farm fire units to prioritise and protect important agricultural assets.

How will we know we've succeeded?

Strengthened farm fire unit integration: good take-up of the Farm Fire Plan; shared understanding of response capabilities and priorities of farmers and farm fire units; shared in-field communication devices which better direct operational response efforts. ■

Members will get regular updates on these projects via MyRFS, the eBulletin and NSW RFS Connect.

inFOCUS

► FALLEN FIREFIGHTERS TO BE HONOURED BY MEMORIALS

The Service was shaken in the 2019/20 fire season by the loss of four of our own firefighters - Geoffrey Keaton and Andrew O'Dwyer near Buxton on 19 December, Samuel McPaul at Jingellic on 30 December and Colin Burns at Belowra on 31 December. Two permanent memorials will recognise the sacrifice made by these men.

A fire truck themed playground at Buxton will serve as an ongoing reminder of the efforts made by Keaton and O'Dwyer to protect the village during the devastating Green Wattle Creek fire. To celebrate these brave men, Wollondilly Shire Council has approved the construction of the NSW RFS themed playground (see artist's impression below) at Telopea Park that will include a memorial plaque.

The playground is a very fitting tribute given both Andrew and Geoffrey were dedicated fathers and left young children behind.

At Jingellic, a two-kilometre section of road that follows the Murray River will become an avenue of honour to McPaul. The stretch of road, which passes the site where McPaul was killed fighting the Green Valley Talmalmo fire, will be lined with 135 pin oak trees and include a wayside stop and shelter with information about McPaul and the impact of the fire. The plans for the memorial have been spearheaded by the Jingellic Bushfire Recovery Committee and the Jingellic Brigade, and supported by Greater Hume Council and the McPaul family.



► EXTRA \$45M FUNDING TO PREPARE FOR FIRE SEASON

An additional \$45 million in funding was announced by the NSW government in May to help the NSW RFS prepare for the 2020/21 fire season. The funding package included \$34.4 million for upgrading the NSW RFS fleet, delivering 120 new and 70 refurbished vehicles in the next year to those brigades that need them most.

The package also included \$10.7 million to create an additional 100 State Mitigation Crew positions in 25 crews statewide. These positions will assist with mitigation and fire support activities and increase the Service's ability to conduct hazard reduction work. NSW RFS volunteers were targeted in the recruitment process, which began in June.



► RECOGNITION FOR UNPRECEDENTED SEASON

In September the NSW government announced the establishment of the NSW Premier's Bushfire Emergency citation.

The citation is a recognition by the NSW government, on behalf of the community, for the outstanding contribution of volunteers and service agency personnel during the 2019/20 bush fire season.

The citation is accompanied by a personalised letter and certificate, and a commemorative cap, and was awarded to all those who played a role in the worst bush fire season in living memory.

Recipients should have been notified in late September and can check with their brigade or local district.



► PROJECT GUARDIAN ROLLOUT CONTINUES

Following the launch of the Development Application module last year, the rollout of Project Guardian continues over the coming months with further functionality.

In August the www.rfs.nsw.gov.au/notify public portal was launched, allowing members of the community to notify the NSW RFS of burning activities.

This portal provides a single point for members of the community to lodge burn notifications and will result in districts discontinuing existing online notification processes such as local websites.

The portal will help staff in dealing with burn notifications and include features such as mapping with GIS data, real-

time availability of records, searchable records, automated reporting to National Parks and/or ForestCorp NSW where necessary and automated Total Fire Ban warnings for registered burns.

Later this year will see the roll out of the Environmental Assessment and Activity Management modules that support the implementation of the Bush Fire Environmental Assessment Code.

Further updates will be provided regarding these modules over the coming months, including detail about functionality, testing phases and training.

► MEMBER AVAILABILITY APP ONE STEP CLOSER

Following a tender process, the NSW RFS recently named Emerg as the successful vendor for the creation of the Member Availability app.

Delivery of the Member Availability app has been identified by Commissioner Rob Rogers as one of the nine priorities for the next year (see more on page 12), and the agreement with Emerg is an important step in the process.

The Member Availability app, to be known as RFS ACTIV will allow all members to signal their availability to attend an incident, be called upon to attend an incident and accept the call to attend.

Emerg is the company behind the BART app, which is already in use by many NSW RFS brigades.

The rollout of a centralised app will mean brigades won't have to pay for the service, and it will also tie into key corporate systems so member details such as contact numbers and qualifications are kept up to date.

A stakeholder group of members was set up to help with the rollout and how the app is configured for volunteers.

At the time of publication, we are currently in the testing phase and the rollout of RFS ACTIV is on track for the end of 2020.



NSW RFS HELPS TO SAVE RESILIENT WATTLE FROM EXTINCTION

BY DR JOANNA HADDOCK, NSW DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT, WITH SPECIAL ACKNOWLEDGEMENT OF CONTRIBUTIONS FROM TRENT FORGE, AHAMAD SHERIEFF, DAVE MONAHAN AND STEVE DOUGLAS.

Among the fire-scarred forests and heathlands of the Blue Mountains, sit the hopeful little yellow pom-poms of the endangered Gordon's wattle, *Acacia gordonii*. The NSW RFS and National Parks and Wildlife Service (NPWS) have been working together to save this rare wattle since 2018, with hopeful twists and disappointing turns along the way. After the devastating bush fires of the summer, scientists feared the loss of nearly half of all known Gordon's wattle plants. But the resilience of the natural world is always a delightful discovery.

THE ECOLOGY OF GORDON'S WATTLE

The Gordon's wattle has a beautiful yellow pom-pom flower that blooms in spring but is a rare sight for residents of the Blue Mountains. It is found at only a handful of sites in the world and until recently, there were less than 3,000 individual plants in total. Gordon's wattle only occurs in the northwest of Sydney in isolated patches, from the Maroota and Glenorie area in the east, to the lower Blue Mountains in the west.

One of the largest populations, around 300 individual plants, is tucked away on sandstone rock platform in the Blue Mountains National Park near Faulconbridge. Through the efforts of the NSW RFS and NPWS, its chances of survival are looking a lot more promising. The endangered plant is one of more than 400 species that the NSW government has committed to protecting in the wild – it is a plant fighting for its very survival.

The NSW government's 'Saving our Species' (SoS) program has been monitoring the wattle for four years, and has learned much about its ecology, how it disperses its seed and what conditions it needs to germinate and survive.

While nobody likes the sight of a burned forest, there are a few ecological silver linings. Some plants have evolved to rely on fire to spread their seeds, either through higher soil temperatures incubating the seeds during and after the fire, or through the fire breaking open the hard-coated seed and allowing it to disperse.

Many fire-dependent plants need cool burns to thrive, some need hot burns. Some need frequent burns, and some would perish in a frequently burned ecosystem. As with so much of nature, survival is a fine balance.

Only rarely do plants genuinely do well in very hot burns. Through many years of observation, plant

Main image and below: The Gordon's wattle.
Photos by Barry Collier / NSW DPIE.

scientists have recently concluded that Gordon's wattle is one of those species – it is highly reliant on hot and infrequent burns for seed dispersal and germination.

But with most populations of the wattle growing close to urban settlements, hot and intense burns are a rare and dangerous thing for residents. It can be tricky to balance ecological needs with protecting people and assets.

A COLLABORATION

The NSW RFS, NPWS and scientists from the SoS program wanted to plan a project that balanced the safety of the community with the conservation of the Gordon's wattle.

In April 2018, an opportunity presented itself. The NSW RFS was planning to conduct a hazard reduction burn at Faulconbridge Point to protect neighbouring communities. The Faulconbridge Point populations of Gordon's wattle were old, and on long-unburnt country.

Scientists assumed that fire was needed to germinate the seed bank and encourage seedlings to grow in these populations.

So, as part of the larger strategic hazard reduction burn, the team carefully designed smaller ecological burns near the wattle plants, simulating an intense summer bush fire.

This was a risky plan for a threatened species with such low numbers. There was a real possibility that a fire would kill the adult plants, and if a successful germination of the seed bank did not follow, then an entire population could be wiped out.

The hope was that the high temperatures would break open the hard casing of the Gordon's wattle seeds and help the Faulconbridge Point population germinate and thrive.

The NSW RFS successfully carried out a cool hazard reduction burn to lower the risk of bush fire affecting nearby properties. In collaboration with the NSW RFS, NPWS also undertook a hot ecological burn in a very small area of bushland further from houses.

As the plants occur in pockets of soil interspersed across rock platforms, fuel was limited, so extra fuel was added and incendiaries were dropped.

The intense flames were fanned by NPWS helicopters hovering above the fire, generating very high temperatures on the ground. The collaboration and success of the project proved that efficient cross-organisational partnerships could deliver precision burning with outcomes for residents and the ecosystem alike.

Scientists also learned a lot about how the species responded to different types of fire, and everyone watched expectantly for signs of recovery.



Below left: The seeds of the Gordon's wattle broken open by fire.
Photo by Barry Collier / NSW DPIE.

Below right: A NPWS member carrying out the ecological burn.
Photo by Susan Davis / NSW DPIE.



GERMINATION... FOLLOWED BY TRAGEDY

The ecological burn hit the spot; Gordon's wattle started to germinate and grow. In some areas where the ecological burns hadn't been as hot, some of the burned adult plants had started re-sprouting! The beautiful yellow pom-poms were seen in great numbers during the spring of 2019.

However, the tragic fires of the 2019/20 summer burned through large parts of the Blue Mountains.

The same firefighting heroes that had carried out hazard reduction burns to protect people's safety and to help the little Gordon's wattle, fought to protect property and bush from the Gospers Mountain fire. The NSW RFS and NPWS once again collaborated – this time to save properties and lives.

Eighty percent of the Blue Mountains world heritage area burned, affecting thousands of people. One-third of the world's population of Gordon's wattle was burned over the summer in mega fires. The absolute devastation and intensity of the burn was feared too much for many plant species to survive.

A STORY OF RESILIENCE

Some parts of the Blue Mountains, including a few sites of the Gordon's wattle, were burned so badly that scientists held concerns for the plants' local survival.

As communities rebuilt after the devastating summer, the NSW RFS, NPWS and SoS watched the recovering dry sclerophyll forest and heathlands of the Blue Mountains... and waited.

Below left: The Gospers Mountain fire rages near Bilpin.
Photo by Ned Dawson.

Below right: The defiant post-fire population of Gordon's wattle discovered east of Bilpin. Photo by Steven Douglas / NSW DPIE.



It wasn't until autumn before NPWS officers and SoS scientists were able to safely visit one of the badly burnt sites, a recently discovered population east of Bilpin. Among the blackened bush, across bare and shining rock platforms – the only recognisable landmarks in the burned area – stood a defiant little population of Gordon's wattle.

While many of the adult plants had perished in the fire, thousands of seedlings had germinated and taken their place! Once again, the NSW RFS, NPWS and SoS will cooperate to protect Bilpin's new population of seedlings from fire, in the hope that the plants can establish.

THE FIGHT FOR SURVIVAL CONTINUES

The Gordon's wattle survived this devastating summer of fire, helped along by the hot ecological

burns that the NSW RFS, NPWS and SoS executed in 2018. But this endangered plant is not out of the woods yet, faced with multiple threats to its habitat.

The SoS program continues to invest time, science and money in threatened species conservation, partnering with organisations like the NSW RFS with specialist knowledge and skills.

Gordon's wattle will continue to be monitored by rangers and scientists, with the hope that the resilient yellow flowers will still be found in the wild in 100 years' time and beyond.

If you would like to find out more about the Saving our Species Program, please visit:
<https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/saving-our-species-program>.



BILPIN DUO CELEBRATE 70 YEARS OF SERVICE TOGETHER

Bilpin Brigade members Albert Newton and William 'Bill' Johnson recently notched up a truly impressive milestone – 70 years of service with the NSW RFS. In June, the two men were joined by their families at a small ceremony where they each received a 70-year service medal and a life membership certificate and plaque. Community members and Albert and Bill's brigade colleagues lined the Bells Line of Road with signs and balloons to celebrate as the men did a socially-distanced lap of honour.

HUMBLE BEGINNINGS

Bill joined the Bilpin Brigade in 1946 at the age of 16, just after the conclusion of the Second World War when many young men were still serving in the army and manpower to fight fires was restricted to older men and young boys. Albert joined a few years later in 1950 when he was 15, and a lifetime of friendship and service was born.

The Service was very different in those days, and the two men learnt to fight fires with none of the tools or comforts familiar to the modern firefighter.

"When I started we had no equipment," says Bill. "We fought the fires with a wet bag, a green branch, a box of matches and a chipping hoe."

"We had no drip torches, so we lit the bush up using stringy bark and gum leaf or old branches that had fallen out of the tree," says Albert. "You'd light that up and walk through the bush and the leaves would drop off and get it going."

Not only was there very little equipment in those days, but there was also no uniform or PPE, and definitely no fire truck. Bill even rode his bicycle to his first fire.

"When I became equipment officer in the Bilpin Brigade, we had 28 steel knapsacks and nothing else," says Albert. "Then in the late 1950s we got an ex-army Blitz Tanker with 300 gallons on the back."

STANDOUT CAMPAIGNS

Over the decades, the two men have been involved in countless campaign fires and spent many summers protecting the community of Bilpin. Up until the deadly fires of 2019/20, they hadn't lost a single home to bush fire in the area.

"The one fire that stands out most for me is the 1968 fire," says Bill. "We had three months of fire – it started in October and finished on Christmas Day.



Left: Bill Johnson (left) and Albert Newton. **Above:** Bill and Albert are presented their medals by Superintendent Karen Hodges and Chief Superintendent Simon Davis respectively. **Below right:** Bill and Albert with Bilpin brigade members. All photos by Nick Wood.

"Mt Tomah and Mountain Lagoon didn't have brigades in those days, so Bilpin had to do the lot with limited equipment. You didn't get the outside help in those days that you get now – we had one tanker and were nearly on our own all the time."

"The 1994 fire that came up out of Bowen Creek was a pretty scary one," says Albert. "It was jumping 100 yards in front of itself and you just couldn't possibly put it out – you'd have needed 50 tankers. It eventually jumped Bells Line of Road and ran down towards the Grose Valley."

A 70-YEAR BOND

While the memories of fires and campaigns from decades ago are strong, it is the friendship the two have formed over more than 70 years that remains strongest to this day.

"I first met Albert when he was 14, and we've been friends ever since," says Bill. "We've done everything together – we worked together in the bush as timber cutters, we've farmed together, served in the brigade together and played sport together."

"I don't think we've ever had an argument, so that's not a bad record."

The two were so close, that Bill even married Albert's sister, Isabel. And along with Albert's wife Mary, the two men are quick to credit the role of their wives in service to the brigade over the decades as well.

"They might not have been out there fighting fires, but our wives played a big part," says Albert.



"They would get our uniforms clean and tidy for every shift and in the earlier days the only food we got was from our wives.

"My wife was in the station on the phones and getting crews ready for the next run. They were very important."

While neither man has been able to spend much time on the fireground in the last ten years, they both still attend the fire shed as much as they can and remain involved in the brigade.

Indeed, during last summer's fires both men were tasked in the brigade's Cat 9 tanker to follow Albert's son Jimmy Newton while he was making firebreaks.

Just another duty in a lifetime of service. ■





>> AN UPDATE ON DONATIONS

The 2019/20 fire season was unprecedented, but so was the response from the community and the outpouring of support for the men and women of the NSW RFS. In addition to donations made directly to individual brigades, more than \$100 million was donated to the NSW RFS and Brigades Donations Fund – an international show of support for the volunteers who gave up their time to help others.

The NSW RFS and Brigades Donations Fund (the Trust) was set up to support brigades with Deductible Gift Recipient requirements, and as a central fund to aid all brigades across the state.

As a result of the huge amount of donations over last season, a number of funding allocations have been made to support brigades directly and to fund major projects focused on improving NSW RFS equipment, technology and services.

The Trust has allocated \$90 million to initiatives which will benefit NSW brigades across the state, based on feedback from members.

VOLUNTEER FEEDBACK ON USE OF DONATED FUNDS

To help guide the Trust in how funds should be distributed, it sought the views of volunteers across the state through an online survey. More than 1,600 submissions were received, with the majority being from rural brigades.

Some of the key things that members told us were:

- That publicly donated funds can help deliver improved programs or services for volunteers and brigades;
- The views of NSW RFS members are important in assessing where funds are spent;
- It is important to spend donated funds and report on progress, so that the community sees their donations going to good use;
- Donated funds should not replace funding that is normally provided through other means, such as government funding.

The survey was used by the Trust to inform discussions about funding allocations for a range of major projects and initiatives.

\$20 MILLION FOR BRIGADES

Following the fire season, the Trust made a pool of up to \$20 million available for brigade grants. Each brigade can apply for a grant of up to \$10,000 for equipment, training and resources that help them deliver services in their local community.



Main (at left): Hazard reduction conducted by Northern Beaches brigades. Photo by James Morris. **Above:** Balmoral Village Brigade take a break from battling the Green Wattle Creek fire in January 2020. Photo by Sharon Quandt.

Nearly \$10 million has been spent already, with brigades applying for a range of items such as GRN and fireground radios, mobile phone signal boosters, electric hose reels, thermal imaging cameras and station enhancements and security systems. The Trust is encouraging brigades to buy locally to support local businesses.

Chair of the Trust, Group Captain Andrew Macdonald, noted the effort that has gone into administering the fund this year and particularly wanted to thank the NSW RFS staff involved for their hard work.

"At the height of the 2019/20 fire season, the NSW RFS administrative team were receiving hundreds of enquiries and donations per day that required actioning and response," he said. "In addition, the establishment and ongoing administration and management of the brigade grant scheme has been an enormous undertaking that will continue into early 2021.

"Without the support of this team and the hard work behind the scenes, the brigade grant scheme would not be the great success that it is."

\$70 MILLION FUND FOR MAJOR PROJECTS

The Trust has allocated an additional \$70 million of funds to support important initiatives that will help volunteer brigades respond to incidents safely and provide welfare and support to members.

The additional funds have been allocated for programs including modernising the way we respond fire trucks to incidents – from how volunteers can register their availability, to responding and getting back to their station.

The funds will also support new or improved Personal Protective Equipment like helmets and respiratory protection for volunteers – to ensure our members can work safely and get home to their families. There is also funding to support the health and wellbeing of our volunteers, and to establish an ongoing welfare program to ensure when the worst happens to our volunteers their families are supported into the future.

"Importantly, the donated funds do not replace normal sources of funding such as the government, but they do accelerate the delivery of major projects to support volunteers and communities which may otherwise never happen," said Commissioner Rogers. "We're also making sure, wherever possible, we're spending funds in local communities to support the businesses and industries that employ and support our members." ■



GOOD RAIN GOOD GROWTH

After one of the most intense droughts in the state's history, NSW has finally seen some good rain. In many areas this has led to increased grass and crop growth. This growth will pose a new threat over the coming months, one not faced by many firefighters for a number of years.

INCREASED RISK OF GRASS FIRES

There has been prolific grass growth in most areas after good rainfall across NSW. In rural areas, lower livestock numbers after drought have also exacerbated the situation. Stock prices remain high – an inhibitor to significant increases in stock levels and thus consumption of pasture. Many rural properties have not recovered financially from the drought and may not be in a position to devote resources to hazard reduction works on their properties.

Mild winter weather conditions in Central West NSW have also contributed to greater than average grass growth in that area, particularly in Canobolas and the Mid Lachlan Valley and extending further out into Orana and the Far West. It is the same in the northwest and northeast of the state, with prolific grass growth in the Northern Tablelands and New England with lower than usual grazing levels.

Despite the fire damage from last season, it is a similar story in the south of the state. There is the potential for high fire loadings in the grassland areas of Bland, Temora, Riverina, the Monaro

Highway corridor and the unburnt areas of the Far South Coast.

With significant amounts of vegetation across large tracts of the state, roadside grass fires will be a considerable risk associated with vehicle accidents and petrol vehicles parking in grassland areas.

INCREASED RISK OF HARVEST FIRES

With the welcome rain, 2020 has seen a significant increase in the total area of crops planted. It is estimated by Australian Crop Forecaster that an additional 2,086,882 hectares of crops have been planted in NSW compared to 2019/20. This is the equivalent to the area planted in 2015/16. Given the lower stocking levels in some areas, many farmers have also planted crops to make use of agricultural land that may otherwise have been used as pasture.

This increase in area and expected yield is forecast to see production of more than 11 million tonnes, compared to 3.8 million in 2019/2020.

Above and right: Crop and grass growth near Dubbo. Photos by Ben Shepherd.

But a significant increase in yields will also equate to an increase in transport movements and longer harvesting periods, along with more stubble left after harvesting. All of which means an increased risk of fire starting and spreading.

Crop harvest times vary around the state, but most harvests will occur from October through to March depending on the crop and area. In the Western Area, predominantly cereals and pulses are grown with wheat the crop of greatest concern. Harvest occurs from late October to mid-January, and at the time of writing crop growth is advanced compared to average years.

In the North West, harvest starts in October and November, with chickpea crops the greatest risk due to increased header fires caused by dust build-up. In the South West, canola stubble will be significant following good growth,

though canola does not carry fire as well as cereal stubbles. With cereal crops estimated to achieve 80-90 percent of maximum yields, a high number of stubble burns are expected in the area following harvest between December and March.

In the South East, winter crops have progressed well with winter rain, but are unlikely to be a significant fire threat until soil temperature increases later in summer. Across all these areas, there will be a significant amount of silage and hay made this year with risk of combustion due to moisture and stubble fires in summer.

With conditions ripe for an increased risk of grass and crop fires over the next few months, NSW RFS brigades across the state will need to keep on their toes. The liftout guide on the following pages can help you to identify and manage the risks associated with grass and crop fires. ■



GRASS CURING GUIDE

	% CURED	WILL IT IGNITE?	FLAME HEIGHTS	SPREAD NOTES	SUPPRESSION DIFFICULTY
GREEN PHASE	0	No			
	10			Fire fails to spread	
	20				N/A
	30				
YELLOW PHASE	40	Maybe, especially if substantial thatch is present	Low, typically lower than fuel height	Fire front will be fragmented. Fuel consumption will be patchy. Fire will be carried by thatch underneath current season's growth.	Low
	50			Smoky.	
	60	Yes	Medium	Fragmented fire front with faster spread rates in areas of dry fuels. Patchy fuel consumption. Smoky.	Moderate
	70	Yes	Medium	Fire spread will be moderate. Patchy areas of green will slow spread. Smoky.	High
DRY PHASE	80	Yes	High	Fire spread will be fast. Under strong winds, fire will be difficult to suppress.	High
	90	Yes	High	Fire spread will be very fast under strong winds.	Very high
	100	Yes	High	Fire spread will be very fast under strong winds.	Very high

During spring, grasses undergo a period of growth that is normally completed by late spring to early summer, depending on grass species and seasonal variables such as rainfall and temperature. By early summer, most grasses have produced a fully mature seed head and have already begun to lose their ability to draw moisture from the soil.

Good rain across NSW has lead to both increased grass and crop growth. Many farmers are reporting the potential for some of the best yields in years. As harvest operations begin, operators and farmers alike will be closely monitoring conditions to ensure that their crop doesn't go up in smoke.

As the summer progresses, the grass continues to dry out and will eventually die or become dormant. As grasses cure, the amount of moisture within the grass decreases and the amount of dead material in the grassland increases, heightening the potential for fire to ignite and spread in these fuels.

A Harvest Safety Alert may be issued for your district when necessary. Harvest Safety Alerts provide a signal to farmers that they should be taking extra precautions during harvesting operations to prevent the ignition and spread of fire due to the prevailing weather conditions.

Grass Curing Guide and images provided by the Victorian Country Fire Authority.

GRAIN HARVESTING GUIDE

A very simple tool, the Grain Harvesting Guide enables farmers to measure their local weather conditions and determine if they should continue or delay harvesting operations due to fire risks.

GRAIN HARVESTING AND FIRE SAFETY

Is the wind speed too high for me to harvest right now?

1 Measure the current temperature, humidity and wind speed on your property. Average out the wind speed over 10 minutes and round down humidity readings.

2 Using your temperature and humidity readings, find the maximum recommended wind speed in the table. For example, a temperature of 40° and 15% humidity equals 26 kph.

3 If the wind speed you've recorded is equal to or greater than the wind speed in the table, it is recommended you do not harvest. Reassess weather conditions later.

Produced in partnership with the
NSW Rural Fire Service, NSW Farmers and
Australian Custom Harvesters



Current Relative Humidity

Current Temperature	5%	10%	15%	20%	25%	30%	40%	50%	60%	65%
15°C	31	35	38	40	43	45	49	53	56	58
20°C	29	33	36	38	40	43	46	50	53	55
25°C	27	30	33	36	38	40	44	47	50	52
30°C	25	28	31	33	35	37	41	44	47	49
35°C	23	26	28	31	33	35	38	41	44	46
40°C	21	24	26	28	30	32	35	39	41	43
45°C	19	22	24	26	28	30	33	36	39	40

Average wind speed (kph) that equates to 35 GFDI
If yes, it is recommended you do not harvest. Check weather conditions later.



FIRE DANGER RATINGS - www.rfs.nsw.gov.au/fdr
LATEST WEATHER - www.bom.gov.au

BUSH FIRE INFORMATION LINE - 1800 679 737
REPORT ALL FIRES TO TRIPLE ZERO - 000



>> INQUIRY INTO FIRE SEASON MAKES 76 RECOMMENDATIONS

The NSW government released the independent NSW Bushfire Inquiry report in August, examining the causes, preparation and response to the devastating 2019/20 bush fire season.

The six-month inquiry, announced by Premier Gladys Berejiklian in January 2020, was led by former Deputy Commissioner of NSW Police Dave Owens and former NSW Chief Scientist and Engineer Professor Mary O’Kane. After holding community meetings and taking nearly 2,000 submissions from across NSW, the inquiry made 76 recommendations for future improvements to how the state of NSW plans and prepares for, and responds to, bush fires.

The recommendations range from improvements to operational systems and processes through to significant research and policy changes, and many will take some time to complete. All 76 recommendations made by the Inquiry have been accepted by the NSW government and Resilience NSW, led by Commissioner Shane Fitzsimmons, has been tasked with coordinating and overseeing the implementation of the Inquiry’s recommendations.

Many of these recommendations apply to the NSW RFS, either directly or indirectly, and the Service has already started on work to improve the response to future bush fires.

“As the report highlights, we have learnt from previous events but the season of 2019/20 challenged conventional assumptions and tactics – and the way we prepare for and respond to extreme events,” said

Commissioner Rob Rogers. “We are already working on improvements including enhancing the way we detect and monitor fires, and how we can respond quickly to keep fires as small as possible.

“We are also implementing changes to further improve the way we deliver information to the community, especially in border areas, and we are continuing to focus on important mitigation work that can reduce the bush fire risk to NSW communities.

“The report highlights the incredible work of our volunteers, our partner agencies and the community working together, and it’s important to recognise that being prepared for extreme fire events isn’t just a job for firefighters or government – but for everyone in the community.”

The report, recommendations and the NSW government response are available online at www.dpc.nsw.gov.au/publications/categories/nsw-bushfire-inquiry.

The Royal Commission into the National Natural Disaster Arrangements following the 2019/20 fire season, announced by the federal government in February, is expected to hand down its findings in late October. ■

Photo: The Currowan fire rages near Nowra. Photo by Ned Dawson

VALE

COLIN BURNS

1947-2019

It has recently been confirmed that NSW RFS volunteer Colin Burns (of the Belowra Brigade in the Far South Coast Team) was on active duty at the time of his passing in December 2019.



On New Year's Eve 2019, Colin was defending his property 'Buckenjandra' in the township of Belowra, 50km northwest of Cobargo. Colin's property was the most northerly property in the Belowra Valley, and was expected to be the first property in the valley impacted by the Badja Forest Rd, Countegany fire.

Fire crews were deployed to Colin's property on 30 December for property protection, however were redeployed to protect the neighbouring township of Nerrigundah in the early hours of 31 December following a change of wind direction.

Two NSW RFS members left at Colin's property were withdrawn to the Belowra fire shed where residents had begun to seek

refuge and were in need of protection. Colin was expected to follow them in his ute, but tragically did not make it off his property. After the fire front hit, a neighbour went to check on Colin and found his remains in the burnt out ute at the perimeter of the property.

Colin was a long-serving member of the Belowra Brigade, initially joining in the late 1980s. He was a quiet achiever within the Brigade, always there when required – be it for a fire, hazard reduction or other incident within the area that needed the assistance of the NSW RFS. He also served as the Brigade RFSA representative for several years.

Colin was awarded his 10-year service medal in 2013 and 20-year medal in 2019 during the opening of the Belowra Brigade station that served as a place of refuge and security for many of the community on the day he was tragically killed. He is survived by his partner Estrelita Cabacungan.

At the time of his passing Colin was identified as a NSW RFS volunteer, however it was originally reported that he was acting as a civilian protecting his own property during the fire and not a volunteer on active duty. A detailed fact-finding investigation was subsequently undertaken and it was determined that Colin was on active NSW RFS duty.

As such, Colin's death will be recognised and treated as a death on duty. Colin will be posthumously awarded the NSW RFS Commissioner's Commendation for Bravery, and his name added to the NSW Volunteer Memorial and the National Emergency Services Memorial.



NEW HELICOPTERS TO ENHANCE

BY SIMON TOPP - COORDINATOR, OPERATIONAL SUPPORT

Three Bell 412 helicopters will be joining the fleet of Service-owned aircraft as part of plans to improve the NSW RFS aerial firefighting capabilities. Two of the helicopters have been funded by the NSW government, and the third is a donation from the Goodman Foundation.

The Bell 412 helicopters will join the existing operational RFS helicopter fleet of one Eurocopter AS350 and two BK117 helicopters.

The helicopters will be configured to service the Rapid Aerial Response Teams (RART), Helicopter Search and Rescue Teams (SAR) and some Remote Area Firefighting Teams (RAFT) programs.

Of particular note is that the NSW RFS will be installing forward looking infra-red (FLIR) cameras onto the new Bell 412 helicopters. These FLIR cameras will enable crew members to map fires, detect hotspots and assist with search operations.

One of the three aircrafts is thanks in part to a pledge from the Goodman Foundation, the philanthropic arm of Goodman Group, who in January 2020 announced a \$6.5 million donation.

RAPID AERIAL RESPONSE TEAMS

RART responds to new, remote bush fires in an attempt to quickly suppress these fires before they develop. RART consists of a crew of volunteer Remote Area Firefighters and the aircrew operating a medium helicopter capable of winching the firefighting crew into remote locations.

RART uses hand and power tools to contain fires with the support of the helicopter, which can drop water from its belly tank or bucket. RART has been found to be most effective following lightning strikes in dry fuels that can start new fires in areas difficult to access for tankers.

The Bell 412s will benefit the RART program by improving capacity and ensuring more winch-capable helicopters are readily available for firefighting crews from 2020 onward.

Photos: Aviation Rescue Crew volunteers training with Helitack 204 at Penrith. Photos by Matthew Lane.



INCE NSW RFS AERIAL CAPACITY

The cabin of a Bell 412 is spacious and the configuration of the aircraft allows both a water bucket and belly tank to deliver between 1,000-1,500L per water drop in support of ground-based firefighting crews. The on-board FLIR camera will be able to detect hotspots on remote firegrounds, ensuring more reliable and efficient extinguishment.

AVIATION RESCUE CREWS

Since 2014 the NSW RFS has trained and deployed helicopters crewed with volunteer Aviation Rescue Crew (ARC) to fires and floods as a Helicopter SAR resource.

ARC volunteers undergo competitive recruitment and testing in order to enter the ARC training program. ARCs are operational once they have completed their 12-month training in Certificate III in Aviation (Rescue Crew). Obtaining this national qualification enables ARCs to be deployed on helicopters for SAR operations.

Given the extremely dangerous conditions experienced during the 2019/20 bush fire season, the NSW RFS undertook 255 rescue callouts and performed 51 rescues with SAR helicopters. Most of the rescues were of civilians in the direct path of dangerous fires.

Bell 412s are equipped with rescue hoists (winches) and are capable of rescuing up to six personnel at a time. The FLIR camera will also be able to detect thermal signatures of missing persons in certain environments, enabling detection and rescue.

REMOTE AREA FIREFIGHTING

RAFT are deployed into remote environments to undertake essential firefighting activities away from trucks or support. Crews are trained and equipped to deploy into remote locations and be self-sufficient, including for overnight operations. Often RAFT deployments require aircraft insertion and extractions.

This may be via hovering, winching or landing. The new helicopters will act as a great addition to the existing fleet of agency-owned and contracted aircraft that already perform these roles in support of the NSW RFS volunteer crews doing such important work.

The first of the new Bell 412 aircraft are already operational, and the new callsigns will be 'Helitack 203' and 'Helitack 204'. The third helicopter is expected to be operational in early 2021. ■



WONBOYN NSP PROVIDES SAFE HAVEN FROM DEADLY FIRES

Wonboyn is a small isolated community on the NSW South Coast near the Victorian border, surrounded by kilometres of forest in all directions (except to the east) and with only one road in. The community has been proactive about its own fire protection for decades and the local NSW RFS brigade station has long served as the Neighbourhood Safer Place (NSP).

Over the 2019/20 summer, Wonboyn experienced a number of days when the sky turned to dark night with columns of smoke thousands of metres tall.

There were fires all along the South Coast on 4 January, but the Border fire ran further and faster than any others on that day and worried even seasoned firefighters. Most people had enough time to leave town, but not everyone in Wonboyn chose to leave.

The following is an account from Adele Thomson, the Wonboyn Brigade member in charge of the operation of the NSP.

Above: The aftermath of the Border fire near Wonboyn.
Photo by Malcolm Thomas.

“We had prepared for days and weeks before. We'd experienced a few Total Fire Ban days leading up to Christmas and also an unusually high number of days of severe fire danger. For every declared Total Fire Ban day, the NSP was activated, the trucks were out and the brigade was in stand-up mode.

We knew that we were heading for a fire event that would probably impact Wonboyn, and were closely watching the progress of the Border fire coming toward us from Victoria.

On 31 December 2019, Wonboyn and the surrounding area including Kiah, Narrabarba and Timbillica received an Emergency Alert SMS. Almost all Wonboyn residents who planned to leave left the town that day, a stream of vehicles headed towards Eden. Around 30 of us planned to stay and increased our efforts to prepare for the fire event.

Luckily, the wind abated and the fire did not approach the village area on New Year's Eve. Everyone was relieved, but we were anxiously waiting for the fire to come and focused on making our properties as fire safe as possible over the coming days.



Above: The drenching system in operation at the Wonboyn brigade station. Photo by Paul Cook.

The morning of 4 January was the last opportunity to leave. A few more residents decided to evacuate then because the smoke in the air was affecting their breathing.

People were basing their decision to stay or go on whether they thought they could deal with the psychological and physical demands of defending their place in the circumstances that we were facing.

That afternoon, the Border fire came to Wonboyn. We could see the glow coming from the south and southeast as daylight turned to a strange twilight.

My chooks started roosting as if it were night, their normal routine had kicked in even though the situation was anything but normal. Ash, smoke, blackened leaves and embers were coming in on the wind.

My husband Malcolm and I implemented our plan for our own property and went down to the NSP at around 2030hrs. I notified the people who intended to come down to the NSP that I was there to put the sprinklers on if needed.

We set up the NSP with a few chairs and tables, full buckets of water by the roller doors and mops to snuff out embers that might come underneath.

We weren't expecting very many people to come to the NSP. There were only 21 people left in the village – everyone else had been evacuated.

Some Wonboyn residents had identified where they'd hunker down on their own properties as the fire passed and some identified that they would be coming to the NSP as their plan B.

At around 2100hrs, we had four people at the NSP including Malcolm and me. The two others brought a sleeping swag and went up to the mezzanine level to sleep. I thought, "Wow, that's pretty chilled and self-sufficient." I suppose everyone has their way of dealing with difficult situations. Another seven people came to the NSP throughout the night when things started getting worse.

The sprinkler system is activated outside the NSP and the sprinklers are positioned on the roof and around the sides. When the sprinklers are turned on, the roof is blanketed by water and a veil of water cascades down the sides of the shed. We have four hours of water for sprinkler operations at full bore and needed to manage water consumption as circumstances required. At about 2200hrs we had a lot of wind swirling outside and hitting the roller doors – there were embers, ash and smoke and we



Above: The fire approaching Wonboyn.
Photo by Ian Williamson.

Right: Damage done by the Border fire.
Photo by Paul Cook.

could see the flames on the horizon, so I put the sprinklers on for the first time.

We had two fire fronts. The fire came from the south first, and then it came from the south-southeast as a second front. People in the NSP could see the flames, smell the smoke and feel the heat. They started to get a little bit more agitated, a little bit more concerned. I put the NSP sprinklers on again and I think they felt more comfortable.

After the first front had passed, conditions seemed to settle down and we thought we'd dodged a bullet with no houses lost. And then another fire front whipped around the back and started taking properties out. It roared through the town destroying sheds, houses and holiday cottages.

At that point, the various brigade trucks (Cat 2, Cat 7 and Cat 9) went out protecting properties where they could. It was really a fierce second fire front, and that's when the fire came across to the NSP. We could see the fire coming – it burnt all the way up Wonboyn Road, across from the NSP, partially up Gleeson Road on the eastern side of the NSP and all the way up Ivor Jones Drive on the western side of the NSP.

The flames were the height of the trees to the south, about 70m away. While it felt like we were surrounded on three sides, the cleared space around the NSP meant that there was no fire spotting near the NSP property, and with the sprinklers activated we did not sustain any fire damage.

At about 0730hrs on 5 January, with the second front passed, everyone left the NSP to get home and check what else needed to be done around our places. Two houses were lost to people who were at the NSP.

One individual was a member of the brigade and he went out on the trucks and started firefighting and patrolling for the village. The other two went home to survey the damage – they had lost their house, but still had their granny flat and were able to set up house there.

Peoples' expectation of the NSP varied. Some people had it as a backup and others just planned to go there. As an example, there was one couple whose plan was to stay and defend and hunker down at their place if the fire threatened. Their plan changed part way through the night and they ended up at the NSP.



As another example, one of our brigade members, Matty, and his dad were defending their place. Matty's mum was determined to stay and defend, but Matty insisted his mum come to the NSP as the situation was getting more difficult to manage. Matty delivered his mum to the NSP at around midnight. She was very upset, because she wanted to stay with them at home. Eventually she was comforted and settled, as much as you can be when you think your house is going to burn down and your husband and son are fighting a huge fire. Luckily, Matty and his dad saved their house.

Overall, four houses, about 25 sheds and five caravans in Wonboyn burnt down. Other houses sustained some fire damage and many gardens, orchards and veggie patches were burnt completely. The damage our village sustained is heartbreaking, but it could have been a lot worse.

On this occasion, we had time to evacuate. The fire had been burning for three days in the Nadgee waiting to make an attack. Those people who decided to go left in an orderly and smooth evacuation. Those who remained had written plans to follow to help them stay and defend, and had the NSP as a plan B if something went wrong.

Both approaches were valid. One advantage of remaining in the town in a safe position is that you

can quickly go back to your property once the fire has passed to deal with spot fires.

The Wonboyn NSP was not just a 'Safer Place' during the fire. After the main fire passed, we had other outbreaks over the next couple of weeks and the NSP served as a community hub.

The village had no electricity for ten days, no telecommunications for 11 days and the road was blocked by fallen trees. For five days we were cut off from the outside world and the shed was our community resource for the 21 people who remained.

The shed generator served as the community electricity for a week. We had toilets and showers, a kitchen and space for people to sleep. The station was a disaster recovery centre for the people. It was where we held all of our get-togethers.

We had numerous get-togethers, lunches and dinners for the village when we were cut off, and for the evacuated residents as they returned. The NSP has been an outstanding resource for our community. **”**

In line with the recommendations made by the NSW Bushfire Inquiry (see page 28 for more), the NSW RFS will be reviewing relevant brigade stations to ensure they meet NSP guidelines regarding Asset Protection Zones and protection systems.



UNDERSTANDING BUSH FIRE RISK, WARNINGS AND RESPONSES

LESSONS FROM THE 2018 REEDY SWAMP FIRE

Research into the 2018 Reedy Swamp fire on the NSW South Coast highlights how many people consider bush fire preparation as something that is undertaken when directly threatened by fire, not well in advance of an active threat.

The research, which investigated community preparedness and response, was undertaken by the Bushfire and Natural Hazards CRC, the University of Wollongong and Macquarie University, and commissioned by the NSW RFS.

By interviewing 120 people affected by the Reedy Swamp fire, the study addressed key questions relating to people's perceptions of bush fire risk, community planning and preparation, their response to warnings and their experience in the aftermath of fire. Importantly, the research found that many people believe preparing for a bush fire means actions that are undertaken when directly threatened by fire, not preparation activities that can be undertaken well in advance of an active fire threat.

Three key findings from research were:

- the risks of embers spreading fire into built-up areas
- the dangers of late evacuation
- the need to provide greater clarity in warning messages

Based on the findings, the NSW RFS continues to review and refine its approach to public information and warnings, and the structure and content of

warning messages. The Service is also piloting the use of Community Field Liaison teams to provide consistent messages and advice on the ground.

THE FIRE

On Sunday 18 March 2018, the Reedy Swamp fire impacted on the communities of Reedy Swamp and Tathra in the Bega Valley Shire on the NSW South Coast. It destroyed 65 homes and 35 caravans and cabins, and displaced approximately 700 residents on the day, as well as an unknown number of tourists and visitors to Tathra. Fortunately, no human lives were lost.

A Total Fire Ban was in place for the area on the day, and the Severe Fire Danger conditions experienced were unprecedented for the area at that time of year.

WHAT WAS FOUND

COMMUNITY PERCEPTION OF RISK BEFORE THE FIRE

Many residents within Tathra were not aware of the bush fire risk. People within the town had not considered that a bush fire could impact on Tathra or had not considered the potential for a bush fire to penetrate beyond the forest edge.

As such, these people had not adequately planned or



BY DR JOSH WHITTAKER, DR KATHARINE HAYNES AND CARRIE WILKINSON FROM THE UNIVERSITY OF WOLLONGONG AND THE BUSHFIRE AND NATURAL HAZARDS CRC, AND DR MATALENA TOFA AND DR MEL TAYLOR FROM MACQUARIE UNIVERSITY AND THE BUSHFIRE AND NATURAL HAZARDS CRC.

prepared for bush fire, while residents with properties within or adjoining the forest tended to be more aware of the risks and therefore more likely to have taken action to plan or prepare.

WHAT ACTIONS PEOPLE TOOK TO PREPARE

Many research participants described preparation as something that is done when a fire is threatening, rather than actions taken in advance of a bush fire. As such, levels of preparedness varied considerably among residents.

Main image: The fire spotted over parts of Tathra and burnt areas away from the main fire front. Photo by Ben Shepherd. **Above:** The bush fire threatens Tathra. Photo by Caleb Keeney, Timberline Helicopters. **Bottom:** The damage done to Tathra by the Reedy Swamp fire. Photo by Ben Shepherd.

Some residents appeared to have planned and prepared for last-minute evacuation, while others, who had not planned to leave, described a last-minute dash around their house to collect items they considered important to take.





HOW PEOPLE BECAME AWARE OF THE BUSH FIRE AND HOW THEY REACTED

Most people became aware of the fire by seeing or smelling smoke, or by communications with relatives, friends or neighbours. For some residents, knowledge that there was a fire nearby caused concern and motivated preparatory or protective action. Others noted the presence of the fire but did not believe it was a threat to Tathra and continued with what they were doing.

WERE PEOPLE ABLE TO IMPLEMENT THEIR FIRE PLAN?

Most of those who intended to leave were able to do so, but many reflected that they left too late. There were people who had not planned or prepared for bush fire who stayed to defend their own and neighbours' houses. Importantly, most of those who did have a plan were able to implement it.

INFORMATION SOUGHT ABOUT THE BUSH FIRE AND HOW IT WAS OBTAINED AND USED

Many people sought information about the fire through direct observation of smoke and flames and the activities of neighbours and emergency services. The loss of electricity, mobile phone reception and issues relating to the broadcast of emergency information into the local area impeded the delivery of warnings, information and advice.

HOW DID VISITORS TO THE AREA RESPOND TO THE BUSH FIRE?

A range of local businesses were hosting non-residents when Tathra came under threat. All accommodation providers were able to alert their guests to the bush fire and instruct them to evacuate. Some evacuations occurred as the fire was impacting on Tathra. Mandated evacuation plans and emergency procedures assisted the evacuation process.

COMMUNITY EXPECTATIONS OF WARNINGS AND INFORMATION, PARTICULARLY IN KNOWN MOBILE PHONE COVERAGE BLACK SPOTS

Most interviewees were aware of the limited mobile phone coverage in the Tathra and Reedy Swamp areas. Some had considered that they might not receive a SMS warning in an emergency, others expected warnings and advice to be provided earlier, before power and communications infrastructure failed.

There was an expectation that local media would provide ongoing coverage of emergency warnings and information throughout the fire.

Some interviewees suggested that a siren or klaxon should be installed to alert people of an emergency in the event that telecommunications infrastructure fails.

Below: More damage to Tathra by the Reedy Swamp fire. Photo by Ben Shepherd.



THE EFFECTIVENESS OF WARNINGS AND THE RESULTING ACTIONS TAKEN

Many did not receive warnings or received warnings late, leading to uncertainty and confusion about whether, when and where to evacuate to. Those who received warnings found them useful in confirming the threat posed by the fire and the need to take action. Others who received a warning advising them to seek shelter were unsure what it meant.

DID THE TIME OF YEAR INFLUENCE HOW PEOPLE RESPONDED?

Some interviewees had been aware that the day of the fire was forecast to be a day of Severe Fire Danger, however, some expressed surprise that such a destructive bush fire could occur in mid-March. A small number of interviewees discussed how their belief that the bush fire season was over influenced their preparedness and response.

HOW DO PEOPLE INTEND TO PLAN, PREPARE AND RESPOND TO BUSH FIRES IN THE FUTURE?

Interviewees reflected on specific changes they would make to their properties, with many who left at the last moment saying they would leave earlier in a future bush fire. Those who stayed to defend identified the need for better equipment and resources, and a number who evacuated said they would not leave in the future. Interestingly, some said they would remain within the fire affected area only to avoid the inconvenience of being prevented from returning.

OPPORTUNITIES TO INCREASE COMMUNITY AWARENESS AND PREPAREDNESS

Bush fires like the Reedy Swamp fire offer valuable learning opportunities for people in bush fire risk areas. This research presents opportunities to increase awareness and understanding of the risks to coastal communities. Consideration should be given to including experiences from fires such as this in community engagement and education materials.

The study suggests a need for more education and advice about the dangers of late evacuation and a need for greater dialogue and clarity of warning messages.

It also shows the opportunities to increase community awareness and preparedness in built-up areas through clearer communication of the potential for embers to carry fire into these locations, well beyond what many believe to be the interface between forests and houses.

Find out more about this research at bnhcrc.com.au/research/reedyswamptaskforce.

Importantly, research into community experiences of the devastating 2019/20 fire season is now underway. If you were affected, you're invited to share your experiences. Interviews will be conducted online at a convenient time.

For more details about this research project and to register your interest in being interviewed visit www.bnhcrc.com.au/research/resilience-hazards/7090.



WHAT RESIDENTS SAID

On being better prepared to leave early next time:
“I’d just take off very quickly. I wouldn’t wait. No, I’d take off very quick. And if it [the house] burns, it burns. Because you just don’t know where it’s going to go, you know. Your life is the main thing.”

On how businesses hosting visitors responded to the fires:

“There was a lot of hesitation with people not wanting to leave. They had a look at the website themselves. Went, ‘yeah, no, I don’t think it’s gonna come this way’, because there were a lot of rumours going around at the time saying it probably wasn’t gonna hit that far. So, people weren’t overly concerned.”

On the time of year that the fire occurred:

“Yes, I was surprised at the timing. My word, yeah. This late in the season. We should be hazard reducing. We should be lighting fires now, not preventing them.”





SMOKE MODELLING – THE ART AND SCIENCE

BY NIC EVERARD-SHEPLEY AND LAURENCE MCCOY – PREDICTIVE SERVICES

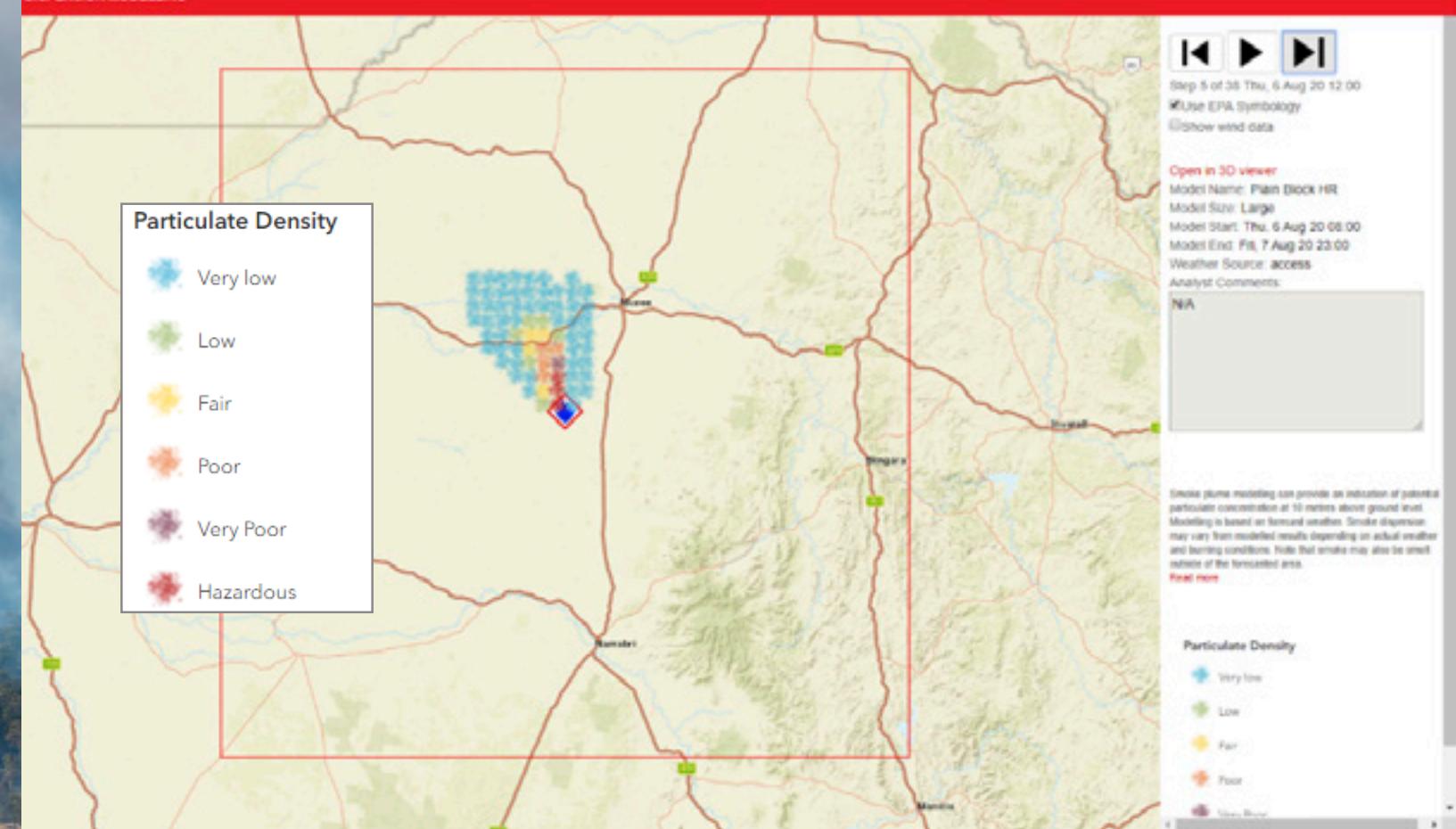
The air quality impacts associated with bush fires and hazard reduction activities around major population centres have gained widespread media coverage in recent years. Since 2011, the Predictive Services team at NSW RFS has provided modelling to help inform decisions around prescribed burns.

The NSW RFS began its smoke modelling capability to not only help inform decisions for Prescribed Burn Supervisors, but also to provide the community with more accurate information on potential smoke impacts. More recently, research has highlighted potential impacts of poor air quality from bush fire and hazard reduction smoke, particularly on vulnerable people such as those that suffer from heart disease or lung conditions (such as asthma).

In response, the NSW RFS has been working with government agencies to develop protocols to manage and communicate the impact of smoke to the community. These protocols have resulted in smoke modelling becoming routinely undertaken by Predictive Services.

Currently, smoke modelling can be conducted on any prescribed burn throughout the state regardless of the organisation undertaking that burn. Due to the concerns relating to the impact of smoke during the COVID-19 pandemic, current guidelines released from State Operations require all burns greater than 50ha within the state to be modelled and all burns greater than 10ha which may have an impact on the Sydney basin to be modelled. This is to assess risk to vulnerable communities.

Generally, small burns (less than 50ha) have a local or temporary impact on air quality. Sometimes when several burns (small and large) are scheduled at the same time, the combined impact of all the smoke may need to be considered.



Main: Smoke from the Green Wattle Creek fire settling over the Greater Sydney Basin. Photo by Ned Dawson. **Above:** A raw smoke model output showing potential particulate density for a hazard reduction near Moree in August 2020.

This is especially the case when significant outdoor events such as marathons are scheduled. Decisions as to whether a burn can proceed are carefully considered by weighing up factors such as the importance of the burns and the potential impact.

Modelling is also utilised to determine optimum burn windows to minimise impact on air quality. Increasingly we are seeing the request for modelling to incorporate several days. This allows a prescribed burn manager the opportunity to select the most appropriate day for the burning activity that presents the least risk of significant smoke impact to nearby communities.

Once a prescribed burn manager has identified a burn window, they will make the request for smoke modelling and provide critical information such as burn windows, size of burn area, planned burn intensity and type of fuel. With this data, the State Duty Fire Behaviour Analyst (FBA) is able to run the model.

Once a model is completed, the State Duty FBA is able to analyse the results and add commentary in regards to potential smoke dispersion qualities and potential considerations for prescribed burn managers. The image above illustrates the raw model outputs before commentary is added, showing the different levels of smoke particulates within the atmosphere colour-coded as to their density.

The model shows the predicted direction and density of smoke particles in hourly time steps.

Once this has been analysed by FBAns and Meteorologists, the State Duty FBAn will collate the analysis into a report which is sent to the relevant prescribed burn managers for perusal and discussion. The report can then be used to help determine if conditions are indeed suitable for prescribed burning.

In order to get the most accurate dispersion model, Predictive Services requires accurate information. Firefighters and Prescribed Burn Supervisors can help improve the accuracy of the modelling by providing details of burn progress and photos of fire behaviour via Collector and ICON.

The NSW Bushfire Inquiry (see page 28 for more information) made several references and recommendations regarding smoke management.

The NSW RFS continues to collaborate with the Department of Planning, Industry and Environment to invest in operational air quality forecasting and alert systems, public health research and policy development.

If you have any questions about smoke dispersion modelling, you can email the FBA inbox at FBA@rfs.nsw.gov.au.



>>> THE HOT STEPS

BY HAYLEY KATZEN, EWINGAR BRIGADE

On an autumn evening in 2017, our crew took our places on the Ewingar community hall's low wooden stage. A motley chorus line of seven members of the NSW RFS Ewingar Brigade. Richard, our Captain, insisted he couldn't and didn't dance. Paul, the Senior Deputy Captain, picked up the steps quicker than anyone. My partner Jen groaned and said, "No! I haven't got the first bit yet".

Nadine, initiator and choreographer, laughed. Recently moved to the area, she'd joined the brigade and we, the Hot Steps, were now to perform 'YMCA' at her 40th birthday party. I appreciated having another woman and a novice out on the fire line. Jen and I had joined back in 2003 in the wake of the 2002 fires that had destroyed Jen's mudbrick home and all she'd built over 21 years. Back then, five years into our relationship, I still lived in town and Jen on the farm. I barely knew the names of the women or men in this small community. To me, the men were simply the 'big beards'.

Slowly, very slowly, after our Basic Training, Jen and I became more involved with the brigade. The blokes eventually acknowledged Jen was an asset – years of farm work had made her strong, and she'd always been practical. In contrast I, an academic city-slicker, feel a little silly even describing myself as a firefighter. But a decade ago, when the brigade was still a boys' club, they elected me President.

This role has become my one opportunity to use my facilitation and administrative skills to contribute to the community.

Over these last seventeen years, the brigade has gradually changed. It's no longer a boys' club: the old guard has retired from active duties, their bodies wearied and aching after years of manual work. A reluctant Jen wears the stripes of a Deputy Captain and we have ten women as members. When a new bloke moves to the area – particularly if they're under 50 – I quickly ask, "and what about your partner? Tell her to come. It's a good group – there's a job for everyone and good info to handle the fire season." I don't tell them how slogging it out together on the fire line engenders a respectful relationship which facilitates conversations and honesties we'd formerly have thought impossible.

The YMCA rehearsals were a precious moment in time – but one that would seal us together as a crew.



Previous page: Hayley and her partner Jen. **Above:** Hayley (centre) with Paul Botting and Nadine Myers, members of the Ewingar Brigade. Both photos courtesy of Hayley Katzen.

We laughed, danced, sweated and urged each other on. Nadine would suggest a new step. Karen, who drives the Cat 2, would say, "I don't know if I'll remember all this." Boris would smile. I'd shake the day's thinking out of my shoulders as the cogs in my brain cranked noisily with the sequence of steps. As the weeks wore on, I learned more about the others, their hopes and longings and safety zones.

After years of feeling alone in this predominantly heterosexual community with a high percentage of single men, I began to be myself more – show myself. Oddly, fifteen years since that 2002 fire when I first began to know this community, I sniffed a feeling of belonging.

"OK," said Nadine. "Let's go again – how about we throw in some thrusts?"

"Like this," said Paul, moving his hips double time, his goatee bobbing fast.

"Jeez, I'll have to practice that one," I said.

"What a queer line up we are," said Jen as we assembled on the stage. "Heterosexuals and dykes all playing gay men." ■

Below: The Ewingar Brigade following the 2019/20 fires. Photo by Catherine Marciniak.



Hayley Katzen is a South African-born lawyer who moved to her girlfriend's cattle farm in the Australian bush where she joined the NSW RFS in 2003. Her writing has won competitions, been read on ABC radio and been published in Australian, American and Asian journals and anthologies. Her debut memoir, Untethered, is out now.

► SUPPORTIVE EMPLOYERS GO ABOVE AND BEYOND

NSW-based businesses and employers were recognised in July by the NSW RFS for their vital contribution of enabling and encouraging their volunteer firefighter employees to protect the community.

Supportive Employer Awards were given to 12 businesses this year, ranging from small and large businesses to international corporations and government agencies.

The 2020 NSW RFS Supportive Employer Award recipients were: Royal Prince Alfred Hospital, Camden Council, BAE Systems, Australian National University,

Department of Education EDConnect, Coles Australia, Fujitsu Australia Limited, Australian Prudential Regulation Authority, Shaw Contract Group Australia, Goodman, NTT Ltd and Fowler Road SSP Merrylands.

“While the time and effort that volunteers put in is clearly visible, this couldn’t happen without supportive employers behind the scenes,” said Commissioner Rob Rogers.

“I would like to thank all employers who provide leave to NSW RFS volunteers, especially those that did so during the protracted and unprecedented conditions of the last fire season.”

► NEW FIRE CONTROL CENTRES FOR HARDEN AND TAMWORTH

A \$6.1 million Fire Control Centre (FCC) for the South West Slopes Zone in Harden was officially opened in September. The new FCC replaces the old council-managed FCC in Harden and provides the NSW RFS and other agencies with a state-of-the-art emergency control facility in the area.

The purpose-built centre has the technology, space and functionality for up to 50 people to work together in response to large and complex emergency events.

It includes dedicated operations and planning rooms, catering facilities and a large storage shed.

In Tamworth, the council approved the development application for a new purpose-built FCC in June. The new building, to be built on council-owned land on Country Road in Westdale, will include state-of-the-art training facilities and an emergency helipad.

► NSW RFS TO SUPPORT PUBLIC ACCESS DEFIBRILLATION

Plans are afoot for NSW RFS to join a NSW Ambulance Service program to make more lifesaving defibrillators available and improve survival rates from heart attacks, particularly in remote areas.

Under the Public Access Defibrillation program, when a person goes into cardiac arrest, other emergency vehicles which carry an Automated External Defibrillator – such as some NSW RFS vehicles – will be called out to attend.

This will apply for priority 1A cardiac arrests and paramedics will be responded at the same time. It is hoped the early intervention will be crucial in saving lives.

The NSW RFS has agreed to support the program in principle, however will consult with brigades about the rollout of this program.



► YOUNG LEADERS SET FOR NEW EXPERIENCE

Alex Schofield (above left) of the Kundabung Brigade and Shauna Cassidy (above right) of the Narrabri Brigade have been chosen as the winners of the 2020 NSW RFS Young Leader Scholarship.

The Scholarship allows two young members between the ages of 18 and 23 to take part in an 11-day voyage aboard the STS Young Endeavour, run by the Australian Navy. Following strong interest in the scholarship and a high calibre of applicants from across the Service, Alex and Shauna were chosen for their commitment and identified leadership potential.

It will be an exciting experience for the pair, neither of whom have ever been on the open ocean. The voyage develops teamwork and leadership skills, and creates a strong sense of community responsibility among members of the crew.

While the voyage has unfortunately been delayed due to COVID-19 restrictions, the Young Endeavour is hoping to set sail with its NSW RFS crew members in October.

► NSW RFS WINS AWARD FOR COMMUNICATIONS DURING FIRE SEASON

The NSW RFS Public Information Unit was recognised in June for its efforts during the 2019/20 fire season as the winner of an Australian Emergency Media and Public Affairs (EMPA) Award for Excellence in Emergency Communications in the Response category. EMPA is one of the largest networks of media and communications people working in the emergency management sector.

During the 2019/20 season, the unit issued an unprecedented 430 Emergency Alert campaigns, involving 340,529 voice messages and more than 2.14 million text messages, in addition to reaching more than 189 million unique Facebook users on social media.





ST FLORIAN'S DAY INTERNAL BRAVERY AND SERVICE AWARDS 2020

The fourth of May is the Feast Day of St Florian, patron saint of firefighters, and International Firefighters' Day. On this day each year, the NSW RFS usually holds an internal awards ceremony to recognise the bravery and outstanding service of volunteers and members.

The awards recognise volunteers and staff who have gone above and beyond – either by showing incredible acts of bravery in protecting the community or delivering the highest level of commitment to the Service that is worthy of special recognition.

In all cases, the recipients are nominated by their peers, which makes receiving an award on St Florian's Day even more significant and special.

This year the ceremony could not be held due to restrictions on gatherings as a result of COVID-19. Instead, Commissioner Rob Rogers has written to each member, with a formal ceremony to be held when it is safe to do so.

"The past twelve months has been an incredibly difficult and testing time for many of our members.

Working through drought, the fire season and now the COVID outbreak," said Commissioner Rogers.

"It's important that we stop to recognise the extraordinary efforts and sacrifices our volunteers make each and every day to serve their communities."

Given the protracted and intense nature of the 2019/20 fire season, the Service recognises that many of our members would have missed out on the opportunity to submit nominations for awards ahead of St Florian's Day.

As such, the NSW RFS established a second round of nominations, to which there was a great response. These nominations are now in the final stages of consideration, with further awards to be made later this year.

2020 RECIPIENTS

Commissioner's Commendation for Bravery (individual)

- Captain William Ross – Spencer Brigade, Central Coast, Area Hunter
- Senior Deputy Captain Alison Wade – Spencer Brigade, Central Coast, Area Hunter

Commissioner's Commendation for Service (individual)

- Captain Gregory Speed OAM – Orchard Hills, Cumberland Zone, Area Greater Sydney
- Retired Group Captain Warwick Teasdale – Killcare/Wagstaff, Central Coast, Area Hunter

Commissioner's Certificate of Commendation (unit)

- Captain William Pokarier, Deputy Captain Thomas Stanton and Firefighter Stephen Forrester – Goodooga, Far West Team, Area Western
- Crescent Head Brigade – Lower North Coast Zone, Area North Eastern

- Far North Coast Senior Management Team – Area North Eastern
- Southern Tablelands Zone Strike Team Echo 1 – Area South Eastern
- South West Slopes Zone Senior Management Team – Area Western

In addition to those named as part of the St Florian's Day Internal Service and Bravery Awards, the NSW RFS would also like to recognise those who received posthumous awards after tragically losing their lives during the past fire season.

- Deputy Captain Geoffrey Keaton
Commissioner's Commendation for Bravery and
Commissioner's Commendation for Service
- Firefighter Andrew O'Dwyer
Commissioner's Commendation for Bravery and
Commissioner's Commendation for Service
- Firefighter Samuel McPaul
Commissioner's Commendation for Bravery and
Commissioner's Commendation for Service



AUSTRALIAN FIRE SERVICE MEDALS 2020

The Australian Fire Service Medal (AFSM) is awarded for distinguished service by a member of an Australian fire service. Congratulations to the eight NSW RFS members who were awarded an AFSM as part of the 2020 Queen's Birthday Honours List, recognising their commitment to the community.

FRANK AUSTIN

Captain
South West Slopes,
Area Western

Captain Frank Austin joined the Mundarlo Brigade in 1960 and has been an active member ever since. He has held the position of President since 2003 and Permit Officer since 2018, and held the position of Deputy Captain from 1985 to 1996.

Captain Austin is a leader within the NSW RFS in the Gundagai area and a strong advocate of volunteer training across the area. As a Group Officer from 2003 to 2007, he not only promoted training, but also undertook the same training he expected his members to undertake.

He has also worked tirelessly to ensure the Mundarlo Brigade continues to have an active and motivated membership that is able to respond to needs of the community.

Captain Austin is still an active member of the Service and as recently as the 2018/19 fire season he was part of an out-of-area strike team to fires burning in Kosciusko National Park. Captain Austin's commitment and dedication to the NSW RFS and his community service is recognised by his peers both within and external to the agency.

KENNETH MARK EGLINGTON

Group Captain
Far North Coast,
Area North Eastern

Group Captain Kenneth (Mark) Eglington joined the Cudgen Brigade in 1990, rising through the ranks over time and holding the positions of Deputy Captain, Senior Deputy Captain and Captain before becoming Group Captain in 2006. As well as his duties as Group Captain, he is a very active member with Cudgen Brigade and was awarded Life Membership in 2010.

In 2001 and 2006 Group Captain Eglington and his family donated land to enable the Cudgen Brigade to build a station and subsequent extensions.

In 2015 he was a finalist for the Rotary NSW Emergency Service Community Award for NSW RFS Officer of the Year and in 2016 he was named the Tweed Shire Volunteer of the Year.

Group Captain Eglington is passionate and totally committed to ensuring all members upgrade their skills and qualifications. For decades he has been involved in instructing and mentoring at training courses in the district. He was also the driving force behind the Far North Coast Relief Fund that raised \$40,000 for the Cobargo community after the devastating 2019/20 bush fires.



AUSTRALIAN FIRE

JOHN ANDREW FOSTER

Deputy Captain
Cumberland,
Area Greater Sydney

Deputy Captain John Foster has been an active member of the NSW RFS since joining the Regentville Brigade in 1982 and is currently an active member of the Mulgoa Brigade.

He has held a number of leadership roles, such as Deputy Captain and Captain of the Regentville Brigade, and was elected a Deputy Group Captain for the Cumberland Zone in 2005, then Group Captain – a position in which he served until 2018.

While Captain of the Regentville Brigade, Deputy Captain Foster developed the brigade into the strong and resilient unit it is today. He managed the construction of three stages of building upgrades to the current brigade station, and has also managed and driven many other building projects in the Cumberland Zone.

During his time as Captain at the Regentville Brigade, Deputy Captain Foster was a strong advocate for the brigade to expand into the area of marine firefighting. He has also attended and provided important operational leadership at many incidents throughout NSW, including the 2006 Weddin Mountain fire as well as many fast moving, high impact bush and grass fires in the Cumberland Zone and surrounding areas.

TERRENCE JOHN JOB

Firefighter/Group Captain
(Retired)
Mid Lachlan Valley, Area Western

Firefighter Terrence John Job joined the West Parkes Brigade in March 1966. During his almost 53 years of service he has held the positions of Deputy Captain, Captain and Group Captain (from which he recently retired), and remains an active member of his brigade.

In his role as Group Captain, Firefighter Job is highly regarded in the local community and had significant involvement in several major incidents in the local area. He has also travelled all over NSW, leading strike teams to places including the Blue Mountains, Nowra, Tamworth, Canberra and interstate to Victoria.

Firefighter Job was instrumental in starting the NSW RFS Cadet program at Parkes High School, which has been running for the past 14 years with an average of 18 students per year. Without his dedication and presence, this program would not have continued for so long.

The cadet program is so popular that each year more candidates apply than there are available places and a large percentage of these students have progressed to become full-time members of the NSW RFS.

KENNETH JAMES HALL

Firefighter/Chief Superintendent
Far South Coast,
South Eastern

Chief Superintendent Kenneth (Ken) James Hall joined the NSW RFS in 1988 as a volunteer of the Condobolin Brigade. In 1995 he became the Honorary Fire Control Officer (FCO) for Lachlan Shire before being appointed as FCO for the South West Slopes Zone. He relocated to Batemans Bay in 2002, where he commenced in the position of Regional Operations Manager before being promoted to Regional Manager South in 2010. He remains an active volunteer with Long Beach Brigade.

During his time at South West Slopes Zone, Chief Superintendent Hall played an integral role in successfully negotiating the first Zone budget for the Service, which proved to be the benchmark for future zoning arrangements for the NSW RFS.

Throughout his career, Chief Superintendent Hall has shown a proactive and professional approach to management. His extensive experience in operations has seen him appointed as the State Operations Controller and Major Incident Coordinator for several large and complex incidents. His significant knowledge and expertise in Incident Management saw him selected to undertake the Incident Controller Major Incidents development program, in which he has gone on to become a mentor for future candidates of the program.

SERVICE MEDALS 2020

PETER MIRANDA

Deputy Captain/District Manager
Sutherland, Region East

Deputy Captain Peter Miranda started his career in 1977 when he was employed by Sutherland Shire Council in the Bushfire Prevention Crew and has worked his way to District Officer. In 1978 he joined the Headquarters Brigade as a probationary member and in 1978 he was voted Deputy Captain, a position he still holds today.

For the past 42 years, Deputy Captain Miranda has continuously made himself available operationally, attending a significant number of incidents across the Sutherland Shire and Section 44 out-of-area incidents.

Deputy Captain Miranda has shown sincere compassion and kindness to both the members and family of his brigade, as well as the local community. After the tragic loss of five firefighters from his brigade in 1980, he unselfishly spent the following years supporting the three grieving families where he could by mowing lawns, taking cars for servicing, performing general maintenance and just being there for them.

Deputy Captain Miranda's working career as the District Officer has seen him oversee the construction of 11 new brigade stations within the district, including the first-of-its-kind purpose-built floating fire station for Woronora.

MICHAEL BERNARD NEYLAND

Group Captain
Riverina Highlands,
South Western

Group Captain Michael Neyland joined the Adelong Brigade in January 1973 at the age of 16, and is an active member of both the Adelong and Mt Horeb Brigades. He was Adelong's Deputy Captain from 1990 to 2002, Senior Deputy Captain from 2002 to 2004 and Captain from 2004 to 2005. From 2003 to 2015 he held the position of Deputy Group Captain before being elected to Group Captain in 2015.

Group Captain Neyland currently holds the position of Group Captain and is responsible for the guidance of four of the Riverina Highland's most remote rural brigades. He has great local knowledge and the ability to pass this knowledge on to new members, out-of-area crews and Incident Management Team personnel on a regular basis.

Group Captain Neyland is renowned for his often unorthodox approach to firefighting and has a reputation of being able to get the job done, particularly in trying or complex situations. He is not afraid to voice his opinion and will bring forward what others are thinking. Due to this approach Group Captain Neyland has gained the respect of NSW RFS members from across the state.

CHRISTOPHER SHARP

Group Captain
Chifley Zone/Lithgow Team,
Area Western

Group Captain Christopher Sharp joined Portland Brigade in 1990 and immediately became a very active member. He was voted in as a Deputy Captain in 2001 and took on the role of Senior Deputy Captain in 2006, a position he held for more than ten years. In 2008 he became a Deputy Group Captain and held that position until he was voted in as a Group Captain in 2015.

Group Captain Sharp has been instrumental in promoting training in his area, reviving group training days in the northern area of the Lithgow District and ensuring the creation of a single Training Committee across the Bathurst, Oberon and Lithgow districts. He provides all levels of training and has gained high-level skills in Chainsaw and Village Firefighter training, as these skills are sought after across the Chifley/Lithgow District.

Currently all members of the Lithgow District hold the necessary and appropriate training levels thanks largely to the work of Group Captain Sharp and his dedicated team of trainers. He is also a representative on the Chifley/Lithgow Senior Management Team, a well-respected, dedicated and committed member of the NSW RFS and a great mentor for current and new members. ■



► NSW RFS CREW NAMED AUSTRALASIAN FIREFIGHTING CHAMPIONS

The Kootingal/Moonbi Brigade made history in October 2019 by becoming the first NSW RFS crew to win the Australasian Firefighter Championship in Tamworth.

The biannual event, run by Fire and Rescue NSW, sees teams from across Australia and New Zealand compete against each other in a range of activities that replicate operational situations and showcase the skills and expertise of a modern firefighter.

Each year the Fire and Rescue NSW Firefighter Championships Association conducts three Regional Championships at venues across the state, with a State Championships event every second year, alternating with the Australasian Championships. The Kootingal/Moonbi team have been competing at the Regional and State Championships since 2005 and the Australasian Championships since 2009, travelling to New Zealand, Port Macquarie, Launceston, Echuca and Tamworth to compete.



The Championships differ from the NSW RFS State Championships in that each of the ten or more events is run on the competition track, against the clock, with strict rules and defined penalties.

Events are designed to replicate operational situations, with a strong emphasis on safety. A team of up to 12 officials keep an eagle eye on the competitors during the events to ensure that rules are not broken.

Initially, the Kootingal/Moonbi team struggled with the unfamiliar events but, with mentoring by other teams and plenty of practice at home, they have developed into the team to beat. The crew train for the event in the paddock behind their Captain's house, where he has installed a hydrant and floodlights over the track, with the hydrant charged from the Cat 1 tanker. There is even a light in the hydrant pit so they can train in the dark.

In 2019 Kootingal/Moonbi won the three Regional Championships conducted at Armidale, Wyong and Berry, then capped off a successful year with a convincing win at the Australasian Championships held at Tamworth, winning four of the ten events with three other podium finishes. They took out first place ahead of Fire and Rescue NSW teams from Bega and Nowra in second and third place respectively.

While it is a fine achievement to win the title, the brigade's main objective is to be more proficient and efficient firefighters. Congratulations to all who competed, and particularly our winners from Kootingal/Moonbi. ■

Above: A Kootingal/Moonbi member competes at the Championship. **Left:** Members of the winning team with the trophy. Photos courtesy of Australasian Firefighting Championships.

DAVIDSON CELEBRATES 70TH ANNIVERSARY

The Davidson Volunteer Rural Fire Brigade celebrated its 70th anniversary on 14 September 2019. On behalf of the NSW RFS, Inspector George Shepherd presented Captain Trent Dowling and President Richard Stewart with a plaque recognising 70 years of operation.

The Brigade – formerly known as Forestville Brigade – was formed in the aftermath of a large fire in the late 1940s between Roseville Bridge and Forestville.

The brigade was initially established in Cannons Parade, Forestville and the first vehicle of the station was a 1928 Essex ute with a 44-gallon drum as the water supply. In 1976, after many years of successful operations, the brigade moved to its current address in Davidson.

The modern capability, together with the recently expanded station, provides first-class resources in the Northern Beaches area to defend lives and property in the event of fire, and increasingly in the wake of storm damage. The area has one of the most extensive bush frontages in Australia, recognising the continued requirement for locally-based bush firefighting resources.

Local fires of note have regularly occurred, the largest incidents being in 1979, 1994, 2001, 2002 and 2005. Despite the welcome recent pause in local fire activity, the brigade regularly contributes to out-of-

.....
50-year members Jeff Cree (**below left**), and Chris Ballantine (**below right**). Both photos by Kyle Parker.



area firefighting, with deployments around NSW, Tasmania, Victoria and Queensland in recent years.

Many will know of the brigade's most notable member, former Prime Minister Tony Abbott, a current Deputy Captain. Among the other 140 members are two 50-year veterans, Chris Ballantine and Jeff Cree, whose wonderful milestones of community service were recognised at the anniversary. ■

A MAJOR MILESTONE

Recognising 50-year members

Jeff Cree AFSM

Jeff is a former Captain and Life Member of Davidson Rural Fire Brigade, a retired Deputy Group Captain and AFSM recipient. In 1968 Jeff joined the Berowra Bushfire Brigade and later transferred to Davidson when the Forestville Brigade relocated to Borgnis Street in 1976. His commitment to the Davidson Brigade and to the NSW RFS has been immeasurable.

Chris Ballantine

Chris joined the Forestville Bush Fire Brigade in 1966 and in November this year will have completed 54 years of continuous active service with Forestville/Davidson. He was integral to the establishment of the Davidson Brigade in 1976 when Forestville was relocated, and is the last member of the original Forestville Brigade still active in the brigade today.



OUR BUSH FIRE bulletin HISTORY

Bush Fire Bulletin,
Autumn 1978

PAGE THIRTY-ONE

www.ozimage.com

Exotic Disease Exercise at Armidale

At a briefing held prior to the opening of a simulated exotic disease outbreak at Armidale last November exercise director Mr B. W. Bootes said that an outbreak of foot and mouth disease in Australia would cost the country approximately two thousand million dollars.

The specially prepared exercise organized by the Department of Agriculture was designed to help prepare local authorities to contain and eradicate an outbreak of foot and mouth disease should it ever break out in Australia.

Assisting the Department of Agriculture were representatives from the New South Wales Police Disaster Squad and Stock Squad, the Highway Patrol, State Emergency Services and Bureau of Animal Health. Natural Disasters Organisation representatives were also in attendance as observers.

An expert in exotic disease overseas, Mr A. L. C. Browne, Chief Veterinary Officer of the British Ministry of Agriculture and Fisheries who played a key role in fighting a serious outbreak of foot and mouth in Britain several years ago acted as umpire for the exercise.

The exercise, code named "Exercise New England", had its headquarters situated at the University of New England and was held over 2 days. It consisted of firstly identifying the outbreak, finding its source, isolating the affected properties and then eradication of affected stock.

The exercise provided an invaluable training situation for all involved and was declared a success by all concerned.



Top: The exercise headquarters, with the two SES mobile headquarters on either side, at the University of New England.

Above: Agriculture Department inspectors examine one of the "infected" beasts during the exercise.

BUSH FIRE bulletin ON TROVE



The NSW RFS has joined forces with the National Library of Australia to digitise the entire collection of the Bush Fire Bulletin dating back to September 1952.

All editions of the Bush Fire Bulletin are available online and are fully searchable, making this huge historic archive easily accessible.

This collection brings to life the important work our members have undertaken over the years and makes the history of the NSW RFS available for all of Australia and the world to see.

You can search place names, brigade names, dates and fire-related topics such as "fire trails" or "large air tanker".

TROVE

HOW TO SEARCH BUSH FIRE BULLETIN ON TROVE

On the Library page of the NSW RFS website, you will find links to browse the various collections of the Bush Fire Bulletin.

You can also search for articles on a particular topic (such as the town of Merriwa) by using the link provided and following the instructions.

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Cover photo: Husband and wife Noel and Kate Kessel. Noel is a member of the Cottage Point Brigade and Kate is a registered nurse at St Vincent's Hospital, Sydney. Photo by Noel Kessel.



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