

BUSH FIRE bulletin



The journal of the
NSW RURAL FIRE SERVICE



HELPING COMMUNITIES IN NSW AND ABROAD

- DEPLOYMENT TO CANADA
- NEW RESPIRATORS ROLLED OUT ACROSS THE STATE
- MEET OUR NEW FOUR-LEGGED FIREFIGHTERS

LIFTOUT: THE NSW RFS
AERIAL FLEET



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Acknowledgement of Country

The NSW Rural Fire Service (NSW RFS) acknowledges the Traditional Custodians of this country and their continued connection to land, sea and culture. We pay our respects to the resilience and strength of Elders past, present and emerging and extend that respect to all Aboriginal peoples.

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FOREWORD

As we head into 2022, I am struck by how the start to this year feels very similar to the start to 2021. Our state – and Australia as a whole – is dealing with another wave of COVID-19 infections and hoping the new year will bring better tidings. Of course, in 2022 we are in a much better position to tackle the COVID-19 threat thanks to the high vaccination rates in NSW.

But this does not mean that there won't be fresh challenges. As members of an emergency service, we always need to remember that our role is to protect the most vulnerable people in our communities. When it comes to COVID-19 that means following the current health advice and adhering to the restrictions put in place to keep you and the public safe.

If you are not already vaccinated, I strongly encourage you to do your bit for your community and get vaccinated. Many NSW RFS members will now also be eligible for the booster vaccination, depending on when they received their second shot. Again, I encourage our members to take up this opportunity to increase their protection against COVID-19 and ensure minimal disruption to our service delivery.

At the time of writing, the 2021/22 season has so far seen little significant fire activity in NSW. Our crews have been kept busy across the state but so far no homes have been threatened. The same cannot be said of our colleagues in Western Australia, where serious fires burned in December. The NSW RFS was quick to lend a hand and provide aerial support to firefighting agencies in Western Australia.

Despite the lack of significant fire activity in NSW so far, our members will need to remain vigilant to the threat of grass and crop fires in the coming months, particularly for areas west of the Great Dividing Range.

The last few months of 2021 saw the Service deliver on many of our priority projects. I particularly want to focus on the rollout of new respiratory options to all firefighting appliances across the state. You can read more about the respirators we have selected and how they will be rolled on page 14 of this edition.

I'm very proud that we are making these respirators available to better protect our members, and would like to thank the NSW RFS and Brigades Donations Fund for the funding that has made the rollout possible.

I also want to note the launch of a couple of very important projects in the digital space – the new One NSW RFS member website and the eMembership portal. Together, these projects represent an important step forward for the Service and will make life easier for our members when it comes to accessing news and information, changing your membership details or playing a role in the enrolment and approval of new members.

I am very pleased with what we achieved in 2021, and excited for what we will achieve in 2022. There is still significant work to do to ensure that our frontline members have access to the training and equipment they need and deserve.

Finally, I would like to warmly welcome our new Minister for Emergency Services and Resilience, Steph Cooke. I recently spent some time with the Minister both at NSW RFS HQ and out on the road meeting our members, and look forward to working closely with her in the future. I would also like to thank our outgoing Minister, David Elliott, for his continued support of the Service and its members and wish him well in his new posting as Minister for Transport and Minister for Veterans.

Regards,

Rob Rogers AFSM
Commissioner



@RobRFS





AUSTRALIAN FIRE SPECIALIST FIREFIGHTERS IN CANADA


In July 2021, a contingent of 55 Australian fire management and specialist personnel were deployed to Canada to assist firefighters battling wildfires in British Columbia, following a request from the Canadian Interagency Forest Fire Centre.

Nearly 1,000 individual wildfires burned in northwestern Ontario amid drought-like conditions. The forest fires burned nearly 80,000 hectares of land across Ontario in 2021, the most on record in the province in a single year.

55 Australian personnel were deployed over four weeks to Canada and completed two weeks of hotel quarantine upon their return to Australia.

Personnel from Australian emergency services included 22 NSW RFS members, ten from Fire and Rescue NSW, three National Parks and Wildlife Service members, three from NSW State Emergency Service and 17 from Western Australia.





ALISTS ASSIST DA



Above: NSW member Ash Morrow (front row, centre) with Canadian firefighters on the fireground. **Below:** Ash Morrow on deployment in Ontario. Photos courtesy of Ash Morrow.

Ash Morrow, a volunteer from the Canobolas District, was one of the NSW RFS members deployed to Canada. A member for almost eight years, Ash specialises in aviation firefighting roles such as Air Observer.

He shares his first-hand account of the Canadian deployment below.

“ When Australia faced the devastating fires of the 2019/20 season, NSW was greatly assisted by the Canadian authorities. This deployment in 2021 gave us the opportunity to return the favour, and I wanted to experience how things were done in Canada – suffice to say, it is very different to here in Australia.

I performed two roles while I was deployed in Canada – the first was Sector Fire Boss, based out of Bak Lake, and the second was Helitack Technician, based out of Red Lake.

Below: The Bak Lake heli-base. Photo by Rolf Poole.



Both of these locations are in northwest Ontario. These roles are very different to anything I am used to in Australia. However, given that both roles were airborne, I was fortunate to have experienced aviation training through the NSW RFS which assisted me immensely.

A typical day for me would start at 0700hrs when we would check on weather conditions and fly out to the fireground. From there, we briefed the Canadian fire crews on their daily objectives and warned them of any impending weather. Because the terrain is so remote, all fire crews camp for 14 days on the fireground and the only access to them is via helicopter. This complicates things if anyone needs to return to base for a medical emergency or if weather hinders aircraft from delivering supplies such as food and water.

During the day we would stay 'overhead' of the crews, flying, to ensure the fire was behaving the way we anticipated. This allowed us to effectively task and monitor crews over such a vast and remote landscape. It was a very challenging experience as we had to coordinate food deliveries for all personnel on the ground (sometimes up to 50 people), rubbish removal (for bears), along with gear placement and retrieval.

All of these tasks had to be done via helicopter and float planes, which take a lot of coordination and management both in the air and on the ground with support staff.

I would have an operations meeting at 2000hrs each night where each of us would give an update on our respective fires to the Incident Management Team (IMT) and then finish work at 2100hrs, before getting ready for bed and doing it all again the next day.

The Canadian shifts we were aligned to were 14 hours long and we would do 14 days in a row, have two days off and then start again. Some of the teams that went over didn't do quite as many days as others due to shift staggering, but over the deployment everyone did very long hours. Overall, I did more than 100 hours of flight time while I was in Canada, which demonstrates how heavily aviation is utilised over there.

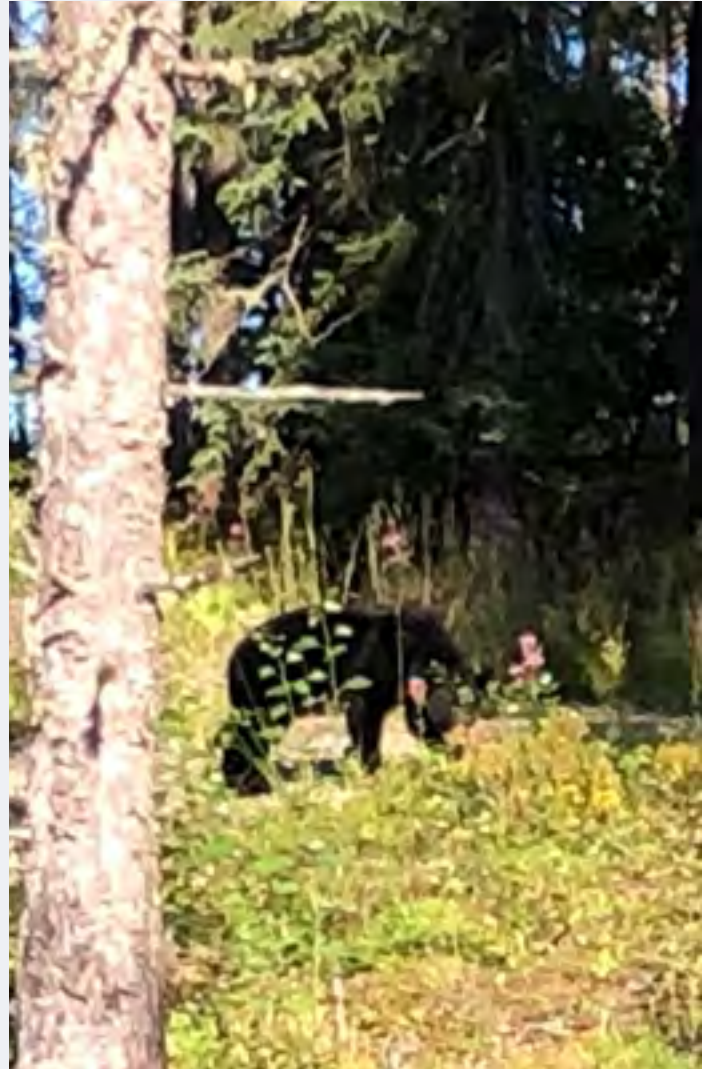
Some key differences I noticed are that the majority of Ontario firefighters don't use fire trucks as we would expect in Australia. Rather, they use copious amounts of hose and pumps and walk it all in by hand, taking an approach not too dissimilar from our remote area firefighters.

Below: The bear during Rolf Poole's emergency evacuation of the Griffith crew. Photo by Rolf Poole.

As Canadian firefighters have an abundance of water (20 percent of the world's fresh water stems from Ontario), they run hose lines around the perimeter of the fire edge and use hand tools to extinguish and drown any active fire. At first it seems ineffective to be running upwards of 5km of hose around a fire, however once you familiarise yourself with their operations and terrain, there really is no other way of completing the task.

Another unique challenge we faced were bears. These animals are a consideration for nearly all aspects of the firefighting operation in Northern America. Usually they stick to themselves, however there are strategies to work around bears if they become problematic. Sometimes a bear encounter might mean relocating the crew, or even relocating the bear. Thankfully, I could count on one hand all of our close encounters, and nobody was injured.

Looking back on the deployment, the biggest highlight of the trip for me was the first two weeks when I was deployed to Bak Lake. It is the northernmost point in Ontario you can access by road and was extremely remote. Here we were based with a small team of Incident Management personnel and were flying north again to access fires. Due to the remoteness, I was able to gain an appreciation for the Canadian landscape and culture and made some great friends. This was definitely the most remarkable memory for me. ”



Inspector Rolf Poole, District Coordinator and Deputy Fire Control Officer for the Hornsby/Ku-ring-gai District, was also deployed to Ontario to assist Canadian fire agencies battling the deadly wildfires. In his own words, here is Rolf's extraordinary experience.

“ For the first 14 days of our deployment, our Australian IMT was based out of Bak Lake to oversee the management of more than 27 fires. Bak Lake is a Forward Attack Base (FAB) managed by the Ontario Ministry of Natural Resources. In the northernmost point in Ontario, the roads are only accessible during the deep winter, when the lakes freeze over by 1.5 metres to create ice roads, as featured in the TV show 'Ice Road Truckers'.

The Ontarian firefighters operate in four-person crews transported via medium helicopters or amphibious float planes capable of landing on the lake systems or airstrips.

Crews are required to be self-sufficient and work remotely. The crews work for 14-day periods, camping on the fire line and are responsible for a few kilometres of the fire line. They are flown in with camping gear, food and equipment and each crew is supported by a Helitack Technician to oversee their daily needs.

The Sector Fire Boss and Operation Chief provide the crew with strategy and tactics and maintain an overview from the air across the vast fireground. These established firefighting systems are centred around the terrain. Northern Ontario is remote and isolated, yet generally very flat.

Below: Rolf Poole, Chris Hendry, Bryan Meyers and Scott Griffith safe in a new location shortly after their bear encounter. Photo by Rolf Poole.



The landscape is covered in lake systems with no more than a few kilometres in any direction to the next nearby lake. Therefore, fire crews are accustomed to establishing pumps and hose lines, without the use of firefighting appliances as we do here.

The fire can sometimes smoulder for weeks, well below the surface in the duff layer and crews have to spend considerable effort to mop up and continue patrolling hotspots for days or weeks.

The Bak Lake IMT managed three fires of concern by deploying the fire crews to line camps and supporting them with water bombing aircraft. Our main objective was to prevent further fire spread towards communities. In each of the threatened communities, sprinkler systems were established. These systems involved pumps at the ready at the nearest lake, with hoses laid and sprinklers strategically placed around structures and assets.

As fire approaches, crews fly in, activate the pumps and fly out to the next location. For remote and isolated assets or communities, this is an effective approach. It would not necessarily work in an Australian urban interface environment.

For my second rotation, I was based at the Red Lake Fire Management Headquarters (FMH) as Operations Chief/Incident Controller for one of the large fires, Red16. This fire had been burning for more than a month. While weather conditions had started to ease, the FMH was still managing a considerable number of fires and significant blacking out and mopping up. The dense duff layer required crews to dig up hotspots and spend days preventing the hotspot from burning underground.

The black bear is a common hazard in these parts of North America. Normally an inquisitive animal, it can be scared off by human contact and noise. But in times of drought when their natural food source of berries is scarce, they seek out the food available at line camps.

During a daily reconnaissance flight, we received a call from the FMH advising that a crew required immediate assistance with an aggressive bear in their camp. The crew had followed procedure and contacted the FMH using their satellite phone. We were the nearest aircraft and were requested to assist in relocating the crew. In the ten minutes it took us to get there, the predatory bear had made various advances and had also false charged the crew.

Below: Rolf Poole and Scott Keelan with an Ontario fire crew.
Bottom: A fire line camp in Ontario, Canada. Photos by Rolf Poole.



We made radio contact on approach and the crew leader Scott Griffith, replied shaken and breathless.

It was clear that they were in a serious situation. As the crew came into our sights we could see the three firefighters running to the helipad located on the lake edge with the bear about 10 metres away, chasing them. The crew were backed up against the lake, with nowhere to run, and only hand tools to defend themselves.

The pilot brought the helicopter low over the crew and used the rotor downwash to scare off the bear, which scampered into the bushes and ran up a hill away from the crew. The bear then paused, appearing to take a breath. We circled around to check the crew and keep an eye on the bear. As we came around, the bear was already making its way back down the hill towards the crew.

The pilot made a quick landing, the crew got on board with their equipment as quickly and safely as possible. We were mindful that the bear did not appear to be put off by the helicopter.

Afterwards, the crew spent a night at the FMH and were happy to return to the fireground the next day at a new location, to continue their work.

Firefighting techniques and incident management practises utilised around the world vary. It's becoming increasingly important for agencies to share resources and learn from each other. I will take away a great deal of learnings and hope that I contributed towards their objectives. The crews and Incident Management personnel were fantastic to work with and if the opportunity presents itself, it would be great to work with them again. ”



➤ BR9 HELMETS ROLLOUT UPDATE

More than 38,000 of the new BR9 helmets have been distributed to volunteers throughout the NSW RFS. At more than 80 percent completion, the project has hit an unexpected delay due to a global shortage of a critical raw material required by the supplier in the helmet production process.

An acceptable alternative has been identified, and has undergone rigorous testing and certification as required by the supplier before it can be used. This has unavoidably slowed the distribution process. The internationally-supplied alternate ingredient is now being purchased and transported to resume manufacturing as soon as possible.

It's estimated that production will resume in February 2022. In anticipation of a potential supply chain issue, the NSW RFS has ensured alternative sources of suitable helmets before the rollout project commenced. As such, the HF46 helmet remains under contract and available if needed through the normal ordering process.

Finished stock of this helmet is available and ready for immediate distribution from the Sydney warehouse. For those members who are yet to receive their BR9 helmets, the Service will provide updated delivery dates when more information becomes available.



➤ FIRST SOD TURNED FOR NEW AVIATION CENTRE OF EXCELLENCE FOR REGIONAL NSW

The first sod was turned at the new NSW RFS Aviation Centre of Excellence in November 2021. Construction of the \$5.6m facility is set to begin in early 2022 at the NSW RFS Training Academy in Dubbo.

Commissioner Rob Rogers joined NSW Premier Dominic Perrottet, Deputy Premier Paul Toole, Member for Dubbo Dugald Saunders and the then Minister for Police and Emergency Services David Elliott at Dubbo Airport for this significant event, in anticipation of the new facility that will boost the Service's emergency response capabilities in the Central West. When completed, the centre will house four state-of-the-art simulators as well as two dedicated training spaces, 27 accommodation rooms and other amenities.

While in Dubbo, the Premier also announced multi-purpose firefighting helicopters to be based at three key regional locations, including Dubbo Airport, Tumut and Coffs Harbour. These locations will allow for rapid deployment regionally during the bush fire season and will further assist other emergency services.





➤ CAD ROLLOUT CONTINUES

The new Computer-Aided Dispatch (CAD) system is one of the largest internal system changes the NSW RFS has ever seen, redefining how we respond to incidents. Introduced in early 2021, CAD is an integrated dispatch system that enhances our response to incidents by automatically ensuring the closest, most appropriate resources are dispatched.

26 of the 45 NSW RFS districts are now operating on centralised dispatch arrangements and using CAD with positive feedback. A further 16 districts will be on-boarded onto central dispatch and CAD in 2022. These districts include: Liverpool Ranges, Namoi Gwydir, Northern Tablelands, Lower North Coast, Northern Rivers, Far North Coast, Clarence Valley, New England, Lower Hunter, Hunter Valley, Blue Mountains, Hornsby/Ku-ring-gai, The Hills, Southern Border, Mid Murray and Mid Lachlan Valley. The remaining three districts will be integrated in 2023.



➤ UPDATE ON ARDUOUS PACK TESTS

Following an incident in early 2021 where a NSW RFS Mitigation crew member suffered a cardiac arrest during an Arduous Pack Test, the NSW RFS suspended Arduous Pack Tests across the state and commenced a review of current practices associated with the test.

Now completed, the review found that while current pre-screening methods and practices are safe and appropriate, there are opportunities to enhance these to further reduce the risk to members.

The report contains a number of recommendations relating to the process, all of which the NSW RFS have accepted. Arduous Pack Testing has resumed, with the recommendations, including changes to the pre-screening process and enhancements to the medical assessment, to be implemented by the Service by early 2022.

The report is available to read on One NSW RFS. For more information on the review or the changes to the process, please email healthy@rfs.nsw.gov.au.

➤ STATE-OF-THE-ART FIREFIGHTING HELICOPTER DONATION

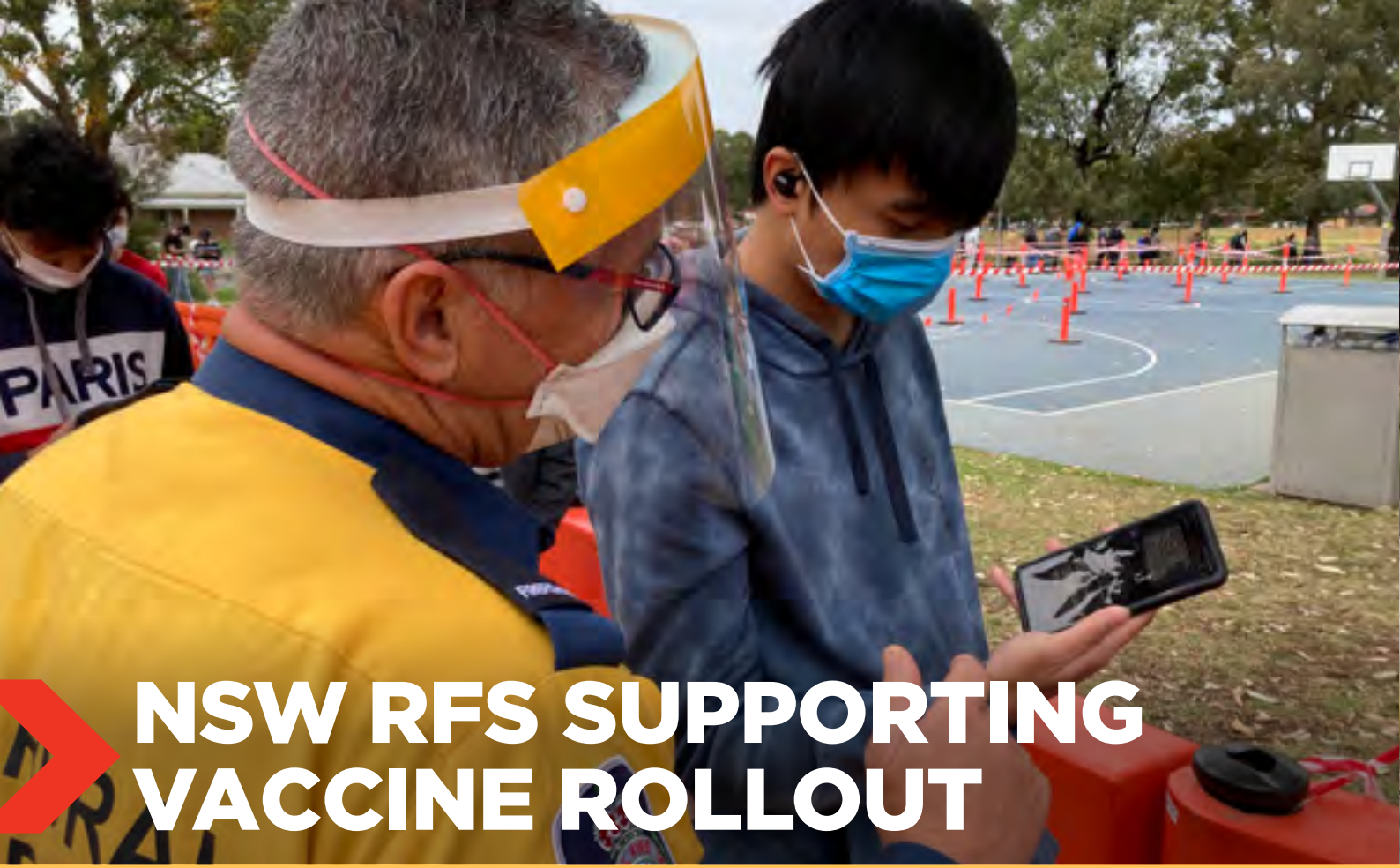
In November 2021 the NSW RFS welcomed the arrival of a customised Bell 412 helicopter. The newest member of the aviation fleet was donated by the Goodman Foundation as part of their \$6.5 million pledge to support Australian communities following the Black Summer bush fires of 2019/20.

After the Goodman Foundation announced the donation earlier in 2021, work began to procure and reconfigure a new helicopter to meet the specific NSW RFS requirements.

The helicopter is equipped with a winch, belly tank and surveillance camera for use in firefighting operations, search and rescue and down the wire insertions and extractions.

Commissioner Rob Rogers welcomed this addition to the fleet: "it's fantastic to have the support of the Goodman Foundation through this first-of-its-kind partnership approach. The state-of-the art firefighting helicopter is now a valuable additional resource for us to protect people in the communities we serve."





NSW RFS SUPPORTING VACCINE ROLLOUT

In July 2021, an outbreak of the Delta strain of COVID-19 that started in Sydney's eastern suburbs quickly moved into the Fairfield LGA in Sydney's southwest. Within a short time, many of the cases in NSW were coming from the Fairfield LGA despite strict lockdowns. Fairfield quickly became a focus point for health officials due to the rising COVID-19 cases and the understanding that many of Sydney's essential workers resided in this area.

NSW Health set up a pop-up vaccination centre at the Prairiewood Community Centre within the Fairfield LGA on 14 July 2021 to lift vaccination rates in the area. The NSW RFS was heavily involved from the pop up clinic's establishment, with volunteers from the Macarthur District contributing more than 1,500 hours to assist NSW Health and St John Ambulance Australia staff deliver almost 70,000 vaccinations.

The vaccination hub at Prairiewood was originally intended to operate for several weeks to vaccinate local school teachers and aged care workers.

However, the initiative was extended and the NSW RFS provided assistance for a period of two-and-a-half months. NSW Health closed the Prairiewood vaccination pop-up at the end of October, after delivering approximately 90,000 vaccines since it was established.

Main top, above and right: NSW RFS members providing support at the Prairiewood Community Centre pop up vaccine clinic.

Far right: NSW RFS volunteers assisting at the one-day 'pop-up' hub at the Lao Buddhist Temple in Edensor Park. All photos by Andrew Macdonald.





The NSW RFS members involved were tasked with checking vaccination appointment details, performing health screenings, assisting frail and infirm persons, assisting members of the public with using mobile phone applications, couriersing the vaccines, establishing pop-up vaccination hubs at offsite locations, crowd control and general site logistics.

One off-site vaccination hub that NSW RFS members assisted with was the establishment of a one-day pop-up hub at the Lao Buddhist Temple at Edensor Park. The purpose of these pop-up hubs was to facilitate access to the vaccine for minority groups of people in western Sydney that may otherwise not receive the vaccine due to cultural, language or other differences and difficulties.

Macarthur NSW RFS member Alex Dupuy (pictured below) has Lao heritage and was able to provide valuable interpreting assistance to NSW Health staff. ■



PITCHING IN TO KEEP COMMUNITIES SAFE



In late July, when the threat of the COVID-19 pandemic crept beyond the sandstone curtain to regional centres such as Dubbo, Wilcannia and Bourke, our tireless NSW RFS members rose to the challenge.

Operation 'Assist NSW Health Far West Complex' commenced on 3 August 2021, with mitigation crews constructing an emergency services hub in Wilcannia and a group of 30 volunteers and staff from the Far West Team involved in its coordination. The group was tasked with delivering hundreds of food and care parcels to isolated residents in tiny towns scattered over an area that is two-and-a-half times the size of Victoria.

Inspector Craig Warwick, District Coordinator 2IC for the Far West Team, says while the project was a change of pace for many members, it was just another example of what our people do to help each other.

"We had two groups of six working two shifts per day – morning and afternoon. Sometimes they were out all day as some towns such as Wanaaring were a 420km round trip away," says Craig.

"The focus started in Wilcannia and then moved to Bourke, Brewarrina and other smaller outlying areas. Our role was firstly to establish the base camp for Health, Police, NSW SES and ADF personnel in Wilcannia, which our people set up in only two days.

"Then, the focus was on getting food and other essentials to vulnerable and isolated people in a safe, contactless way. But a secondary role was just being a friendly face to people who may not have seen or spoken to anyone in days."

Indigenous mitigation crew member Burra McHughes was part of a team delivering food parcels to the Brewarrina community. He acknowledges the importance of COVID-safe contact with vulnerable community members.

"It was good to have a yarn to people and help them understand more about what we were doing, so that they weren't scared or confused," says Burra.

"A prime example is the Wilcannia base camp, many locals were untrusting.

"As a local Ngemba-Mirrawarri man, I am proud to explain to my people how we are helping them, keeping them safe and why getting vaccinated is so important."

By mid-October 2021, the crisis was all but over. NSW RFS personnel had put in 2,500 man-hours starting on 3 August 2021 and delivered 3,000 care packages to 15 villages and towns.

Feedback from community leaders and NSW Health agreed that without the assistance of the NSW RFS the community would not have been able to stop the spread of COVID-19 as quickly or had as many of the community vaccinated.

Michael Amos, a Group Captain in the Bourke District, coordinated teams from local brigades delivering care packages within the Bourke LGA.



Top left: Far West Wilcannia NSW RFS COVID-19 base camp. Photo by Dez White. **Above:** NSW RFS setting up the Wilcannia COVID-19 response camp. Photo by Sarah Conlon.

Below: NSW RFS delivering hampers and care packs directly to people at home affected by COVID-19.

“People were very thankful for the help, it’s been a challenging time for many,” says Michael. “It made a stressful situation so much easier.”

Michael agreed it was also an opportunity for people to have a chat – socially distanced of course. “People needed that connection after being isolated for so long, and our people were happy to oblige.”

Michael said one of the main challenges, aside from the distances, was that in many cases only a nickname would be given rather than an address.

“We would get to the village and had to flag someone down to help find particular residences,” says Michael. “It was also hard when it rained, as we’d be slogging away on muddy roads going 40km/hr. But, ultimately, this project really shows the breadth of assistance our people give.”

He said in the Bourke team alone, the local information base included a range of occupations – from a bus driver, to a teacher, retailers, a welder, a retired grazier and people in hospitality and care.

“All have knowledge of the town and its people and brings something different to the table in a crisis,” he observes. “It’s not all about putting out fires. I always say, you help yourself when you help others.”

Burra McHughes agrees: “Being part of the NSW RFS is more than bush fire training, putting out fires or preventing new ones. The work was different to what I normally do, but it’s what I do – I help my community and you do what needs doing.” ■



FAST FACTS

- 3,000 food hampers and care packs delivered in Bourke Shire, Central Darling Shire and Brewarrina Shire LGAs.
- 2,500 total personnel hours devoted to the operation from the Far West Team including brigades from Bourke, Brewarrina, Goodooga, Wilcannia, Menindee and Ivanhoe.
- Swabbing crews worked in the Bourke Shire since the start of August 2021.
- Far West Staff attended almost 70 Local Emergency Management Committee meetings.



NEW RESPIRATORS COMING TO A FIREFIGHTING APPLIANCE NEAR YOU

The NSW RFS has started rolling out new respiratory options to all firefighting appliances across the state, following testing and evaluation by members.

A total of 100 members were selected to evaluate respirators and to provide feedback on the fit, comfort, quality, compatibility and usability of the Respiratory Protective Equipment (RPE). In total, six different brands of half-face and full-face RPE were assessed.

Following an open market tender process, the NSW RFS selected the Dräger X-Plore 3500 half-face respirator and Dräger X-Plore 5500 full-face respirator.

A selection of half-face and full-face respirators, along with ABEK P3 canisters, will be allocated to each appliance based on their category. The rollout is appliance based as it is the most effective method of ensuring that a respirator is always available when needed.

The number of respirators is determined by the seating capacity of the vehicle and configured in a way that provides the most flexibility and sizing options to the members on the appliance.

This is also how the NSW RFS currently treats both CABA and disposable P2 respirators, by making them issued and stored on appliances, then (in the case of CABA) cleaned and restowed after use.

Providing half-face and full-face respirators enables a greater range of options in size and practicality to ensure that all members have access to RPE.

The ABEK P3 canisters are compatible with both types of respirator and allow for members to select which option suits their needs best.

Selection between half-face and full-face respirators often comes down to personal preference on respirator type, as both provide the required level of protection.

For example, half-face respirators are good for people who wear glasses or other specialised eye protection, and are also good for crew leaders who may need to doff the respirator to provide communication on the fireground.

Full-face respirators, on the other hand, have the advantage of providing eye protection without the need for goggles and also provide increased protection from radiant heat.

Members can review both respirators provided and select the appropriate respirator for their needs.

The Dräger 3500 half-face respirator is provided in small, medium and large sizes. It is predicted that the majority of members will be able to utilise a medium-size respirator. Those who are unsure can don the medium to undertake a fit check and, if needed, can try another size.



The Dräger 5500 full-face is a universal size and will fit everyone. If there is a specific reason you're unable to fit any of the respirators provided, there are alternative options available.

Both half-face and full-face respirators provide the required level of protection for bush firefighting, and the ABEK P3 canister was selected as it provides protection from hazards found in bush fires, structural fires and car fires.

However, it's important to note that the new respirators are not a replacement for CABA, where oxygen deficiency, high levels of carbon monoxide/dioxide or elevated air temperatures may be present.

Respirators are suited to a variety of smoke conditions, however they are to be used in medium to heavy bush fire smoke where you can't remove yourself from the area. This may include situations where you have limited visibility or there is a level of smoke that may cause irritation of the throat/eyes.

Both the half-face and full-face respirator are cleaned in a very similar manner to CABA. The respirators need to be cleaned after each time they're used, before another member uses them.

Cleaning is important for maintaining hygiene, so respirators shouldn't be put away dirty for the next person to find. The cleaning process for respirators is similar to how brigades have cleaned CABA for many years, and is a proven method of keeping the equipment clean and hygienic.

Key to the cleaning process is removing the canisters and washing the respirator in clean, soapy water. Once the respirator is cleaned, it needs to be dried thoroughly before storing away again.

Photos: The Dräger X-Plore 3500 half-face respirator (left) and Dräger X-Plore 5500 full-face respirator (right).

Cleaning spray has been provided with each kit as part of the rollout, and you can find an instructional video on how to clean the respirator on One NSW RFS.

The respirator rollout program is made possible thanks to the NSW RFS and Brigades Donations Fund and the generosity of the Australian and international community following the 2019/20 fire season. The rollout program is already underway and is aiming for completion during the first half of 2022.

The introduction of reusable negative pressure respirators has seen a review and amendment of Service Standard 5.1.9. - Respiratory Protective Equipment. You can see the amended Service Standard on the One NSW RFS website.

In addition to the rollout, collaborative work is continuing with the University of Wollongong for ongoing review and studies focused on better understanding the smoke hazards and impacts to our members on the fireground.

This will further inform and continue to identify the best methods of prevention and protection for NSW RFS members.

More information and instructional videos on the respirators and their appropriate use, care and functionality is available on One NSW RFS. If you have feedback or questions about RPE, you can also email the team at RPEfeedback@rfs.nsw.gov.au. ■

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NEW WEBSITE TO KEEP MEMBERS UP TO DATE

The One NSW RFS website launched in August 2021, providing members with convenient access to all the latest NSW RFS news, documents and events. The website was one of the nine priority projects outlined in 2020 by Commissioner Rob Rogers. Replacing the previous staff intranet and MyRFS portals, the One NSW RFS website is designed to be easy to use and mobile friendly.

WHAT YOU NEED TO KNOW ABOUT ONE NSW RFS

- > On One NSW RFS, members can find information on every Service-related topic, including Health and Wellbeing, Training, Community Engagement and much more.
- > One NSW RFS is also the convenient new place to find all the relevant tools, forms, policies and documents relevant to your role in the Service.
- > Members are able to share news, documents and events in the new dedicated Area and District 'communities' spaces.
- > Members are able to view and manage personal information and access NSW RFS applications such as ACTIV and COP in the new Member Portal.
- > Members can also submit and update their COVID-19 vaccination status via the Member Portal on One NSW RFS.

- > Members in brigade leadership roles can access additional information and reports in the portal to help them manage their brigades.
- > Some content from MyRFS has moved or is no longer available. If you have feedback on content, please email memberwebsite@rfs.nsw.gov.au or use the feedback form on the site.

ACCESSING ONE NSW RFS

- > You can access One NSW RFS at one.rfs.nsw.gov.au using an internet browser (Google Chrome is preferred) on any computer or mobile device. You will need to log in using your previous MyRFS or RFS ACTIV login details.
- > If you are both a volunteer and a staff member, you will need to log in using your volunteer login to view your volunteer details.
- > Clicking the yellow helmet icon after logging in allows you to update your personal information such as contact details and vaccination status.



➤ NEED MORE INFORMATION ABOUT ONE NSW RFS?

There are a range of resources including training materials, videos and FAQs available on the One NSW RFS website. If required, you can reset your password using the online password reset tool at <https://reset.rfs.nsw.gov.au>. You'll need your username or volunteer number and surname.

If you don't have these details, please contact your District Office, Brigade Captain or Secretary.

If you have any technical issues such as logging in to One NSW RFS or resetting your password, please contact the NSW RFS Service Desk on 1800 005 123 or servicedesk@rfs.nsw.gov.au.

If you have additional questions, feedback about the new website or ideas for future improvements, please contact the team at memberwebsite@rfs.nsw.gov.au. ■



Main image and below: Screenshots of One NSW RFS homepage.
Photos this page: NSW RFS members – both volunteers and staff have a new member website. Images courtesy of Adam Hollingworth



RESEARCH PARTNERSHIP INVESTIGATES SAFETY IN NSW RFS TANKERS

One of the Commissioner's nine priority projects announced in 2020 centres on the design of NSW RFS fire appliances. As part of the project, the NSW RFS has engaged the world-renowned Monash University Accident Research Centre (MUARC) to improve the protection offered to firefighters when travelling in fire appliances.

Given the unprecedented circumstances of the 2019/20 fire season, in particular the tragic loss of members and the number of vehicles badly damaged, the Service needs to ensure the design and safety of fire appliances is fit-for-purpose for the future. This project will investigate issues around the design of fire appliances and features such as the ability of the cabin to withstand tree strikes and other falling objects.

MUARC is one of the world's largest injury prevention research institutions, established in 1987 by the Victorian Government and Monash University to respond quickly to road safety issues. Since then, MUARC has partnered with organisations and emergency services across Australia and the world to improve road and vehicle safety.

"If you operate a vehicle in any environment, it's a combination of factors that result in a safety risk," says Dr Carlyn Muir, Associate Director and senior researcher at MUARC. "Road safety is a system problem. It's not just about the design of vehicle, it's about the interaction of a wide range of factors

including the design of the road network, the road safety legislation in that state, the mix of traffic, the operating environment, other drivers on the roads and so many other factors.

"Because of this, there is a whole range of elements that determine what safety looks like on the road – vehicle design is only one part of that. There is likely to be lots of other things that can be managed and targeted, not just vehicle design."

When it comes to the design and safety of NSW RFS appliances, MUARC's role is to assess the best risk mitigation strategies for rollover and falling object protection. Given the complex nature of the firefighting environment and the myriad factors that can contribute to damage to vehicles, any proposed solution is likely to combine a range of measures such as appliance design, safety protocols and driving behaviours.

"If you only focus on a vehicle design solution, you may not adequately address your problem or get the safety benefits you're looking for," says Dr Muir.

Main image and below: NSW RFS vehicles on firegrounds during the 2019/20 season. Photos by Ned Dawson.

“Changing a vehicle’s design can potentially create new risks, so any design solution has to be supported by changes to the system.”

MUARC is currently analysing NSW RFS data on past incidents to establish an evidence base that identifies the risks faced by firefighting vehicles. The research project is quite a significant undertaking that will link together all datasets across the entire NSW RFS organisation that relate to incident response and vehicle safety. MUARC’s expertise in analysing such data will enable the team to focus on the specific risk factors that result in poor outcomes.

Following the analysis of the data, the MUARC team will engage NSW RFS members – both volunteers and staff – through a survey and the creation of focus groups to learn more about the circumstances that led to past incidences of rollovers and near misses.

This engagement is expected to begin in February 2022, and more information will be provided to

members in the near future about how you can participate.

While it is important to note that the research project is still in progress, the MUARC philosophy is likely to present a number of potential strategies to minimise the risk faced by NSW RFS firefighting vehicles.

“The best solution may or may not be rollover protection structures or falling object protection structures – the best solution might be to look at ways to prevent firefighters being placed in such a high-risk environment,” says Dr Muir. “It’s about providing the evidence to make informed decisions about road safety.”

The MUARC research project is expected to conclude in mid-2022, with the NSW RFS to implement testing of vehicles and strategies following the recommendations made by the research team. ■





FOCUSING ON WHAT MATTERS MOST

In July 2020 Commissioner Rob Rogers announced a set of priorities for the Service following the devastation of the Black Summer fires of 2019/20. Building on the successful rollout of those first priorities, a new set of priorities has been identified for the NSW RFS for the next 12 months.

The new priorities continue to align our strategic direction, and place focus on projects that will make a tangible difference to members – allowing them to operate safely and effectively, and connect and work together to best serve the community.



Australian Fire Danger Rating System

The Australian Fire Danger Rating System is a new approach to forecasting and communicating fire danger across Australia. It will improve public safety and reduce the impact of bush fires. The NSW RFS is leading the project on behalf of all states and territories in conjunction with AFAC.

The new system will be in place later in 2022 and will involve new fire danger ratings and signage across Australia. This is a very large program, and one that will necessitate fresh training and education for members and the community ahead of its rollout.



Benevolent Fund

To better support our members when they need it most, we will establish a fund to distribute money to injured or deceased firefighters and their families, and create other safe connections to support families in distress.

This is a step towards our longer term vision to provide broader support for NSW RFS families suffering from financial hardship and distress.

The Service is indebted to the NSW Rural Fire Service and Brigades Donation Fund, which has committed \$10 million in funding to this important project.



Station Connectivity

We will explore opportunities to further connect brigades to the organisation through internet connectivity, member email addresses and telephony services for key roles. We will explore partnerships with service providers as part of this new priority.



Mapping Software

Quality in-field mapping helps us make better operational decisions and is critical for situational awareness, fire spread predictions and warnings.



Next Generation Fleet

To identify the needs of the NSW RFS for our next generation of firefighting appliances, we will engage with all stakeholders including our members, industry and the sector to inform the design of our future firefighting fleet.

Emergency Logistics Program

By enhancing our emergency logistics systems and processes, we will ensure our firefighters and IMTs are supported with an end-to-end, user-friendly procurement and logistics approach that enables us to get what we need where we need it.

We will move away from a paper-based system to a digital one to save time and effort for our members and ensure a more efficient logistics process in times of emergency.

We will continue to engage with and seek input from our members on these new projects to ensure we are delivering improvements that actually benefit our membership. ■

We will explore and scope what is needed to allow our members in the field to undertake mapping and easily transmit this to each other, to incident management teams and the community.

Digital ID

We will introduce a new digital identity system, where you can identify yourself as a NSW RFS member as needed, and into the future use it to replace authority cards.

Mental Health

We are committed to providing the highest standard of support so members can cope with the effects and lessen the impact of stressful and potentially traumatic experiences associated with their role.

To achieve this, we will implement a new Mental Health Strategy, Framework and Action Plan.

Workplace Conduct

Every person has a fundamental right to a physically and psychologically safe workplace – we are steadfast in our resolve to ensure every member feels safe and respected in the NSW RFS.

We will improve our approach to the management of grievance and disciplinary issues and put in place preventative programs to encourage an inclusive and 'speak-up' workplace

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





NEW eMEMBERSHIP PORTAL NOW LIVE

In October 2021 the NSW RFS launched the new eMembership portal to streamline and digitise the application and transfer process for new and existing members.

eMembership is a mobile-friendly, easy to use online system for members of the community to apply for volunteer membership with the NSW RFS. It also allows existing NSW RFS volunteers to change their membership status, such as through dual membership or by transferring to another brigade.

The eMembership system replaces the previous paper-based volunteer application process and improves the application experience for prospective volunteers. It enables brigades, districts and the Service to manage volunteer applications and membership status changes in a timely and effective way.



For prospective volunteers, the eMembership system:

- Improves visibility over the application process with automatic notifications that inform applicants of their progress
- Simplifies the application process for existing members applying for dual membership or to transfer to another brigade
- Better matches applicants to suitable brigades and roles through the 'Brigade Finder' feature
- Provides the ability to apply anytime, anywhere, with a mobile-friendly online application portal
- Allows for more timely membership decisions with faster and automated processing

For brigades and districts, the eMembership system:

- Automates previous manual tasks (such as police checks) that were undertaken when reviewing and approving applications
- Provides better oversight of a candidate's application progress through the brigade dashboard
- Increases operational insights with visibility over recruitment trends within an individual brigade
- Means there is no need to collect, scan and send paper forms or sight physical ID documents, and there are no more incomplete or illegible paper forms

The Service has produced a range of resources, including instructional videos and user guides, to help those involved in the eMembership approval process. You can find these training materials in the eMembership community on One NSW RFS.



FLEXIBILITY AND INNOVATION DEFINE GET READY WEEKEND 2021

With Get Ready Weekend heavily affected by COVID-19 restrictions over the last two years, NSW RFS brigades rose to the challenge in 2021 and found innovative ways to hold COVID-safe events.

Activities ranged from social media campaigns, online meetings and contactless deliveries through to virtual 3D tours of NSW RFS stations, appliances and equipment. Overall, 427 brigades registered to participate in events before COVID-19 restrictions were announced. As a result of stay-at-home orders, brigades were encouraged to switch their events online and to other COVID-safe activities.

Even though Get Ready Weekend 2021 was officially held on 11-12 September, brigades were encouraged to hold their own events when it best suited them, with resources made available to all brigades from 1 July. Showcasing the flexibility of the modern Get Ready Weekend, the first event was held on 25 July by the Ewingar Brigade in the Clarence Valley and the last event was held on 6 November by the Peel Brigade in the Chifley/Lithgow Zone.

Over the weekend, 324 social media campaigns were launched on Facebook, 52 on Instagram and 41 online meetings took place on platforms such as Zoom, Facebook Live, Microsoft Teams and Google Meet.

In addition, 15 letterbox drops/contactless deliveries were made and 15 static displays were installed in rural town hubs.

To assist brigades, the Community Engagement Team hosted seven online engagement sessions and interacted with more than 800 Community Engagement volunteers.

For the first time, the NSW RFS partnered with ABC Radio to enhance and lift the profile of the event. This partnership saw 13 regional radio stations interview local brigade members on stories of personal and community preparedness.

On 11 September, ABC Radio Host Simon Marnie was involved in hosting a one-and-a-half hour show following his previous Road to Recovery radio program.

It was broadcast across NSW and comprised stories and preparedness messages from all levels of the NSW RFS membership and featured both Commissioner Rob Rogers and Deputy Commissioner Peter McKechnie.

Get Ready Weekend will be back in 2022 on 17-18 September with registrations set to open on 1 July. ■

Photo: Londonderry Brigade members preparing packs for Get Ready Weekend. Photo courtesy of Evonne Lester



LATEST TECH TAKES TO THE AIR

In 2021 the NSW RFS took delivery of two new Cessna Citation V aircraft in a boost to the Service's aerial firefighting capability. The two aircraft (call signs Fire Scan 200 and Fire Scan 201) will serve a multipurpose role, able to perform lead plane functions for the NSW RFS 737 Large Air Tanker (LAT) and also conduct scanning operations and transport personnel.

Able to operate at the same airspeed as the 737 LAT, the Citations are a significant upgrade as lead planes for water-bombing missions. Compared to the much slower Bird Dog aircraft that previously functioned as lead planes on water-bombing missions, the new Citations will substantially cut the lag time associated with lead plane work. This means the LAT can now reach fires around the state in a shorter time to provide aerial support.

"Historically, what we were using three planes for, can now be done in one of the new Citations alone," says Chief Superintendent Christopher Ryder, Manager Operational Field Support in State Operations. "The Citations can keep up with the LAT and can scan straight after the LAT drop.

"They can also do passenger transport, and their speed means we can move people around state a lot quicker too."

The two new Citations will also be equipped with TK-9 imaging systems, designed and manufactured by Overwatch Imaging. The TK-9 will enable the Citations to perform high-resolution scans of fires in a range of spectrums including thermal and infrared anywhere from 2,000 to 20,000 feet in altitude.

The technology will give the NSW RFS the ability to scan large areas quicker and more easily identify hot spots and fire edges.

The mission system installed inside the planes runs the scanning software and allows for the control of flight operations in real time from the NSW RFS State Operations Centre. The system's speed of data delivery and automation of mapping processes enable fire imagery to be released to the public via the NSW RFS website or the Fires Near Me NSW app in much quicker time.



“It took roughly 90 minutes to produce aerial fire images under the old process, once we had planned the flight path, sourced approval, undertaken the flight, scanned the fire, downloaded the imagery and entered it into our mapping systems,” says Chief Superintendent Ryder. “Now with the Citations and the TK-9 scanning technology, that process will take more like 30 minutes.

“The new system will take much of the human intervention out of the scanning and mapping process and provide a better and more timely understanding of where the fire is for the public.”

The TK-9 represents a significant improvement in the quality and range of scanned imagery available to the Service. The technology can scan through smoke and will allow NSW RFS aircraft to fly underneath cloud to conduct a scan. It will also scan for fuel density and moisture, soil moisture and canopy density.

The TK-9 can detect fires and heat spots, and trials will be done to develop this capability. It can also be used to scan for new ignitions after lightning storms or even in search and rescue operations.

The different imagery produced will be automatically fed into the NSW RFS Common Operating Picture (COP) to allow for faster and more accurate decision-making around fire suppression.

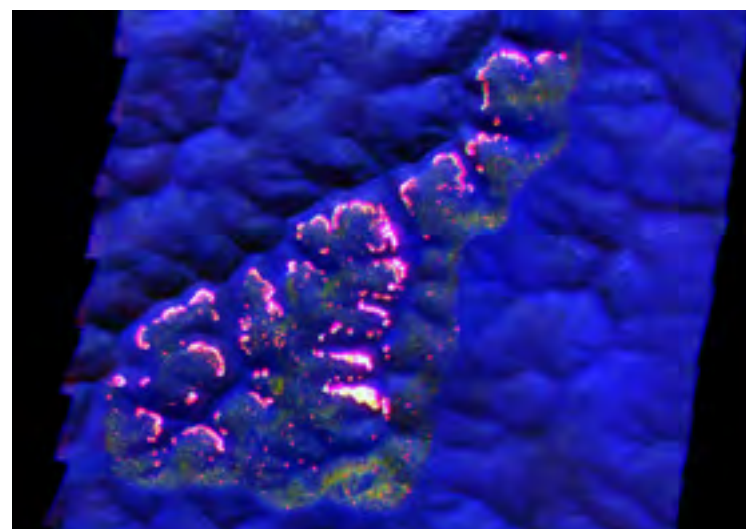
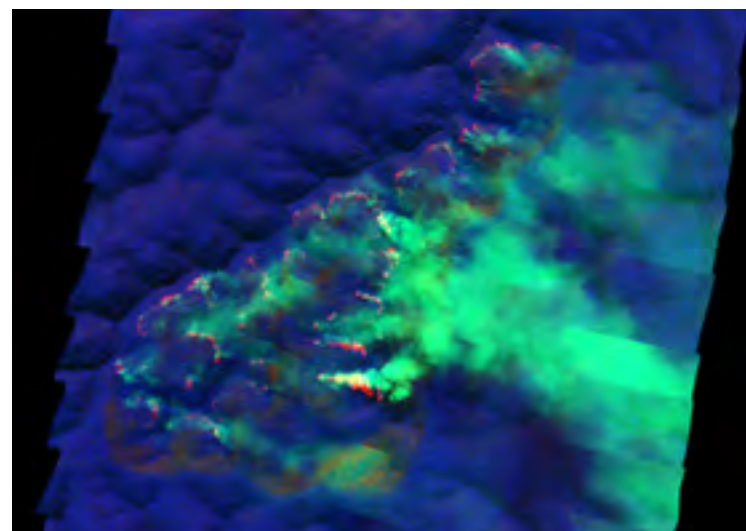
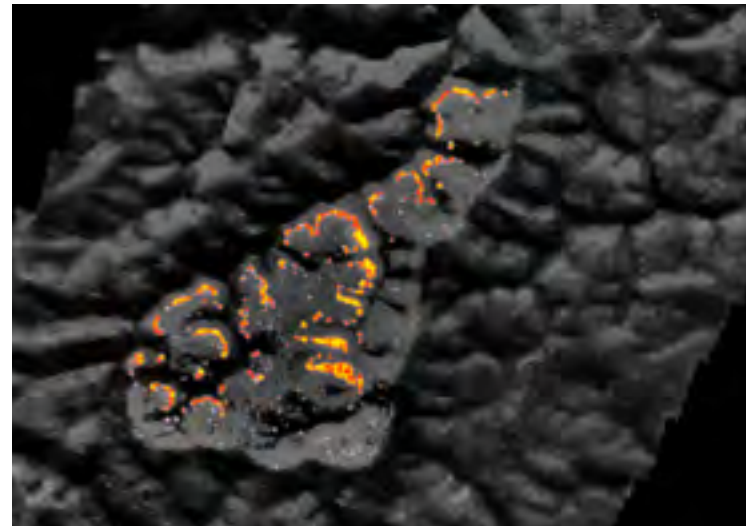
“Previously our linescans only produced one layer of imagery, now we will be able to take much more information from a single scan,” says Chief Superintendent Ryder. “Nobody in the world has done this before for firefighting, putting hi-tech scanning equipment in a fast plane and automating the flight planning and mapping processes – it’s very exciting.”

The mission system will be operated by a NSW RFS member situated inside the Citation, enabling the mapping and uploading to COP to be done ‘live’ from the air. Previously this was done by personnel on the ground, with a much longer wait to access the imagery once the plane had landed.

The intention is for the NSW RFS to train members already skilled in Geographic Information System (GIS) mapping to perform this role in the air in the new Citations. The training process has been finalised and members are currently undertaking the program. ■

Main left: One of the Cessna Citation V planes. Photo by Michael Hayes. **Below left:** The mission system installed inside the Citations that produces the scanning imagery.

Below, top to bottom: A series of scans taken by one of the new Citations of a hazard reduction burn in Glenbrook in April 2021: highlighting hotspots (top); using an LVN spectrum (middle); and a Thermal composite scan (bottom).





NSW RFS AVIATION FLEET


With the recent addition of a Bell-412 helicopter generously donated by the Goodman Foundation (see page 8 for more information) and two Cessna Citations procured earlier in 2021 (see previous page), the NSW RFS aviation fleet is expanding. The Service now has three Fixed Wing and six Rotary Wing aircraft at its disposal to fight fires across the state.

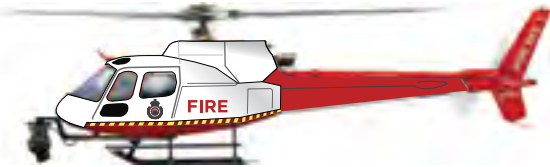
In addition, the NSW RFS has access to approximately 300 aircraft through state-based 'call when needed' and National Aerial Firefighting Centre (NAFC) arrangements.


The nine Service-owned aircraft fulfill a range of roles, from water-bombing to lead plane duties, aerial scanning, search and rescue and firefighter transport. Together, these aircraft enable the Service to respond faster and better to fires, wherever in NSW they occur.


Main image: The 737 Large Air Tanker dropping retardant ahead of the Wooroloo fire near Perth, WA.
Photo by DFES Incident Photographer Morten Boe.

OUR FLEET SPECIFICATIONS

CESSNA CITATION		
	Call Sign	Fire Scan 200, 201
	Primary Role	Lead plane, scanning, transport
	Dimensions	Length: 15m Wingspan: 16m
	Crew Make Up	1 pilot, 1 AAS and 1 Scan Mission operator
	Scan Equipment	Overwatch Image Systems
	Cruise Speed	Up to 400 knots
	Endurance	Up to 4 ½ hours

AS350		
	Call Sign	FB200
	Primary Role	Aerial intelligence
	Dimensions	Length: 10.9m Rotor diameter: 10.7m
	Crew Make Up	Pilot, Airborne Systems operator
	Scan Equipment	Does not scan. High definition camera fitted instead.
	Cruise Speed	132kn / 245km/h
	Endurance	150 minutes

BK-117		
	Call Sign	HT201, HT202
	Primary Role	RART, RAFT, SAR
	Dimensions	Length: 13m Rotor diameter: 11m
	Crew Make Up	1 pilot, 1 aircrew officer, 3-4 firefighters
	Scan Equipment	Nil
	Cruise Speed	120kn / 220 km/h
	Endurance	100 Minutes

BELL-412		
	Call Sign	HT203, HT204, HT205
	Primary Role	RART, RAFT, SAR, surveillance
	Dimensions	Length: 17.1 m Rotor diameter: 14.02m
	Crew Make Up	1 Pilot, 1 aircrew, 4 firefighters
	Scan Equipment	FLIR Camera with live stream to URL
	Cruise Speed	122kn / 225km/h
	Endurance	130 Minutes

BOEING 737		
	Call Sign	Bomber 210
	Primary Role	Fire bombing, passenger transport (pending)
	Dimensions	Length: 33m Wingspan: 29m
	Crew Make Up	2 pilots and 1 Engineering
	Scan Equipment	Nil
	Cruise Speed	Up to 460 knots
	Endurance	Up to 6 hrs at cruise (3 ½ hrs loaded with retardant)

Rapid Aerial Response Teams (RART)
 Remote Area Firefighting Team (RAFT)
 Search and Rescue (SAR)



CABA FIRST FOR NW

Brigades from Tamworth and North West have recently become the first in their districts to undergo Compressed Air Breathing Apparatus (CABA) training and assessment, as part of a push by North Western Area Command to deliver enhanced capability to communities.

In the Tamworth District, 26 members across the Kootingal/Moonbi, Moore Creek and Tamworth City brigades took up the opportunity in 2020 to train in CABA. All three brigades serve semirural communities, with CABA accreditation allowing these brigades to more safely respond to structure and vehicle fires and support Fire and Rescue NSW where possible.

The Kootingal/Moonbi and Moore Creek brigades became operational for CABA in August 2021 with the delivery of new Cat 1 appliances, while Tamworth City became operational for CABA later in the year.

At the same time, the Nyngan Brigade became the first brigade in the North West District to be accredited for CABA, with six members qualified. Boggabilla Brigade in the Namoi/Gwydir District also gained CABA accreditation to better serve the border town of Boggabilla.

The North Western Area Command has played a key role in getting CABA into brigades and districts that have never had it before, analysing existing capabilities in the area and working with districts to identify, train and support brigades as a priority.

“We identified areas and communities of need and provided the opportunity for districts and brigades to access CABA training and equipment, particularly for our brigades based in regional towns and villages and along the New England and Newell

Highways,” says North Western Area Commander Heath Stimson. “It’s not just about providing a higher standard of service for communities, but also upskilling our members and offering them better protection when attending fires.”

A total of 35 members were qualified for CABA across the Tamworth, North West and Namoi/Gwydir districts, a mix of male and female members ranging in age from teenagers to one member in his sixties. The Tamworth District alone registered 80 incidents in the 12 months up to August 2021 that may have required the utilisation of CABA.

For the Kootingal/Moonbi Brigade, CABA will allow them to more safely provide protection to their community and some of its major infrastructure.

“We have a large nursing home just 500m from our station, and we cover a lot of highway with car and truck fires,” says Kootingal/Moonbi member Kendall Thompson. “Just in our two villages there is a couple of schools and a couple of service stations – there’s a fair bit that needs protection.

“CABA is a big benefit all round – not just for our members and their safety, but as a community asset as well. The community is going to benefit from it in the end.”

The Kootingal/Moonbi members have enthusiastically embraced CABA, with 11 members fully qualified and some of those members, including Kendall, helping to train members in other districts as well.



DISTRICTS

Main: Boggabilla Brigade members training in CABA at Moree. Photo by Michael Robinson. **Above and below right:** Members from Moore Creek, Tamworth City and Kootingal/Moonbi brigades

“Even though there was a bit of a delay in getting our new truck, the enthusiasm from our brigade members has been outstanding,” says Kendall. “They were really keen on getting their training and skills up to date so they could better protect their community as soon as possible.

“It’s a big project for the District and the Area Command to undertake, but in the end it’s about looking after our own members and in turn helping us help the community.”

With five brigades gaining CABA accreditation in the last 12 months, the North West Area Command

training in CABA in Tamworth. Photos by Michael Robinson. Below left: Nyngan Brigade pictured at Nyngan Headquarters. All photos by Michael Robinson.

is keen to exceed that tally and implement it in more brigades in the area in the next 12 months.

“The feedback we’ve got has been really positive, we’re getting interest in CABA from brigades who hadn’t considered it before but are now seeing their neighbouring brigades using it,” says Heath.

“The initiative is breaking down some of the barriers we’ve had in the past and we hope to continue expanding the program to more brigades in regional towns and villages and further improving our service to communities in the North West of NSW.” ■





MEET OUR NEW FOUR-LEGGED FIREFIGHTERS

In a novel trial, the NSW RFS recently recruited a team of goats to perform several hazard reductions across the state. The honorary four-legged firefighters were leased from local farmers to graze on grass and shrubs in a controlled trial on fire-prone land in western NSW.

The first trial site was at Clandulla, a small village between Lithgow and Mudgee, during August 2021. The goats grazed a block of Crown land with a variety of vegetation sites. Another grazing trial was undertaken at Werris Creek, near Tamworth.

Each individual goat can graze an area of 100m² per week, depending on vegetation type and density. It generally takes about three weeks for a herd of 30 calm and experienced Boer goats to graze 1-2 hectares of vegetation, depending on the desired outcome.

The goats work in an enclosed area and consume most things up to two metres off the ground including weeds, sticks, grass and shrubs. After the goats have gone through, the trial sites look as if a cool burn has been undertaken.

The trial is part of continued efforts by the NSW RFS to explore a range of hazard reduction techniques to better understand the effectiveness of different practices.

“The NSW RFS is always keen to learn more about how we can improve and enhance the ways we prepare areas ahead of fire season,” says Inspector Troy Gersback.

“These goats provide an alternative to burning which is heavily reliant on favourable weather. The four-legged firefighting crews will be reducing the fuel loads rain, hail or shine.”

The goats are less expensive than most forms of mechanical removal and much less environmentally intrusive than any machine.

They will happily work in rocky or steep terrain that is unsafe for humans and their ability to graze in any weather means there is no need to wait for the perfect conditions for a burn.

As an added bonus, the goats’ natural browsing habits and tough stomachs enable them to eat weed species that are poisonous or unpalatable to other herbivores.

The weed seeds are broken down in the goat’s digestion, meaning there is no risk of cross contamination between sites.

Next time you see a herd of goats munching their way through the undergrowth, they might be the latest recruits of the NSW RFS. ■



Main (above left) and below: Boer Goats on location at Clandulla. This breed is well known for their versatility, size and ability to suppress re-growth after bush thinning and to graze on plants up to 1.8 meters high, standing on their hind legs. Photos by Troy Gersback

Above: Pictured from left to right are Superintendent Paul Whiteley, Billie Johnson, Michael Blewitt and Inspector Troy Gersback. Michael and Billie are the Boer Goat suppliers, proprietors of Dry Creek Farm. Photo by Kim Smith.





GUARDIANS OF THE GRAPES

BY LEWIS DRAYTON
COMMUNITY ENGAGEMENT OFFICER, NSW RFS

As dry lightning storms rumbled through the Hunter in October 2019, so began one of the most challenging vintages in the history of the valley. Fires were burning in the mountains surrounding the Hunter Valley and large amounts of smoke settled across the valley floor.

It was during this time that the need for effective communication between the NSW RFS and the wine industry became evident. Throughout the 2019/20 fire season, the Hunter Valley was surrounded by the Little L Complex fires, the Owendale fire, Crumps Complex fires, the Kerrys Ridge fire and the northern edge of the Gaspers Mountain fire, with hundreds of firefighters involved to contain and extinguish them.

There were also fire outbreaks which threatened homes and property in the communities of North Rothbury, Greta and Pelaw Main.

These fires contributed to significant volumes of smoke settling across the region, putting grapes at risk of developing smoke taint. Smoke taint is a broad term for a set of smoke-imparted compounds found in affected wines, constituting a wine fault.

Pokolbin Brigade Captain Stephen Drayton fought many of these fires alongside his fellow volunteers. Stephen is also a fifth generation vigneron in Pokolbin.

Pokolbin is the oldest continuous wine region in Australia, with a history dating back to the early 1800s when the first grapes were planted.

The wines are made from some of the oldest vines in Australia.

Although the region has long-standing tradition, the adoption of modern technologies has helped the Hunter Region stay informed during fires. Most businesses in the Hunter have accessed the Fires Near Me app and set up watch zones to ensure they are up-to-date on fire activity across the region and how it might impact their property and crop.

As both a vigneron and a NSW RFS member, Stephen has an insider's perspective of the challenges faced by the wine industry.

“Engaging with wine and grape producers is critical to ensure harvesting and wine making operations can continue safely and with a reduced impact of smoke on fruit quality,” says Stephen.

“When vineyards are close to harvesting their fruit, it's important we keep wine producers informed of our firefighting approach and strategy.”

Bush fire preparedness in the wine industry across NSW consists mainly of burning-off grapevine cuttings.



Main image: Pokolbin Brigade Captain Stephen Drayton at his vineyard in Pokolbin. **Above:** Grape-picking season in Pokolbin. **Inset:** Pokolbin Captain Stephen Drayton and son Lewis Drayton, also a NSW RFS volunteer and staff member. **Photos** by Nicole Brimelow.

“This means unnecessary fuel isn’t left scattered through vineyards,” says Stephen. “Vineyard owners are becoming more prepared by having their own small firefighting units or trailers. These can be used on their own properties for fire suppression, before NSW RFS crews arrive.”

Captain Drayton stressed that building relationships between brigades and connecting with producers was integral to developing positive working relationships within the community.

“The Pokolbin Brigade succeeded in connecting with locals through the Hunter Valley Wine and Tourism Association, the Brigade and the Lower Hunter District Office,” he says.

Recalling Black Summer, Hunter Valley Wine and Tourism association president Christina Tulloch remembered how vital it was to work with the local NSW RFS to ensure the health and safety of the community.

“The open lines of communication with our local crews allowed wine grape growers in the Hunter Valley to make important decisions around picking and crop suitability,” says Ms Tulloch.

“This allowed significant financial decisions to be made at short notice with all the available relevant information of the time.

“Working together with the community allowed a collaborative approach that undoubtedly had positive financial impacts for our primary producers, despite the backdrop of large scale fire activity in the region.”

This connection with local industry saw the Pokolbin Brigade participate in social media campaigns with more than 20,000 impressions and engagements during the fire season.

The Brigade also hosted industry specific community meetings and readiness sessions to share information on property preparedness prior to catastrophic conditions during the Black Summer fires. The NSW RFS is also consulting with the NSW Wine Industry Association on best practices for fire and smoke management in grape-growing areas.

Captain Drayton said that property and business owners must consider several factors when writing a bush fire survival plan.

“The safety of our staff and guests at our estate is paramount.” ■



Main photo: Broulee Brigade Captain Leeam Fisher with the Governor-General His Excellency, General the Honourable David Hurley AC DSC (Retd).

Below: Group shot of all 14 recipients who received the National Emergency medal at Broulee in October 2021.

NSW RFS MEMBERS RECEIVE NATIONAL EMERGENCY MEDALS

The first two of a series of National Emergency Medal ceremonies held by the Governor-General's office took place in October and November 2021. Medals were awarded to those in the NSW RFS who provided sustained or significant service during the 2019/20 bush fires.

The first presentation took place in October 2021, with 17 members of the Broulee Brigade receiving medals from His Excellency General the Honourable David Hurley AC DSC (Retd), Governor-General of the Commonwealth of Australia.

The second event was a larger presentation where the Governor-General presented medals to 38 volunteers and staff who provided sustained or significant service during the devastating fire season.

The National Emergency Medal is awarded to those whose service was in the protection of lives and property or in the service of interests that are not their own, and who supported the emergency response for a minimum of five days between September 2019 and February 2020.

Members of the Orana District played an integral part in the firefighting response during that season, starting with out-of-area strike team deployments in September 2019.

The crew were dispatched to assist with the firefighting efforts across the state, including Armidale, Glenn Innes, Tamworth, Narrabri, Kempsey and the Snowy-Monaro region.

The Governor-General is aiming to attend all the National Emergency Medal ceremonies (small and large) to provide recognition for the courageous efforts and commitment of firefighters and frontline responders during the Black Summer fires.

For 2022, the Governor-General's program team is working closely with NSW RFS to determine a schedule of ceremonies across the state.

More than 15,000 nominations of NSW RFS members have so far been received and are being processed, engraved and dispatched. We thank members for their continued patience while we work through the nominations. The Governor-General's office expects the majority of medals to be presented by April 2022. Members receiving this medal will be notified as and when a presentation event will take place for them. ■





TRUST FUNDING BRINGS A RASCAL TO THE RIVERINA

The NSW Rural Fire Service & Brigades Donations Fund (the Trust) recently approved grants totalling \$18 million to fund facilities and equipment throughout the state. The funds for these grants were received by the Trust during the unprecedented 2019/20 fire season from donors around the world.

Approximately \$10 million of these grants will be spent on building or improving local training facilities and providing modern gas fire training props.

Some districts are spending funds on commercial catering facilities, vehicles for community engagement purposes or upgrading air base equipment. It is also noteworthy to mention that some districts have utilised funds to provide equipment to Support and Cadet brigades.

Thanks to the Trust, the Riverina Zone Aviation Brigade recently took delivery of a new Retardant and Suppressant Computerised Automated Loading (RASCAL) pump. The brigade is based at Wagga Wagga Airport and supports the use of NSW RFS aircraft in the Riverina Zone.

On one day alone during the 2019/20 fire season, the airbase turned around 98 aircraft fighting the Dunns Road fire.

The RASCAL is an Australian designed and built system for the loading of Large Air Tankers and smaller firefighting aircraft. It is an automated

pumping system that increases the safety, efficiency, ease and cost of pumping retardant and/or suppressant into NSW RFS aircraft.

The RASCAL allows the pilot to order a load while in the air and enables the ground crew to receive advance notice of requirements prior to the arrival of the designated aircraft. On the ground, the system automatically loads the correct volume of retardant and/or suppressant onto the aircraft and records the loads and product usage.

It also improves the safety of not only airbase operators on the ground, but also aviation specialists in the air, as there is an accurate record of what and how much went on a given aircraft.

The RASCAL is the first integrated pump system of its kind designed and built in Australia and one of only two in operation to date in NSW. It is now in use in the Riverina thanks to the Trust and the generosity of donors from across Australia and around the world.

Main image: The RASCAL pump in action at Wagga Wagga Airport. Photo courtesy of Wayne Harrison.



CREATIVE TRANSFORMATION FOR BRIGADE TRUCKS TO CELEBRATE NAIDOC WEEK 2021

Two NSW RFS brigades with strong Indigenous connections – Boggabilla Brigade in northern NSW and Wreck Bay Brigade in the Shoalhaven – are now the proud owners of tankers featuring Indigenous artwork.

As part of NAIDOC Week celebrations in July 2021, the Boggabilla Brigade's tanker was painted by local artist Elanore Binge. The striking artwork features a design representing the local brigade, fire trails, significant local sites, flora and ashes. It appears prominently on the sides of the brigade's vehicle and is one of the many ways the NSW RFS participated in NAIDOC Week 2021.

NAIDOC Week's theme in 2021 was 'Healing Country', and as explained by Elanore, the artwork represents the natural healing process – after the fire, smoke and ashes are gone, the rebirth begins with new seedlings, plants and flowers blooming. The Boggabilla Brigade also held a traditional smoking ceremony to officially welcome the truck.

Similarly, the Wreck Bay Brigade – stationed on Aboriginal land in the Jervis Bay Territory owned and managed by the Wreck Bay Aboriginal Community Council (WBACC) – also welcomed a truck newly painted with original Indigenous artwork.

Artist Nikita Ridgeway worked closely with Wreck Bay Brigade members to create the distinctive and striking artwork that envelops the brigade's truck.

"It's a representation of the brigade members and the cultural connections they have made serving the Wreck Bay community," says Nikita.

During NAIDOC Week in 2021, NSW RFS Commissioner Rob Rogers recognised the experience and knowledge that Aboriginal and Torres Strait Islander members bring to the NSW RFS and reaffirmed the Service's ongoing commitment to Aboriginal and Torres Strait Islander members and the communities they serve.

"Over the years we have continued to strengthen our work with our Indigenous communities through a range of initiatives, helping to improve the level of bush fire preparedness," said Commissioner Rogers.

"We value the experiences and knowledge that our Aboriginal and Torres Strait Islander staff and members bring to our Service, which continues to increase our capacity to engage respectfully with our Indigenous communities." ■

The Wreck Bay Brigade would like to thank the Wreck Bay Aboriginal Community Council and Department of Regional Development and Infrastructure (Jervis Bay Territory) for their support of this brigade project.

Main (at left): Wreck Bay Brigade Captain AJ Roberts and Deputy Captain Bernie Trindall-McLeod picking up "Wreck Bay 1" after getting it wrapped in the Indigenous artwork by Nikita Ridgeway.

Below: Close up of artwork displayed on the Wreck Bay appliance.
Bottom: The decorated Boggabilla Brigade appliance.
All photos courtesy of the Boggadilla and Wreck Bay Brigades.





STORIES OF CULTURAL BURNING IN SOUTHERN AUSTRALIA

New research-based resources are helping fire agencies and land management departments better understand Indigenous fire management practices, otherwise known as cultural burning.

The learnings have been collated in the report *Cultural Burning in southern Australia*, an illustrated booklet and poster series. The research and resulting stories amplify Indigenous people's perspectives on cultural burning by sharing six personal stories of what burning means. The stories showcase the diversity of this cultural practice and are accompanied by stunning illustrations.

Four of the contributions centre on burning one's own Country across southern Australia, while two stories reflect on experiences in academic and government roles that aim to learn from and support Traditional Owners and cultural burning. The stories are shared from members of the Noongar, Gunditjmara, Palawa, Ngunnawal, Bundjalung/Woonarua and Keytej peoples.

Dean Freeman (ACT Parks and Conservation Service) and Bhiemie Williamson (Australian National University) provided cultural oversight in bringing the collection together, as led by Dr Jessica Weir (Western Sydney University) with support from Dr Yasmin Tambiah (WSU), through the Hazards, Culture and Indigenous Communities project.

The Aboriginal artwork featured is by Wiradjuri artist Lani Balzan, and the story illustrations are by Nicole Burton from Petroglyph Studios.

Dr Adam Leavesley, project end-user from the ACT Parks and Conservation Service, explained that it is critical for fire and land management agencies to continue learning more about cultural burning.

"As fire and land management agencies in southern Australia, we need to continue to build relationships with Traditional Owners. These resources will help a broader range of land managers with a starting point for learning and engagement on cultural burning," Dr Leavesley said.

"This was the genesis for these resources to be produced, as we knew that agency practitioners wanted and needed more guidance and knowledge about cultural burning to partner and engage with Indigenous groups, but there is a lack of resources to assist with this."

Dean Freeman, end-user and Wiradjuri man explained the pride Indigenous people feel about cultural burning.

"If I couldn't be connected with my past, I don't think I'd be here today," Mr Freeman said. "The feeling to burn with your family, that's the ultimate. That's how we heal."

Also included in the booklet are 10 cultural burning principles, co-authored by the Indigenous authors involved in the project. Dr Weir explained that the purpose of these cultural burning principles was to provide guidance to a broad audience unfamiliar with cultural burning.

"These principles help articulate some of the core matters at hand, which Aboriginal leaders have been raising for generations. These voices can be hard to hear when they are the minority in the room, and so different from the dominant culture of governments and universities.



“We hope the *Cultural Burning in southern Australia* booklet and posters will help address this by providing the opportunity to see a different viewpoint, to stand in someone else’s shoes.

This is critical in developing more respectful relationships between Indigenous people and non-Indigenous people. We are all living together on Country.” ■

Find the Cultural Burning in southern Australia illustrated booklet and posters at www.bnhcrc.com.au/resources/cultural-burning-southern-australia.

All photos: Demonstration of a cultural burn during the Australian Community Engagement and Fire Awareness Conference in 2018 in Gumbaynggirr country (Coffs Harbour). Images courtesy of Sharon Quandt.

The NSW RFS is currently developing a Cultural Burning Guide to assist districts and brigades with the integration of cultural burning as a component of fire management.

Chief Superintendent Kelwyn White, Area Commander South Western, will be leading this initiative.





NEW TOOL TO PREDICT THE SPREAD OF BUSH FIRES

Fire behaviour modelling is an important function within the NSW RFS and was particularly vital during the 2019/20 fire season, when Fire Behaviour Analysts used a range of models to prepare more than 4,500 predictions of fire behaviour.

Late in 2021, the NSW RFS and Australia's national science agency CSIRO released Australia's most advanced model for predicting the speed and behaviour of eucalypt forest fires, which will assist incident decision making and help to save lives and property during bush fires.

Eucalypts make up more than 70 per cent of Australia's forests and some of Australia's most extreme fire events, such as the 2009 Black Saturday fires and the most severe of the 2019/20 bush fires, occurred in this type of vegetation.

The Vesta Mark 2 model, a mathematical description of how a fire responds to environmental conditions, has been rolled out nationally for trial this summer.

It will help Incident Management Teams across the state and country to predict and suppress bush fires as they spread across the landscape, and to warn the public.

The development of the original Dry Eucalypt Forest Fire Model (Project Vesta) in 2012 enabled the predictions of forest fire behaviour in elevated Fire Danger when compared to other traditional fire behaviour models.

One impediment to widespread use of this model was the requirement for more detailed fuel information. This can be difficult to obtain without detailed knowledge or information of the fuels being consumed by the fire. Research undertaken for Vesta Mark 2 has helped to simplify and reduce the model's sensitivity. These improvements will greatly assist not only Fire Behaviour Analysts, but also firefighters on the ground.

CSIRO bush fire behaviour researcher Dr Andrew Sullivan said bush fires were an ever-present danger throughout summer and were increasing in frequency and severity.

"Forests have critical ecological and socio-economic roles, and often connect to areas where large numbers of Australians live," said Dr Sullivan. "Forest fires are complex and difficult to control and extinguish, and firefighters often have to battle steep terrain and challenging conditions just to reach the fire.

"Critically, this model can accurately predict the speed that a fire front will advance across a landscape, which is essential to enable authorities to efficiently identify threats, issue bush fire warning messages, signal evacuations and plan fire suppression actions."

Data inputs such as forecast weather and wind information come from the Bureau of Meteorology, while information on the state of fuels within the forest and existing behaviour of a fire can come from vegetation databases and fireground reports. Fire Behaviour Analysts in incident management teams collate this information and then run the model to generate a prediction of the likely progression of the fire across the landscape.

CSIRO bush fire behaviour researcher and leader of the project Dr Miguel Cruz said the model used the latest available science on bush fire behaviour.

“This model was built using analysis of the most extensive set of data gathered from observations of large high intensity experimental fires and wildfires, collated from around the country over the past 40 years,” said Dr Cruz.

“Our research and findings during the 2019/20 bush fire season were also instrumental in the development of this tool.”

For NSW RFS Fire Behaviour Analysts, discerning fire escalation and fuel information to date has been governed largely by experience and expert judgement.

While this still has a role to play in predicting fire behaviour, having access to a more repeatable and rigorous method will improve fire behaviour predictions. More rigorous science undertaken by this project will provide analysts with more guidance for incorporating fuel into predictions of fire behaviour.

NSW RFS Deputy Commissioner Kyle Stewart said the new model would be key to providing essential information about expected fire behaviour to support decision making during bush fire outbreaks.

“Knowing with confidence where a bush fire will be ahead of time is critical to the safe and effective deployment of our fire crews and the safety of our communities,” said Deputy Commissioner Stewart.

“This is an excellent example of science agencies and the NSW RFS working together to improve bush fire management in Australia. It is the latest in a long line of successful collaborations between the NSW RFS and CSIRO.”

Main photo: NSW RFS members David Field (closest to camera) and Geoff Goldrick running bush fire models at the NSW RFS HQ. Photo by Greg Allan. **Below:** The State Operations Centre at NSW RFS HQ in full swing during the 2019/20 fire season. Photo by Anthony Clark.





YOUNG VOLUNTEERS HONOURED

Three young NSW RFS members were recognised for their achievements and service in August 2021 when the Service announced the winners of the Young Volunteers of the Year and Secondary School Cadet of the Year awards.

The 2021 Young Volunteer of the Year recipients are Lahvynnia Lowe of Bathurst Brigade (Chifley District) and Tim Hearn from Llandilo Brigade (Cumberland District). The Secondary School Cadet of the Year for 2021 is Nathan Hindmarsh from Braidwood Central School and the Krawarree Brigade.

“The effort and enthusiasm of young members in the NSW RFS is significant and these awards acknowledge their hard work, camaraderie and community participation,” said Commissioner Rob Rogers.

“These young people have demonstrated the commitment and enthusiasm that ensure our great volunteer emergency services will go from strength to strength in coming years and I congratulate each of them on their well-deserved awards.”

YOUNG VOLUNTEER OF THE YEAR 2021 (16-25 YEARS)

TIM HEARN
LLANDILO BRIGADE (CUMBERLAND DISTRICT)

Tim joined Llandilo Brigade in the Cumberland District as a junior member at 12 years of age, and over the last 12 years has grown into an outstanding member and Deputy Captain of the brigade.

As a former junior member, Tim has been highly involved in the brigade’s junior member program, acting as the Junior Member Coordinator and

taking a team to the 2019 Australian Fire Cadet Championships.

Tim was nominated for this award not only for his diligent service to his brigade, the Cumberland District and the community, but also for his outstanding commitment during the 2019/20 fire season under incredible personal adversity. For a young man of only 24 years of age, Tim performed his duties with distinction, showing immense strength of character and dedication.

“I am absolutely honoured to be named the 2021 Young Volunteer of the Year,” says Tim. “The award is a credit to my mentor, Percy Denton, who served as our brigade Captain for 15 years.

“I’ve always wanted to be a firefighter and being a part of the NSW RFS has given me the opportunity to learn new and valuable skills that assist me not only in my volunteer role, but in my day-to-day life and at my workplace.”

SECONDARY SCHOOL CADET OF THE YEAR 2021

NATHAN HINDMARSH
**BRAIDWOOD CENTRAL SCHOOL AND
KRAWARREE BRIGADE (LAKE GEORGE DISTRICT)**

Throughout the Secondary School Cadet Program at Braidwood Central School, Nathan was a positive, consistent and encouraging role model for his peers.



Nathan is a junior member in the Krawarree Brigade in the Lake George District and, despite his own challenging experiences of the 2019/20 bush fire season, he was able to willingly support, comfort and care for his peers, allowing him to grow in confidence and develop his leadership abilities.

Despite having extensive knowledge, Nathan constantly showed enthusiasm to deepen his knowledge and skills, as well as those of the other students in the group. When undertaking practical exercises, Nathan would help other students with equipment and provide advice on how to improve their technique.

“Receiving this award means a great deal to me because I think it is a reflection of my community. Our community is generous in passing on knowledge, skills and experiences,” says Nathan.

“I have been lucky enough to have had many mentors over the past few years and I have tried to learn something from each of them.

“I have been able to use the knowledge and skills I’ve learnt and pass them on to fellow cadets and members during the high school cadet program and other brigade training events.”

YOUNG VOLUNTEER OF THE YEAR 2021 (12-15 YEARS)

LAHVYNNIA LOW BATHURST BRIGADE (CHIFLEY DISTRICT)

Lahvynnia joined the Bathurst Brigade in October 2017 and has become a valued and respected member due to her pleasant, enthusiastic and reliable nature.

She is always willing to lend a hand and has been highly involved in regular brigade training, community engagement activities, meetings and fundraising.

Lahvynnia was an asset to the Chifley team during the Gaspers Mountain fire in 2019/20, where she volunteered whenever possible and assisted with night logistics at the Fire Control Centre.

She is active in mentoring new junior members in the brigade by passing on her knowledge of equipment and facility maintenance and other brigade functions.

“Saying I’m delighted and honoured to receive the award is an understatement,” says Lahvynnia.

“I never imagined when joining the Bathurst Brigade back in 2017 I would be receiving this award. One of my favourite experiences since joining the NSW RFS was giving a helping hand during the 2019/20 bushfires.

“On New Year’s Eve 2019 I spent the night at the Lithgow Fire Control Centre alongside my family, helping and watching what happens behind the scenes of a fire.

“It really showed and taught me so much. It was an experience few people get to have.” ■

Main: Young Volunteer of the Year 2021 (16-25 years), Tim Hearn from the Llandilo Brigade.

Above left: Secondary School Cadet of the Year 2021, Nathan Hindmarsh from Braidwood Central School and Krawarree Brigade.

Above right: Young Volunteer of the Year (12-15 years) Lahvynnia Low from the Bathurst Brigade.



NORTHERN BEACHES CLOCKS UP 20 YEARS

One of the longest running cadet brigades in the NSW RFS, the Northern Beaches Cadet Brigade, celebrated its 20th anniversary in June 2021 with a mini field day.

“Our cadet program is different to others in that we run all year during term – we like to say it’s the longest bush firefighter course there is,” says Northern Beaches Cadet Coordinator Doug Simpson. “We take kids from 12 to 18 years old, and from 16 years they are eligible to join their local brigade.

“We train on Tuesday nights fortnightly and it’s run like a brigade. From the age of 16, cadets can apply for positions such as Captain or Deputy Captain and they need to conduct themselves in a way that reflects the responsibilities of those positions.”

Around 450 cadets have gone through the Northern Beaches Cadet Brigade since it started in 2001 with just eight cadets. Currently, 65 cadets are enrolled in the brigade. A quarter of the brigade are girls (up from only five percent a few years ago), many joining as part of the Duke of Edinburgh Award Scheme.

Cadet brigades also boost local brigade numbers when cadets transition. In 2016, only 25-30 percent of Northern Beaches cadets were transitioning to their local stations. Now, the figure is 75 percent. Doug believes this is due to the formalisation of the structure that mirrors official brigades.

“We also show cadets the opportunities that exist across the service, such as catering, communications and support brigades – it’s not all boots on the ground and hoses,” says Doug.

One of the challenges in running a cadet brigade is balancing fun with the practical activities and serious learning.

“They are still kids, so you have to keep them interested,” says Doug. “We mix it up with mini golf, ten pin bowling and camping trips.”

During the intense 2019/20 fire season, the Northern Beaches Cadet Brigade got involved in logistical tasks such as filling fridges, preparing food packs, stores and uniforms, repairing equipment and even installing shelving.

Being involved in the Northern Beaches Cadet Brigade has been a life changing experience for Cadet Captain Nathan Roberts.

“I have really enjoyed the strong mateship within the brigade, everyone is always keen to get involved in activities and I love being part of the team environment,” he says.



CADET BRIGADE OF SERVICE

Both images above: Cadets in Northern Beaches practising new skills and celebrating the Brigade's 20-year anniversary. Photos by Kate Pindar.

“The cadet program has given me a strong sense of community service. Being able to get involved in state and nationwide competitions has been a terrific experience for me and the team.

“The brigade has also taught me key values such as communication and teamwork. Taking up leadership opportunities within our brigade has taught me life skills such as organisation, critical thinking and problem solving.”

Former cadet and instructor Alyssa Quinlan also has some advice for any aspiring cadets.

“Cadets has shaped me into who I am today,” says Alyssa. “Teamwork and hard work does pay off and you can achieve anything if you work hard enough for it.”

Doug reflects that one of the biggest successes with the brigade is the fantastic culture.

“Everyone turns up for the right reasons and no one is forced to come – everyone is happy to be there and they all have a community service attitude,” says Doug. “I find it brings kids out of their shell and helps all of them to shine.” ■

Below: Cadets learning the NSW RFS ropes on the Northern Beaches. Photo by Emma Jane Reeve.





IMPROVED FIRE PROTECTION FOR THE COMMUNITY OF WARIALDA

The town of Warialda in North West NSW was lucky to avoid any significant fires events during the 2019/20 fire season. However, the devastating effects of the season on many parts of NSW raised the town's concerns about its own fire management plans and protection from future fires. Spearheaded by NSW RFS North Western Area Command, a multi-agency effort is underway to assist Warialda.

Warialda, approximately 70km east of Moree, is part of the Gwydir Shire Council and has a population of 1,300 people. The majority of the town is surrounded by black pine, an invasive native species. The area was heavily impacted by drought prior to the 2019/20 fire season, which heightened the risk of fire.

"The black pine surrounding the town had died and it was like petrol, it was so dry," says Warialda Mayor John Coulton.

"We were concerned about residents and as a council we felt we had to take responsibility."

"We had timber growing right up to residents' backyards on the edge of town. It's actually a wonder we haven't had a disaster already."

Gwydir Shire Council tried to get work done to create a fire break and reduce the risk, but faced challenges in working with stakeholders.

The creation of the NSW RFS Area North Western Command in 2020 got the ball rolling for Warialda, with the NSW RFS meeting with key stakeholders

including NSW Crown Lands to explore the environmental constraints and options available in removing the invasive native species.

As a result of these meetings, a plan to create a 40-metre wide Asset Protection Zone (APZ) around the town of Warialda was approved, along with funding for upgraded fire trails in the area. The NSW RFS Namoi/Gwydir District office would also work with private landholders to continue the APZ across the interface.

Although hampered by wet weather and COVID-19 restrictions, the work to improve the protection for Warialda began in September 2021. A mosaic pattern of hazard reduction burns by the NSW RFS and partner agencies was completed in September 2021. Mechanical hazard reduction to create the Asset Protection Zone was undertaken by NSW RFS mitigation crews and external contractors in November 2021.

Main: The town of Warialda surrounded by black pine.

Above and below: Area Commander North Western Heath Stimson and Manager Community Risk Shellie Smyth meeting with Warialda locals to discuss fire protection. Photos courtesy of Shellie Smyth.



“The NSW RFS and Gwydir Shire Council have strengthened our already great relationship with this risk reduction project,” says Chief Superintendent Heath Stimson, Area Commander North Western.

“The project is providing a community solution to the people of Warialda that will help to protect them into the future.”

For Warialda, the improved protection provided by the APZ and other associated works will ease concerns about the impact of fire, though the

town is still well aware of the risk fire poses in the NSW landscape.

“The 40-metre fire break gives us a chance. If we have a fire, it will slow down when it hits that break and we’ll have a chance of stopping it,” says Mayor Coulton.

“We’ve now got a better chance than we had in 2019/20.” ■





LEARNING FROM OUR EXPERIENCES

LESSONS MANAGEMENT IN THE NSW RFS

BY SUPERINTENDENT DAN MEIJER,
SUPERVISOR OPERATIONAL IMPROVEMENT

The NSW RFS Operational Improvement team, a part of the Preparedness and Capability directorate, has released a Lessons Management Framework for all members.

You will almost certainly have participated in an After-Action Review (AAR), whether with your crew, your brigade, or even at a district or multi-agency level. You will also most likely have heard the phrase, “lessons learned” used before.

While AARs are constructive and useful processes, they have usually been run in isolation – until now. Results of AARs, such as recognising what we’re doing well and what we need to do differently, have stayed at a local level because there hasn’t been a consistent way of sharing them across the NSW RFS. Now, the Operational Improvement team based at NSW RFS HQ is introducing a way to change that, so that members everywhere can learn from the experiences of others.

‘Lessons learned’ is a bit of a misnomer, there are many things that need to happen before an organisation can say that we have learned a lesson. The Lessons Management Framework explains how we get to this goal.

First, the NSW RFS needs to collect **observations**. These are short, specific, objective statements about what occurred at an event.

For example: *We did not get a briefing when we deployed into Bravo Sector on Tuesday. This meant that we were unsure of what we were trying to achieve and wasted a lot of time trying to work it out.*

Observations are an ideal outcome from an AAR – and they don’t mention names, or seek to blame or praise individuals for anything that occurred.

Observations are collected by the Operational Improvement team from AARs conducted by members around the state. They are submitted by email or using an online form (see next page). These are then compiled, validated and analysed to identify trends.

When the Operational Improvement team find multiple observations on the same theme, it creates an **insight**. An insight may be something like: *when thorough briefings are not conducted, it detracts from crews’ situational awareness and effectiveness, and may increase frustration.*

After multiple insights related to each other are identified, there is enough evidence from our members to form a **lesson identified**, such as: *all levels of command must understand the value of thorough briefings, be able to conduct them and ensure that they happen. Quality and frequency of briefings contribute to crews’ situational awareness, effectiveness, safety, and morale. Re-briefings should be conducted when intent, objectives or circumstances change.*

Above: Currowan fire, 2019.

Right: Replenishing an aircraft during the NSW Mid Coast fires, 2019. Photos by Ned Dawson.

These may then be shared across NSW RFS, for members to keep in mind when planning and undertaking training, exercising, operations and so on. Operational Improvement aims to create and share a range of products with the membership, based on the lessons identified from across the state.

These may include case studies, operational insights (like a five-minute 'toolbox talk' for brigades to use), journal articles, videos, presentations and provision of evidence to other parts of the NSW RFS to inform developments in training, systems and procedures. They are also reported to the NSW RFS executive leadership team.

The Operational Improvement team then can continue to collect observations, and when the evidence shows a change in behaviour or procedure, the expression **lesson learned** comes into effect.

Put together, observations, insights, lessons identified and lessons learned form a process we call **OILL**. This is a term used consistently by emergency services and other agencies across Australia.

Right now, **observations** – either from individuals or from AAR results – can be shared with the Operational Improvement team, by emailing operational.improvement@rfs.nsw.gov.au or using an online form at <https://www.jotform.com/NSWRFS/Observations>.

The Operational Improvement team is already collecting observations from individuals and groups, assisting with significant AARs and reporting on outcomes. The team also represents the NSW RFS in a state-level multi-agency group focusing on forming lessons related to inter-agency coordination, where our members' observations inform these discussions.

A lessons management community is being built in the One NSW RFS website. There we will share case studies, reports, articles and other products. The Operational Improvement team has also assisted the Learning, Design and Assurance team by reviewing the Conduct Briefings and Debriefings (CBD) course materials to reflect the new Lessons Management Framework. ■



VALE

PETER SPEET AFSM 1940 – 2021

The NSW RFS family lost a beloved member with the passing on 12 September 2021 of 79-year-old Oakville Brigade retired captain, Peter Speet. Pete joined Oakville Brigade in 1957 when he was 15 years old, and over the next 64 years his passion and commitment to the NSW RFS and the local community was nothing short of remarkable.

Pete's father, Sidney Speet, was a founding member of the Oakville Brigade. As a young man on a farm in Oakville before he had his driver licence, Pete would run across paddocks to get to the fire shed to attend fires. He loved the Oakville Brigade and devoted his life to the NSW RFS, farming and his family.

He served as Deputy Captain, Secretary, Captain and Group Captain for Hawkesbury. He was awarded the Australian Fire Service Medal in 2005 and was Captain of the Oakville Brigade from 1997 to 2020, becoming a life member in 2017. He was honoured in a ceremony in 2020, receiving his fourth clasp for his National Long Service Medal.

One of Pete's greatest achievements was the mentoring and training of the young people of the Hawkesbury. The Oakville Cadets/Juniors won State Championships and one National Championship under his stewardship. But it was the feeling he inspired in others both young and old, that sense of belonging and being a part of something worthy, that Pete really excelled at.



He made everyone feel welcome and inspired many people to do more for their community. The Oakville Brigade became one of the largest brigades in NSW under Pete's leadership.

Pete was well known for his competitive spirit. His commitment to training and competing at field days was infectious with Oakville going on to win five State Championships. Every Sunday you could find Pete at what became affectionately known as "the fire brigade training paddock" on his farm in Oakville. For many years Pete would train with the junior and senior teams, as well as anyone else who turned up.

But it wasn't just training and competing that Pete was known for. His ability to read a fire, to keep everyone safe and get the job done were also hallmarks of Pete's firefighting abilities. Everything he did, he gave it his all and was always the first to offer help to anyone who needed it.

He was a true blue Australian legend and his loss will be keenly felt for a long time in the Oakville and firefighting community. ■



EULOMOGO BRIGADE CELEBRATES 100 YEARS

The Eulomogo Brigade in the Orana District celebrated a somewhat unexpected milestone in 2021. While researching the brigade's history in old newspapers, Captain Trevor Munro discovered that the Eulomogo Brigade was first formed in 1920, not in 1948 as originally thought.

The Eulomogo Brigade has a very proud history, from its earliest days when brigade members travelled large distances to fight fires wherever needed around the Dubbo area. The brigade today still protects the area it was allocated back in the 1920s, however it is now heavily focused on protecting the Firgrove and Richmond estates as well as the properties within its boundaries.

EULOMOGO BRIGADE

ESTABLISHED: 1920

CURRENT CAPTAIN: Trevor Munro

DISTRICT: Orana, Area Western



The Eulomogo Brigade has also participated in events further afield, assisting on deployments during the Black Summer bush fires, and as far as the Snowy Mountains, Tasmania, Victoria and South Australia. Today the brigade has 58 members, with an influx of new members being admitted following the 2019/20 summer fire season.

To celebrate the 100-year milestone the brigade planned anniversary celebrations for October 2020, however COVID-19 restrictions saw this event postponed until May 2021.

The celebrations were held at the NSW RFS Training Academy at Dubbo with many past and present brigade members in attendance, as well as NSW RFS Assistant Commissioner Rebel Talbert, District staff, representatives of Dubbo Regional Council, RFS board members and several special guests.

The event started with an award ceremony, with members receiving their long service medals (a total of 232 years of service with the NSW RFS), two Commissioner's Commendations and the NSW Premier's Bushfire Emergency Citations. ■

Main and left: The current day Eulomogo Brigade in service.

OUR BUSH FIRE bulletin HISTORY

Bush Fire Bulletin,
Volume 30 No. 3, 2008

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AUSSIES AT THE CALIFORNIAN FIRES: RUSSELL PERRY



Prisoners serving minor sentences were employed to construct hand tool lines near the fire line. They were brought in and out with Blackhawk helicopters.

CHOPPERS, COBRAS AND BEARS

By Russell Perry, Helicopter Manager

For the first two weeks of my deployment I was assigned to a helibase located at Chico, northern California, where a number of large fires were burning.

The local show grounds had been taken over by Calfire (California Department of Forestry and Fire Protection). There are a number of similarities between Calfire's command structure and the RFS - they were a real pleasure to work with.

I arrived at Chico's airport where a sizable area of vacant land had been taken over and was being used as a helibase. There were a considerable number of helicopters onsite: 1 Chinook, 4 Blackhawks, 3 Jetrangers, 1 Longranger, 2 Huey's, 2 Squirrels, 1561, 1 H500, 1 Aircrane, 1 Skycrane and around the corner was a dozen heavy air tankers.

I was assigned to Chico Helibase as helicopter manager, where I was to manage the Canadian Aircrane. Apart from our normal helicopter manager responsibilities we would often assist with crew shuttle assignments. The numbers varied from a few up to 140.

Prison crews

The crew of 140 was a prison crew. We flew the prisoners from the helibase to a helispot where they would construct a



Russell's tent at Marble Mountain helibase camping area - bear country

handline in places where the terrain was too severe for machinery.

Because of their carrying capacity and performance, the Chinook and multiple Blackhawks were used to fly the 140 prisoners up to the fireline. These prisoner crews all wore orange coloured PPE, were paid about \$1 per hour and were serving sentences for minor offences. No murderers, sex offenders or arsonists.

Cobras in flight

After R&R I was reassigned to the Scott Valley Helibase near Etna, this time I managed a jetranger.

An interesting aircraft which arrived at the helibase was one of the US Forest Service (USFS) Cobra helicopters. The USFS purchased 26 ex military Cobra helicopters for the princely sum of \$1 each.

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”.



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.



BUSH FIRE bulletin

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Cover photo: NSW RFS member Ash Morrow on deployment in Ontario, Canada in July 2021.
Photo courtesy of Ash Morrow.



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