## Conference Proceedings – Speaker Transcript

## Opening Address – Minimising the Impact of Bush Fire on our Communities and Environment

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Link to Slides

The NSW Rural Fire Service have a longstanding relationship with the Nature Conservation Council and its biennial conferences.  I opened the conference two years ago and have previously opened others.  I've attended many of them and enjoyed them immensely.  We are very proud of our partnership with the Nature Conservation Council and we are proud supporters of this conference.  So welcome today.

At this conference there will be a number of RFS speakers who will talk to you about some specific issues like the Bush Fire Environmental Assessment Code, which is currently being reviewed.  Ross Peacock will be talking about flammability of rainforests and Simon Heemstra will be on the panel tomorrow.

I'll give you a brief overview of the season that has just been, the 2016/17 season.  I guess that quote from Commissioner Shane Fitzsimmons (Slide 2) epitomises some of the weather we've had.  This particularly fire was at Ilford, near Mudgee, which burnt out a substantial area of cropland.  We had catastrophic fire danger conditions recorded on Sunday the 12ᵗʰ of February 2017 in a number of locations across the Hunter, Central Ranges and Upper Central West Plains.  That's the worst case of fire weather.

State-wide, the mean temperature for last summer was the hottest for New South Wales since records began, with temperatures 2.57 degrees above average.  Sydney had its hottest summer on record with a mean temperature 2.8 degrees above average.  So things are warming up.  Moree, in the north of the state, experienced 54 consecutive days with temperatures above 35 degrees.

We do get wildfires most years.  Some years are worse than others.  2012/13 was a particularly severe year for burnt area.  Although we didn't have as many incidents, we had a lot of large fires.  As you can see by the numbers (Slide 3), the seasons that we have are quite variable.  We go from 1.4 million hectares of area burnt down to something like 87,000.

The last fire season (Slide 4), in terms of how many incidents and the area burnt, wasn't as big a season as we've ever had, but it was certainly a challenging season, particularly with the catastrophic weather. We had over 11,000 bush and grass fires. We had over 260,000ha burnt. We declared Total Fire Bans 27 times. We had 25 Section 44 declarations. That's when the Commissioner takes charge of firefighting across the state. We tasked over 1,400 aircraft. Unfortunately, we had 280 firefighters injured and we had, sadly, one fatality; one of our firefighters from the south coast.

In this day and age, we use emergency alerts through the telephone system to provide messaging to the community. We sent over 2.3 million alert messages during the fire season. Many of those were as a result of the catastrophic weather. Over 23,000 calls were registered on our bush fire information line with the community seeking information about fires and fire affected areas.

Unfortunately, an artefact of major fires is, sadly, still losses (Slide 5). During the last season, we had 65 houses totally destroyed. We had 38 damaged. We had a number of facilities destroyed and outbuildings. The estimated value was about $96 million, conservatively, in losses. The rural sector lost a large number of cattle, sheep, horses and other animals and over 7,000km of fencing.

Looking ahead (Slide 6), the BOM May climate outlook suggests that we're going to get below average rainfall and warmer than average temperatures for the southern half of the continent. The El Niño is currently neutral. What that means is we're probably going to start coming into spring and summer with drier conditions.

In regards to predicting long term conditions, the New South Wales ACT Regional Climate Model Project is predicting an increase in the annual mean number of days with the Fire Danger Index greater than 50, which is 'severe'. The increases are greatest during the peak prescribed burn season and the peak fire season. One reason that is a concern to us is if fire danger increases, it's going to be difficult for us to do hazard reduction burning in the spring period, which is when we do a good deal of our hazard reduction.

To give you some idea of scale, we do about 25% of our hazard reduction burning activities in the spring in New South Wales and we do about 53% of the burning in autumn. If the spring burning period is restricted, it has a detrimental effect on our hazard reduction burning program because it makes it much more difficult for us to control fires. The weather recently hasn't been kind to our hazard reduction burning program. It's very difficult to do this work when it's pouring with rain and flooding and we are quite behind. We are hoping to catch up this spring.

I'd like to talk about a few of the initiatives and projects that we are pursuing as a Service and with our partner agencies into the future (Slide 7). One of the new initiatives through our community engagement program is looking at behavioural insights for the community. We do a lot of community education - we go out and talk to the community, we try to educate them

on how to prepare themselves and how to prepare their properties, we encourage them to do things like prepare survival plans. The take up rate for that is, sadly, not high.

One of the new initiatives being trialled is using behavioural sciences to help us understand how to sell our message to encourage people to not only understand the message, but to act on the message.  Understanding it is one thing - what we find with statistics is many people actually understood they were at risk.  They understood that there was a bushfire risk and they could be threatened by it.  But then they failed to take action to protect themselves.  So by using some of that behavioural sciences information, we hope to improve how people understand and act on the messaging and prepare themselves before the fire gets there.  Not wait until the fire gets there and make a decision then.  Because, sadly, that's often too late.

Currently, the Behavioural Insights team is engaged by the RFS to assist us to establish a strategic framework and develop directions from 2017 to 2021.  The aim of this is to shift our 'at risk' community from contemplating bushfire preparedness tasks and proactively practising the desired behaviours.

One of the initiatives is to make our bush fire survival plan process as simple as we can, so that people actually do it (Slide 8).  Our research, after several fires, demonstrated that less than 2% of people actually had a written plan.  So we've recast and redesigned the survival plan and the portal with the intention of making it as easy as possible for people to develop a plan for what they're going to do if a bushfire threatens.

So getting ready for it is easier than people think, and that's part of the messaging.  We want them to understand it isn't that hard.  They need to discuss with their family what they're going to do.  They need to prepare their home; make sure it's as resilient as it possibly can be.  They need to know what the bush fire alerts actually mean.  And they need to keep their key information readily available.  It's not a complex process, but with a 2% take up rate, clearly, we're not getting the message through.

You may already be aware of some of the other programs that we're running (Slide 9). The New South Wales Government has passed legislation to establish a fire trail network program across New South Wales.  That program is designed to ensure that the fire trail network is strategic, meets the needs of fire suppression and mitigation and is a robust, high quality network.  That's one of the major programs we'll be running and rolling out over the next three years.

Coupled with the fire trail program is a need to develop fire trail and fire access plans through the Bush Fire Management Committee network.  Those plans have to be done within the next three years.  A trial is, in fact, starting today, to build the structure of that planning process in BFMC areas.

Another program we're running at the moment with our aircraft is using night vision goggles to investigate using night operations for aircraft.  Currently, our aircraft generally operate in daylight hours.  At night, other than the line scanning aircraft, they don't operate.  We want to start using our aerial platforms more efficiently and use them at night to do some of the tasks

that are much safer to do at night. Whether that's aerial seeding or perhaps water bombing to support ground crews. It doesn't come without technical and other challenges, safety is a critical component of that program. We will be progressing slowly to develop the techniques and technology to use it most effectively.

For the last two years, we've been trialling both large and very large air tankers in New South Wales. They've been quite successful at supressing a number of fires. To give you some idea, in the last year, we dropped something like 2.5 million litres of retardant using those aircraft. The aircraft can provide very high quality retardant breaks or gel breaks efficiently and quickly, so they are a useful resource for suppression.

We have an existing RAFT program (Remote Area Firefighting Team). Our RAFT program involves flying remote area crews into areas, then winching them in to catch fires whilst they're very small and to stop them growing into large fires.

A further facility that we're improving is base camps. Many of our areas where we have large fires are remote. It can take some time to move crews from the nearest town to the fire. If you're travelling in a CAT 1 tanker for an hour-and-a-half to drive to the fire, then working all day and then driving an hour-and-a-half back, that can cause significant fatigue problems. Our base camp program is designed to set up a high quality camp to house crew as close to the fire as we can to minimise travel time.

Interestingly, the last time it was deployed was in Lismore for the floods. Our firefighters went up to Lismore, as did Fire & Rescue NSW and a number of other agencies, to assist our colleagues in the SES with the floods in that community. Accommodation is extremely tight up in Lismore, particularly since half of it was flooded, so we set up a base camp for all of the crews. That facility is being increasingly used for floods and other activities.

We've also deployed the base camp interstate. The cyclone that damaged the Northern Territory caused significant damage in Elcho Island which is just off the coast of Arnhem Land. To help that community we set up a base camp for them for about nine months, until they could rebuild some of the houses.

Another initiative we're running for the first time this year is a fire behaviour tactical tool (Slide 10). We've deployed weather balloon capability so that we can measure atmospheric conditions close to major fires. This provides us with much better information about predicting fire thunderstorms and other air observations. They're supported by a large number of portable, automatic weather stations that are set up around the area to provide critical weather data during those events.

The project is designed to monitor and detect the conditions favourable for the development of fire thunderstorms. We field validate these conditions using upper air observations. We provide accurate and targeted briefings for incident management teams about the potential for fire thunderstorms. The project will assist with the forecasting of natural thunderstorms for

incidents in New South Wales.  It will assist in verification of the forecast for those incidents and it will provide much needed support for incidents during those very complex and dynamic fires.

As part of rolling it out with the automatic weather stations, we can also provide improved availability and reliability of weather observations across fire grounds.  That equipment is currently in place.  It was deployed 31 times during the last fire season for field work and it will be an increasing part of our intelligence going forward.

Another initiative is smoke dispersion modelling. Any of you who live in Sydney would see what the smoke can do, particularly when you have the right weather conditions, or the wrong weather conditions, depending on your point of view. When we do a lot of hazard reduction burning or have fires, the basin can fill up full with smoke.  One of the projects the RFS is doing is looking at improving our smoke plume modelling software.

That will provide us with an enhanced capability to predict smoke trajectory and concentration from wildfires and prescribed burns.  Increasingly, we're working with our health partners and other agencies on that program.

We're also investing in strategic research (Slide 11).  RFS is the lead for the National Fire Danger Rating system, building a fire danger rating prototype.  That will be deployed, as a prototype, for the coming fire season and trialled over the next 12 months to two years, with a view that a new national fire danger rating system will be developed along with software to support it.

As part of that project, we're also doing a weather re-analysis program.  We're constructing a high resolution weather dataset for the past 25 years.  The data will enable understanding of past fire events and fire climate in areas not well served by the observation network, and it will serve as a baseline for some climate change studies.

The other part of that program is a national fuel classification system.  We are leading participants in the development of the national fuel classification system.  The system will build on the existing floristic classifications to build a system which is tailored for understanding fire behaviour and regimes and can be used across state borders.

Increasingly, we're looking for nationally based programs that we can use across Australia, particularly given that software tools now make that a much more achievable outcome.

In terms of environmental initiatives, we have a longstanding partnership with NCC and Hotspots (Slide 12).  We've been doing this for 16 years.  We are very proud of that partnership and will continue with it into the future.  We've delivered 12 workshops, roughly, per annum. We're trialling an online mapping tool.  There is a fire and weeds scientific review and landholder booklet being developed.  We've just commenced a collaboration with Indigenous groups.  We're also now doing firefighter training to complement the Hotspots workshop delivery, broadening the whole program.

We are increasingly concerned about looking after environmental and ecological values in rural areas (Slide 13).  The Wallarah Hazard Reduction Burn, which is about 32ha, was about protecting the critically endangered Wyong Sun Orchid.  OEH will continue monitoring the regeneration of that orchid, so we'll be interested to see how that progresses.

Next generation risk plans are currently being developed. We're going to use fire behaviour simulators to trial options for hazard reductions to offer greater protection for not only environmental values, but also for people and assets.  So this next generation program is designed to use the best and latest in technology to improve how we do risk planning and how we design and deliver treatments into the future.  The current trial is in Numeralla.

We have two critical planning instruments that we use (Slide 14 & 15).  One is called Planning for Bush Fire Protection, which is a development instrument.  It regulates buildings in bushfire prone areas.  The latest draft version of Planning for Bush Fire Protection is currently out for public comment, so we would encourage you to go online and have a look at it.  If you wish make comments, please do so.  The closing date for that is the 25th of June.

As well as Planning for Bush Fire Protection, we also have an updated Bush Fire Environmental Assessment Code out for public review. Submissions on both close on the same date, 25th of June, and we would encourage you to have a look at them and put comments in, if you wish to.

Lastly, we have a number of partnerships across research institutions and the community, Nature Conservation Council being probably our oldest one (Slide 16).  We have a research partnership with the University of Wollongong, the Bushfire and Natural Hazards CRC and the Behavioural Insight Unit, which is the Nudge Unit.  Those partnerships allow us to work on strategic research projects to improve all of the parts of business that we're involved with in the bushfire space.

As well as that, we partner with communities generally.  Our brigades are very active and come from the communities, so they're quite active in them.  But we're also heavily targeting schools to try and improve their resilience, understanding and protection during bushfires.  Again, our partnership with NCC is ongoing and very important to us.

We need to continue to strive to empower our communities to achieve and maintain behaviours that reduce the impact of bushfires on people, property and the environment.  We need to encourage them to be responsible and sustainable with their fire management.  We need to build people's capacity to make informed decisions and would like to encourage them to make decisions early, as well.  Thank you.