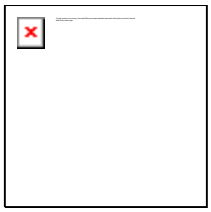


Title	Mr
First name	Bruce
Last name	Clark
I am making this submission as	Resident
Submission type	Personal
Organisation making the submission (if applicable)	
Your position in the organisation (if applicable)	
Consent to make submission public	Public
Your story	M report of the observations and actions during the time I was fighting the fires in the Area during 2019/20
1.1 Causes and contributing factors	Negligent behaviour, and decision making by National Parks NSW and RFS NSW. Failing to grasp the concepts of fire control on established principles and how allowing the Gosper's Mountain fire to establish and continue was a mistake by all Agencies involved. Allowing the fires to grow and be declared "Mega" created hysteria in the public and is a failing of management on every level.
1.2 Preparation and planning	Failures in the systemology and approach to fire management by the RFS NSW. Errors in organisational structure, culture and nomenclature. Inability to execute roles professionally and in concert with the demands of a bushfire and in accordance with professional due diligence.

1.3 Response to bushfires	Failure to gather and use all available information in a decision making process. Wastage of resources. Wastage of finances. lack of professionalism. Lack of proper planning and resourcing to ensure effectiveness.
1.4 Any other matters	Deficiencies due to the selection and employment of staff not fit for the task at many levels. Failure to understand basic fire principles. Trying to fight fires from screens in Homebush. Failure to liaise with resources. Failure to effectively utilise available resources. Failure to employ all trained and worthwhile resources. Miss-guided philosophy of how and when to fight fires. Failure to recognise the realities of firefighting, especially in drought and climate change. Persistence with the false belief that water bombing is the main effective measure in fire control. Excessive reliance on water in the solution to fires.
Upload files	Issues-of-the-RFS-and-National-Parks-NSW-and-the-Wollemi-fire-of-2019-around-Olinda.docx - Download File

Firefighting Observations
and Lessons to be learnt
in association with
the actions and competency of
RFS NSW and National Parks NSW
during the
Gospers Mountain Fire, NSW, 2019/20

A report without prejudice.

Synopsis:

The Wollemi Mega Blaze, never need to have been what it became. Declaring it so caused undue panic in the community and in itself was an admission of miss-management. That mismanagement was multifactored and multi-Agency. The lack of understanding for the true and full ramifications of fire including the financial implications for the National and State Economies as well as the local Farmers and the Community were not only ignored but the actions of the agencies charged with firefighting were negligent and counterproductive. This report examines the events around Olinda, NSW as the fire was allowed to consume properties and livelihoods due to a lack of awareness for the basic principles of firefighting. The current approach by the RFS NSW ignores all experience and lacks any foresight for the challenges of the future. The actions of the National Parks NSW teams lacked any real appreciation for the true situation they faced and were equally bureaucratical and counter-productive. These counter-productive management approaches directly risk lives and wasted resources, Physical, Environmental and Human.

The RFS has been corrupted by the bureaucrats at its head and in State Government. They cannot even reference their locations in a professional and capable way. I have experience as an Air Ambulance Helicopter Pilot, Operations Consultant and Trainer and I was appalled by the lack of professional competence and negligent conduct. This report seeks to identify the problems and provide solutions or at least directions for improvement.

Contents

A typical Topographical Map.

Indicative reproduction of an RFS "Plotter" Map.

Issues of the RFS and National Parks NSW and the Wollemi fire of 2019 around Olinda.

- Fire started and reported 26 October 2019
- Size when first reported, 3 hectares
- Located in remote bush, but with road access.
- Judged by Landholders who are also long serving RFS members to be easily controllable at the time.
- Failure to act and failure to act appropriately saw this fire:
- Eventually burnt 512,000 hectares, not including the associated side fires that were linked with it.
- Endangered homes and lives throughout the region.
- Damaged the National and State Economies.
- Damaged farmland, disrupting income from Farming.
- Caused health issues throughout the region and extents of the spread of the smoke.

During the period mid December 2019 and 1 January 2020, I travelled at my own expense in costs, transport and time off paid employment to assist in the fire effort around the community of Olinda, NSW. As a former Air Ambulance Helicopter Pilot in NSW who has given himself to community benefit above professional advancement and higher income, I was extremely disappointed by the division and counterproductive efforts of state Employees, namely in the RFS and also in by some National Parks Staff.

In short the fire that became the Wollemi Mega blaze developed into what it did, as a direct result of the actions of the National Parks staff who were initially tasked with its management, and then later with the added contribution of inappropriate ongoing management by the RFS. The continued actions of the RFS command and the National parks representatives also contributed to the general lack of effective control techniques that saw the fire continue for weeks after it should have been safely extinguished with minimal impact on everyone and the Ecosystem. Of course, “everyone” means the entire population of NSW who will be paying for the Appalling Management of these fires for at least a decade to come.

Fundamental to the overall issue of Bushfires and their control is the need to manage an array of co-factors. Among these is Drought, Climate Change, cessation of old growth timber logging, and the basic competence of the people charged with the management of these issues. Even and not to be ignored is the effect of Carbon capture schemes and the reality of land management as practiced by those companies holding large swaths of land that want to minimise any ongoing management costs regardless of the impact on fuel loads.

Some very fundamental lessons need to be observed and seen in the control of fires in the Australian environment. The signs are all there clearly for anyone who reviews the evidence without vested interest and considers the problem as not complex but yet very multi-faceted.

A special point must also be made as to the media coverage of fires and the way the RFS used the ever-growing nature of this and other fires to their organisational advantage. They declared them mega fires. In doing so they did two things. They declared the enormous criticality of this effort and how they should be given more power and funding. They also scared the general populous and created an exaggerated sense of heightened extreme risk, this fuelled a widespread hysteria in the population. We had to deal with people management and pacification where we could have been actively addressing the true risks, because people were so scared. They were not telephoning triple zero, but us, because they knew we were there and we the ones truly fighting the fires. They trusted us where they had lost trust and faith in the State's Responders.

Analysis and interpretation of the natural situation as it stood before the fire started on 26 October 2019 from a dry lightning strike that was reported without any delay.

Fires will occur naturally in the Australian environment. We need to accept this and have truly effective strategies to deal with them when they do. So many farmers, although involved in the RFS also keep fire trucks and fire trailers. There are collectives within RFS fire branches that have fire trailers with Tank and Pump etc strategically located and anyone can go into anyone's farm to take one for a fire. These groups know that the faster you respond the more controllable the fight and ultimately successful.

Apart from the environmental science about old and new growth and its relative contributions to the environmental balance, the issue of old growth logging has a role to consider. Where old growth logs are permitted to be removed the Loggers keep what are dual purpose tracks open and passable. When fire comes, the existence of these tracks allows close access to fires, that again allows timely countermeasures to be enacted and the fire stopped along several possible fronts. This controls the intensity and the general devastation of the areas.

Questions arising from the initial 2 weeks of flawed action and lack of extinguishing action by National Parks NSW.

National parks were explaining at the Olinda fire shed one afternoon, when they could have been working on fires, how it was impossible for them to do anything except supervise the fire for the first two weeks. This is highly suspicious. First they new how bad the season was in NSW already with the Port Macquarie Fires having already burnt out of control for over a month. This should have immediately said both from the fire and environment perspectives and on manpower that any new fires must be stopped and extinguished immediately at all costs. The response system cannot deal with another fire at this time.

They also said they flew to the fire and supervised it daily. During this time, they claim they could never land near by to insert teams or water bomb the fire to effect any control measure at all. They said it was too windy and the Pilot could not hold the helicopter still. This is complete farce. Simply turning into wind stabilises the craft. Changing time of day and the day itself changes conditions. The Helicopter should have been able to land a team if not at the fire then somewhere nearby where they could then walk to the fire from a safe side.

National Parks staff, I feel, enjoyed the payroll bonus allowance for being on fire call duty and failed to release the true potential devastation that was obvious to all except those with a vested interest to allow a fire to expand. If this is so, they also jeopardized the natural outcrop of wild Wollemi Pines

Later a similar palsy in cognitive thought processes was exhibited when they stopped fire breaks from being cut, because they were knocking down tress. By the time of that instruction on Nullo Mountain, the fire had already consumed over 450,000 hectares of land and killed vast numbers of wildlife. Effective fire breaks were a vital and valid tool to employ to protect the remaining bush.

National parks then spent millions of dollars in a secret action to save the wild outcrop of Wollemi pines, and at the same time refused water collection from Dunns swamp, which later was destroyed by fire.

The issues that presented in the RFS approach to the fire and general lack of apparent competence of the salaried RFS Staff.

It must be remembered always that there are good people in all organizations, just as there are bad. These are comments about the people who had interactions with us via the Olinda station, and are not all encompassing of all Salaried RFS staff. RFS volunteers are another group again.

Observations:

RFS staff in Rylstone and Mudgee could not find Olinda on a map. Despite there being a fire shed there. How can any competent organisation not be able to find their own installations within their local area? What organization allows non-competent staff to man communications centres for action coordination during an emergency event.

The RFS management that came out after the fires had already been active in the region for weeks, wrote up their white board. A situational information tool. The first thing they wrote on the board was where to get breakfast. Then next item was here to get lunch and dinner, which was also concluded with an exclamation mark. Where was their focus and professionalism to primary duty?

The UHF and other comms in the region were broken and unreliable.

The maps generated by the RFS were printed on a plotters and lacked effective detail and yet were clouded with superfluous details and icons, obliterating the base information. The computer program allows overlays but when applying an overlay it does not print the base information. This means the maps lose vital intelligence.

The maps generated by the RFS did not have consistent identification and grid markings to allow them to be universal reference documents.

No forward planning such as the CFA Region Map Books created and used by CFA crews in Victoria.

Potential professional negligence in not transmitting requests for back burns to higher command in Mudgee and emphasising the importance as determined on the fire line. We asked for one back burn in particular to save several houses. We were told to go and drive it and plot it. Then when we reported back with the information, and RFS command at the Olinda shed had to be ordered by us, to write down the coordinate data they had demanded we collect. On successive requests during the day we were advised there was no word yet. Then at 1800 we asked again and the phraseology of the reply was telling: “they’re not even considering it”. Surely if you have put it forward with your endorsement because you are on site and can understand the validity and safety of the action, the answer should be either they have said “yes” or “no”. Their use of terminology makes me feel Mudgee was not considering it because they were never asked. What Transmission logs are available to prove there has not been a gross negligence by the RFS Commanders?

Refusal by the salaried RFS to come to the fire line and see the issues explained to them.

The attitude of the Group 2/6 Captain who said, “someone’s got to burn” as a rationalisation for doing nothing, when proactive action could save properties (livelihood in times of severe drought stress), families, homes etc that are all in the path of the fire before it reaches the RFS fire line for defence. A fire line 13 kilometres past where he was then standing.

Refusal to assign unallocated resources to support local landholders who were single-handed, defending fronts with their own equipment and people.

Only arriving at 0900 each day and generally leaving at 1700.

Ordering that all resources and Contractors Must be on site at the command station at 0630 daily despite this late attendance by the two RFS managers. This pays Contractors for nothing and demoralises the workforce by demonstrating incompetence.

General lack of awareness of fire and the way it behaves. Lack of awareness of how to fight fires in the Australian environment that have been learnt and mastered over 4 or 5 generations.

Refusal to take advice from the local Fire Captain who has local expert knowledge of how fire behaves in the local environment (topography, fuel loads, local winds etc).

Graded fire-breaks were instructed to be put in too close to the tree-line. The effect of this was that crews were then absorbed with monitoring fires because the fire break could not be considered a safe defensive line. Burning trees were continually falling beyond the breaks, leading to further spread of the fire.

National parks staff directed bulldozers to “not knock down any more tress” in putting in fire breaks. The fire had already burnt 250 or more kilometres as the crow flies from that fire line. Stopping the fire before it completely destroyed the entire forest, should have been considered a better option than saying no to a fire break and risking the remaining 25 kilometres of bush habitat. Who manages bush fires in NSW, the RFS or National Parks?

In view of the extreme demand on the volunteer workforce, more emphasis should be given to controlled fire backburns. We had fires continue as a significant risk that required manpower and equipment resources to be diverted from critical fire duties, to watch persistent danger areas. Had permission been granted to backburn the same tree line and remove the fuel that would sustain the fire, those resources could have been re-allocated instead of spending 9 days supervising a poor decision. We felt the police presence as called for by the RFS command was deliberately there as a threat to us, by the RFS command at Olinda, to not start a sensible backburn for fear of prosecution and to empower them in in their dictatorial management style.

The RFS commanders sat in safety, drinking refrigerated drinks, eating free food and using a porta-loo, while we volunteers risked our lives in the face of fire and trees to control the fire with little or no assistance from the RFS commanders. This was complete professional negligence on their part. Their dictatorial, hierarchal system of management promotes those who are bureaucrats, not operational or functional in effect.

The competency at reading and following information demonstrated to them on maps was questionable. Again, as a commercial pilot and Pilot Instructor I have taught people to read maps. I could see that these two were challenged in their ability to visualise the information being described to them, and comprehend it, and compile it in their mind with the map information such as topography. The demonstrated behaviour was either that or a demonstration that they simply and in professional negligence, were not interested in being advised of actual facts.

It may sound petty in today’s world where standards of professional presentation and competence in so many aspects of our daily lives, have dropped so low, but professional presentation goes towards demonstrating to those around you, why you should be taken seriously and respected. The

junior commander, who was a Captain, and who despite being there from the RFS as a "commander", presented with his shirt hanging out from start to the end of shift for no valid reason, wore a sports cap and some multi-coloured fancy belt. I am not sure if his boots were always done up but I recall thinking some other aspect was also completely un-inspiring. This in a small way does comment on the approach to task or assignment that this person possesses. That he feels there is no issue in representing his employer in this way. People can present badly and then turn out to be very professional but when you are dropped into a situation where leadership of an unknown group is required, you start from behind by not arriving, as if you are a professional. For him to not understand the effect of his professional presentation has on the willingness of the workforce he has to believe in his professional judgement and decision is the failing here. He was after all making decisions that are truly life and death ones for the people who are expected to carry them out. Importantly, it does not inspire those around him to have confidence in his decisions based on his professionalism. His later decisions and actions were completely in concert with his presentation.

Mudgee control demonstrated their lack of competence in both controlling fires and codes of conduct in relation to communications. One night in the Dunville Loop area, the local Captain had assigned an RFS out of area crew stand to, on a flank and monitor it. During the night the Mudgee Command group removed this crew without informing the local Captain. This not only exposed a flank that was locally thought to be protected, but also demonstrates the lack of professional respect shown by RFS command for the Local people who have experience successfully fighting fires in their own regions. It also highlights the defective culture that exists within the RFS more generally. That is, "Do as they say or you will be expelled from the RFS". I wonder if this also was involved when a crew accepted and enacted the order to start the Bilpin Backburn at the wrong time of day and with so many factors not satisfied.

The focus of the RFS has shifted from actively trying to contain a bush fire and fight it in the bush to watching fires and waiting for them to run out of fuel. The reason why the RFS have shifted the focus of their response is not clear and should be deeply and honestly explored to enable the organisation to become effective once again.

The focus of the **Rural Fire Service** is no longer on trying to save a **Rural environment** that contains farms and as such livelihoods, but simply saving houses. Although only saving houses when the fire has emerged from the bush and is now in open ground.

The adages, "fight fire with fire" and "you must attack the fire, not let it attack you", are tried a true approaches for successfully controlling bush fires. The closure of old growth logging and the effect that has on tracks in the wilderness, combined with the lack of maintenance on access tracks for Powerline and other services, has closed off access in times of emergency also. You cannot fight a fire if you can't access it.

The Services still need to be maintained and inspected, so access is still required. Not only does the absence of access tracks cause issues in fire emergencies but it can also be understood that the same absence also makes any emergency access difficult, e.g. for flooding or personal injury of a worker that must be evacuated.

Due to the closure of access, decisions of where to fight a fire are now being made as a second priority. Instead of being proactive and saying, “this is the ideal spot to mount our defence”, we are now being made to make the first attempt to stop a fire, only when it nearly approaches or reaches a population centre. This deserves putting clearly. The RFS approach is now to mount a concerted fight ONLY when houses are directly threatened, and in a population area they deem worthy of the effort. It also means one more thing: This is the Last and only line of defence, so there are no second chances if this idea fails. There is no understanding of the importance of farm land to the National Economy or willingness to proactively try an extinguish fires ASAP (Considering the wider economic picture along with safety, resources and appropriateness of actions).

Inconsistency in information transfer. In mapping the RFS has introduced the use of 3 different systems for referencing locations. Maps use an international standard of Latitude and Longitude, which is a convention fully understood and widely used. For example, the RFS demanded that our Back burn request coords be given in their 6 digit RFS Mapping format. A Simple review of the RFS “Buddy” app, shows how this system is convoluted. Over-crowding of systems and approaches to simple tasks simply obscures information. To state Fire information to 30 or 10 m accuracy is farcical. Clearly the people responsible for this decision thought more of technology and far less of practical justifications. The app gives options:

1. Latitude and Longitude, Standard mapping, Degrees, Minutes, Seconds
2. Latitude and Longitude, Standard GPS, Decimal Equivalent to above
3. Latitude and Longitude, Aviation, that has no relevance. Water bombing is still trying to “hit” a ground feature.
4. RFS Mapping, a 6 digit code that ONLY relates to a Special Issue map from the RFS

   (NOTE, this mapping reference system is not the system used on the “Plotting maps” as used by the RFS on scene) These maps are attached in the appendix.

5. Easting Northing, that again is not related to a map not even supplied on the fire ground.

The other great inconsistency in the mapping processes I saw was the constant variation in map Scale and the abnormal scales. When people are challenged to find information on a map, they will do this more quickly and with fewer errors when they are dealing with habitual knowledge. Pilots have really only two maps (applicable to bushfire situations). They can quickly and easily cross between them and remain aware of dimensions and distances. If maps are scaled in plotting, simply to fit he page, this shows the person charged with printing this map does not know the practical realities of the maps and how they are used. For example if I am accustomed to looking at a map and visualising how long it may take for a fire to travel a distance or a crew to drive to a front, this is easier if the scale is constant. If I am told a fire is moving at a specific speed, I can relate this instantly to say that therefore anything closer than “xx” cm on this map is at threat and therefore requires immediate action. <u>These are practical skills that anyone who USES maps understands</u>. **<u>Clearly, those in the RFS responsible for their maps do not try to USE the maps practically for a given purpose.</u>**

As a former professional Pilot, I question any worth of the aviation Coordinate system. The object is a feature on the ground. That is where crews might report from. That is where a water drop is required. If I am flying to a ground feature, that is what I need to reference and that is what the ground crews will most easily work in.

There seems to be a complete reversal in the understanding of fire dynamics by the RFS. Orders and permissions granted at 10 or 11am to light backburns immediately, instead of planning to do them in the relative cool of the night, with increased moisture in the air and generally lower winds to allow them to “walk” as desired. These are things older RFS Volunteers and command understood. They seem now to be reversed and in general we are seeing these new approaches fail upon testing. E.g. the Bilpin back burn.

The RFS Command seems to consider fitting the accomplishment of their daily administration routine into a 9-5 workday runs something like:

Arrive at work,

Consider information and develop a plan,

Communicate that plan and enact it,

Assume that plan is appropriate for daytime operations and assume the fire will be controlled by 5 pm when you sign off.

What happened to Information gathering in this planning process? You cannot formulate a plan of action without gathering current situational information first. Here in, is the problem: the information comes from crews on the ground that have been on duty overnight. It is accurate, timely and considerate of the local environment and the implications of local terrain, weather and resources. These views are not welcomed, or invited by engaging with certain locals as a vital and accurate information source.

The failure to consider and authorise sensible backburns also wasted yet more resources in equipment and manpower. Failure to approve a sensible, controlled backburn when resources are available to ensure it remains controlled and achieves its objectives, leads to an exposed fire line that is not contained. Containment here is expressed by a lack of Fuel to support further fire. The direct result of the RFS refusal to grant permission when all environmental and resource conditions were satisfied for controlled back burns, was that exhausted volunteer teams had to guard these dangers longer and more unburnt ground was exposed to risk for longer.

In reference to the widespread coverage and emotional connection of people who are touched by these fires and consider Volunteering to support their community.

We already know that the workforce is reducing in regional and rural areas, the remaining population is aging, both due to those who are left when the Children leave the area, and the Retirees that leave the City for a rural life.

Not everyone who wants to help their community can help in active firefighting duties.

Firefighting is dangerous and largely unpleasant, hard work. The smells and heat can have adverse involuntary effects on the most conscientious volunteer. This can trigger stress reactions that can render his or her continued involvement not possible and require another person to care for them. Further reducing the effectiveness of the crew. Similarly the Training and General Practicality of those fighting fires is important, as is their inner discipline in times of heightened stress factors. The heat and smoke make it harder to work at the level of physical exertion required to fight fires and if you do not have the stamina to endure long periods of sustained high effort you may be endangering others by being there.

In aviation we describe a safe cockpit for the flight crew as having a level or flat command gradient. Both Pilots can challenge each other, if something seems wrong. It must be the same in Emergency response by road. All in a truck should be aware they need to speak up if the Driver seems to be taking excessive risks getting them to the fire. It is an established rule that in order to help in an emergency, you have to get there.

The discipline to also consider the safety of all those around you and drive vehicles, operate machinery and even tend a hose while still focusing on situational awareness and considering and eliminating risks where possible. E.g. driving sensibly, looking out for trees that might fall on others. These are established parts of a safety management culture even in dangerous situations. Some people are suited to moderating their excitement in times of stress and still maintaining a focus on these important safety issues.

All these considerations apply to the RFS and any other emergency organisation. It does not exclude people from contributing but we need to consider what and where people contribute. It is still a team effort regardless of what you did. We need volunteers and we must respect them, but not endanger others by being unwilling to discuss Risks, Attitudes and suitability.

The real implication of climate change as it should be considered in the light of the 2019/20 fire season.

Clearly when considering the weather charts now as to those 20 or more years ago, we can see the isobaric centres of the pressure cells (low or high) have all moved south in latitude. Our issue here is to consider bushfires, not debate how and why this has occurred. The effect of the relative position of the pressure cells is that, when that cell spirals over the ocean or land and has the opportunity to collect of deposit meaningful rainfall. We now experience the 180 degree opposed direction of movement of the air in the cell. In short and somewhat simplified, the cells are more prone now to rain over the ocean instead of over land. So, our land is receiving less rainfall than in the recent past.

This means we will have more stressed vegetation that will by pure plant physiology, shed more leaves to the ground. The water bodies will have less water in them, leaving less local opportunities for water collection for firefighting.

Combining this means More Fuel and Less Water to put out fires. Therefore, we need to determine a course of action to control the fuel loads better and our strategies must not rely on water for extinguishing fires. We must use mechanical measures aided by water, not the other way around. Prior to trucks our ancestors faced the same issue of an inability to carry sufficient water. Therefore, raking and beating were developed as the prime control measures. In response to climate change we need to realize the same applies now. We cannot collect or carry enough water. Water must be a final stage control measure, not the primary.

Similarly, Airborne water bombing is a tactic, but not a solution. Real evaluation data is required for the true effectiveness of water bombing and from that a determination of its true place in a fire management plan. We need this to be done before further taxpayer dollars are spent on measure that are dramatic but not necessarily effective.

Looking ahead to future fires and what can be done to manage them more effectively.

The RFS need better comms and a system that can be deployed locally to instantaneously boost them. Whether this is UHF repeater towers, or something else is open to discussion but the open channel and shared information for situational awareness of a radio network seems the preferred option.

Aboriginal Cultural Burning is not a new concept. We have done it by many names for a long time. Today there is even documented scientific evidence that prescribed burning in controlled conditions actually releases less CO2 to the atmosphere than decomposition and that the new regrowth consumes greater quantities of CO2 than are released by the fire itself.

Aboriginal cultural burning considers fire size, fuel load and fire spread. All these are considered and key to being able to ensure a fire remains as desired is access. We need the fire trails re-established throughout the state if we are to manage fuel loads by fuel reduction burns, regardless of the name we describe them by. If the Aboriginal people cannot get access to an area, they cannot do their form of cultural burning. If we cannot get access, we cannot do hazard reduction burns and maintain them in the confines we intended.

Whichever way we call it, we need a mosaic burn pattern to reduce fuel loads and allow native fauna both, escape routes and habitat while the land regenerates. This means we need to have roads or fire trails dividing sectors and permitting the planned and well executed reduction of fuel in this mosaic.

Regular burns that maintain a low fire intensity are also proven as in the savannah grasslands reports in the Northern Territory, to have minimal impact on fauna and are beneficial to both flora and fauna.

In preparation, the RFS should construct and maintain a register similar to the CFA booklets in Victoria, but even with improvements by way of additional information. A detailed map that showed farmers paddocks, gates, safe and dangerous ground, permanent and non-permanent water sources. Imagine if on top of that information each farmer had been questioned and responded with how much pasture he/she was willing to lose when graded fire breaks are required. E.g. 1-10m, 11-20, or 21-30m clear of the “fallen tree-line”. This then gives a clear instruction that is not subject to being over-ruled by another person at the time action is required.

The volunteer network will always be the key cornerstone to our firefighting efforts in rural Australia. This volunteer force is full of people with varied skills and competencies. Some people are no doubt RFS volunteers who for any of several reasons should not be. Dictatorial leaders should be discouraged from local brigade level and command activities alike. Similarly, the RFS command must

not seek to eradicate those who stand up to bad commands or challenge the hierarchy. An excellent case in point would be the Bilpin Backburn that went wrong. Who would be so negligent as to order a backburn in that local environment (close to houses, with no fallback line) at 11am and who would be willing to start it and not challenge the validity of the decision? Subject to the RFS releasing the full information on the decision process, the only way the Bilpin backburn fits, is in fitting it into a 9-5 workday and an underlying resistance to using controlled backburns at the right time and place, which was several days before, at 11pm.

Use of the ADF in Bushfire emergencies.

The ADF in any branch of their services is trained to defend Australia in many ways and this may involve the use of lethal force. As such they must have a regimented hierarchy of command and the concept of following orders. They are trained to fight an attacking enemy that intends killing them. None of those factors makes them a suitable force to deploy to a fire. Individual initiative is only tolerated and then only sparingly by the military in times of war and the most extreme times within that. Bushfires require flexible and lateral thinking and some degree of calculated risk. These are not things we can ask of our ADF in times of bushfire, and then ask for another approach at other times.

The ADF's great strength to the nation in times of natural national emergency is logistic support and man-power. They can quickly, we hope, deploy large numbers of people to aid in evacuation, delivery of supplies and initial clean-ups. They should not be taken away from their core training requirements to learn to fight bushfires. They similarly cannot be sent as a paid Employee into the dangers of a bushfire without training. In a fire ground area it is highly likely that they will be required to take orders from one form of civilian or another and that is not something the Military ever does. Regardless of who might be the most appropriate to direct activities (the local Brigade Captain or a salaried RFS commander who does not know the area).

As a footnote to prove the point. RFS Command in Homebush said they had liaison Officers from the ADF embedded with them from October 2019 in the Homebush HQ. Somehow despite the close contact that suggests, the deployment of the ADF to the southern coast of NSW in January 2020 was, "a complete" surprise to Shane Fitzsimmons. It would seem the liaisons are not effective, regardless of who is to blame for a lack of communication.

Simple summary of the reality we face in the Australian environment, and how it is more focused and challenging due to issues such as Drought and Climate change.

Do not derail discussions about how these fires became so bad, so devastating and so financially crippling for all, by blaming them on climate change. That resolves nothing. Climate change is a factor we cannot ignore, but it is just another factor we need to adapt to in our management strategy. The true, sole reason these fires and especially the Wollemi blaze became the issue it did is professionally negligent, dysfunctional management of the two state bodies charged with their management. Worst of all is that our Agencies charged with this task have become misguided and removed from real knowledge about how to control bush fires.

The RFS needs to realise its strength is its ability to draw in more resources than a local community alone. They coordinate groups of local volunteers with a true vested interest in saving the local area from undue fires. These locals need to be respected and appreciated, or they will not volunteer. The Salaried RFS who attend local fires should be wearing a bib that says “LIAISON”. Their job in effective fire management is to liaise with the local Captain, who knows what is needed and support him or her in fighting the local battles they are fighting. Perhaps this might mean ensuring all flanks have been considered, or it might be in passing advise about what special resources such as VLAT might be useful for or phrasing the request for such aid in the way so as to facilitate Area Command deciding to assign that resource to the requested local task.

The reality in Australia is that we will never be able to carry enough water, by any means to put out any fire by just water alone. Water has to be seen as a final stage in a sequence, and as a management tool, not the silver bullet. Mechanical control measures will always be the heart of fire control, as will be proactive measures to disrupt the “Fire Triangle” by removing the fuel.

Fires should never be declared mega blazes as that means we have failed in our principal goal, to contain and extinguish blazes sensibly and advisedly. However, we must remember that even in WW2, for which we might transpose the name to say it was a “mega-war”. It was not fought in one paddock with all the allies on one side and all the Tripartite Pact on the other. It was fought on many, many small fronts, sometimes by as few as, a squad of men. Sometimes winning, sometimes losing ground, but always then regrouping and moving on to the next objective or falling back and trying again. These fronts were part of a larger picture but the person in command on the scene had command of how and what techniques were employed in concert with the overall plan.

The engagement of all resources to combat fires.

There are so many small fire fighting organisations around Australia now.

Why was it that the RFS refused help of people and equipment to fight these fires in NSW?

Many of these organisations are owned by people who have committed their time and effort to volunteer to their state wide community as active RFS Volunteers. They now have business' to do the jobs that organizations and government require, that the RFS will not do. They all offered their services and equipment and were resolutely refused by the RFS. Even to the extent that that RFS spread information and dissent on the Fire Com radio net about "privateers" that were causing trouble and reckless behaviour that was spreading the fire.

I feel the RFS does not want privateers on a fire ground as they will actively work to control the fire in whatever conditions they are faced with. They will use methods that are tried and true and have been the cornerstone of RFS approved strategies for a very long time. Examine the terrain and determine a suitable place to mount a strategic fight. Remove the fuel and extinguish spot-overs. It is not unreasonable to say that the real reason the RFS did not want such privateers there, is that they would demonstrate that small teams were effective in stopping what they had declared was unstoppable. It is a simple situation of saving face, power and prestige.

The RFS paid for crews from USA, Canada and NZ to come over and yet refused to keep Australian taxpayer dollars in Australia by employing the available Australian resources, who also had more equipment and experience in the practices that were commonly used in the RFS controlled Fires.

A Summary of how to effectively fight fires.

You must collapse the Fire triangle. That means take away at least one side of the triangle and you effectively stop the fire. You cannot take away the oxygen, or the heat in the open country, but you can take away the fuel.

Therefore, the strategies must be:

Containment lines using mechanical removal of fuel.

Supporting these lines by sensible Back burns.

Then controlling spot overs and blacking down

In mechanical measures we must use Bulldozers and Graders to correctly skim all combustible fuel form the surface.

Using rakes and other hand tools to clear fuel from around trees.

Using rakes and other hand tools to pull fire back into itself and rake a bare containment line.

Using "Leaf Blowers" to finally clear fuel from areas.

Using less water driven techniques and drawing on scientific knowledge to supress fire. To this end, some Fire Departments in Urban USA use an air blower to allow entry to house fires. This same blower not only provides a clear cool path for firefighters to enter the building but it has been shown the excessive volume of air actually extinguishes the fire by removing the heat side of the triangle. I used this same technique when I had no more water. I used a hand held blower to direct the flames either on to spread a control effect or back to stop a challenge from overcoming a simple 1 rake safety line. I did this several times in this area and all worked with 100% effect and integrity as shown of the following days.

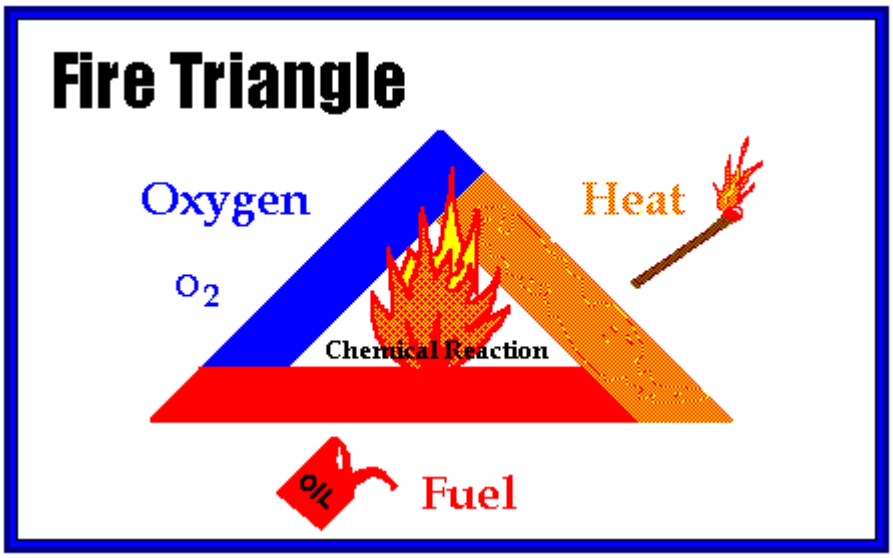
We must realise we will never be able to deliver enough water to a fire to put them out by this action alone. We must control the fire first then extinguish the remainder with water. In our current climate this reduced reliance on water in our bush fire strategy must be central to our approach.

Why do we think old sayings ever came to be?

Because they had a foundation in experience.

- **Fight fire with fire.**
- **Pick your battles.**
- **Attack the fire don't let it attack you.**

Take a look at the following diagram, called the "Fire Triangle"



Oxygen, heat, and fuel are frequently referred to as the "fire triangle." Add in the fourth element, the chemical reaction, and you actually have a fire "tetrahedron." The important thing to remember is: take any of these four things away, and you will not have a fire or the fire will be extinguished.

In other words, it is well established and held science that to fight fires in the Australian bush where we cannot eliminate the heat or the oxygen, then removal of fuel is the ONLY remaining option.

That said, I did also explain how in one area I successfully used excess oxygen to control a fire line. Whether the mechanism is by introducing excessive oxygen and in doing this you make the fuel-air mixture too lean to support fire, or you are simply pushing the fire back on already consumed fuel is another matter. The important information is that by again removing a side of the triangle you extinguish the fire.

Certainly, water will absorb the heat and as such do the same but the questions are:

How much water will it take?

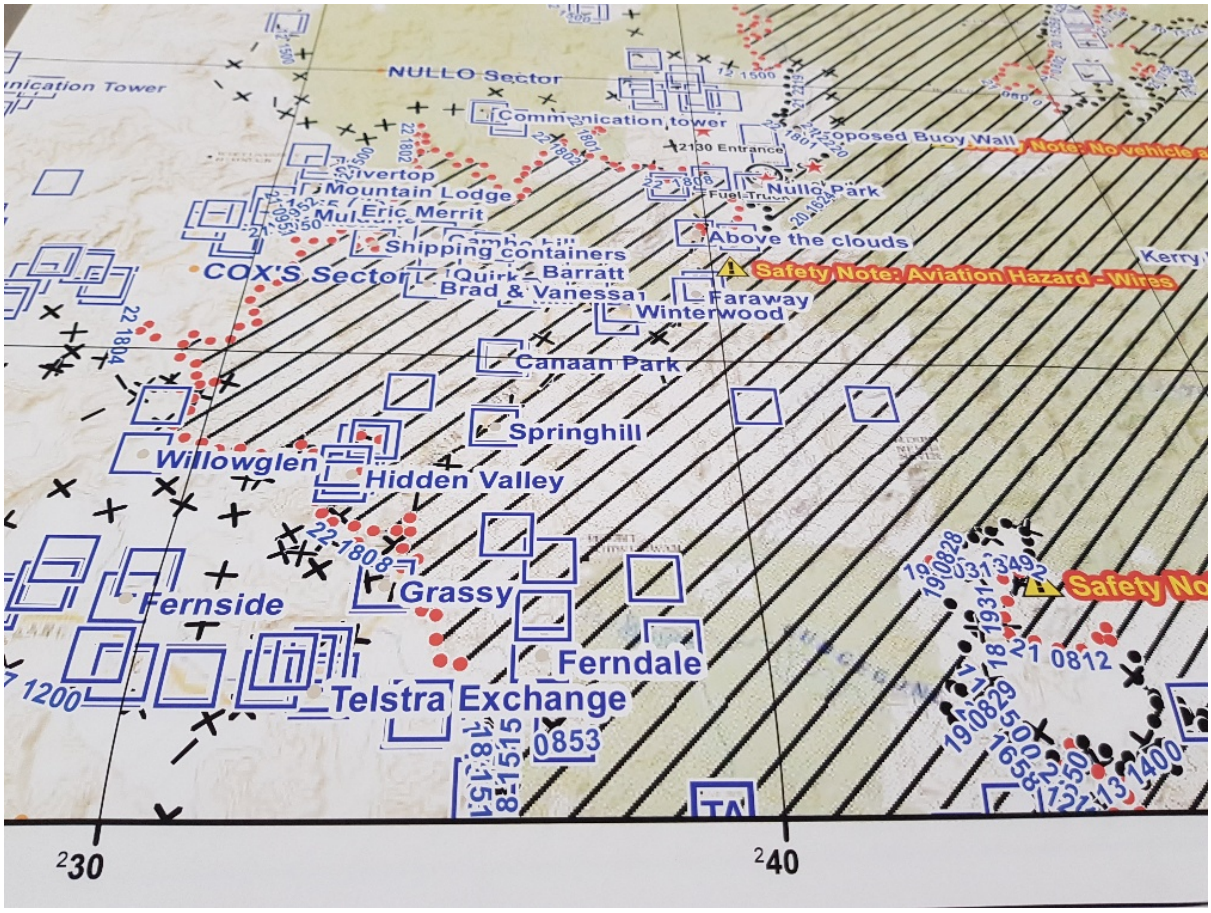
How much water can you bring to the fire?

How much water is available?

With an average country fire truck holding around 1100 L of water and if used normally on a serious fire this will be expended in about 15 minutes by just one hose. Mechanical removal of fuel provides the disruption of fire indefinitely and air blowers can run for an hour on one tank of fuel.

This is an example of an easily available topographical map, showing details of the terrain with colours, elevation and as such steepness of terrain, Water ways, power lines, some properties/dwellings. Contrast this with the lack of information rendered by the RFS plotter, which brings newest information to the front and effectively denies the user of any underlying information.

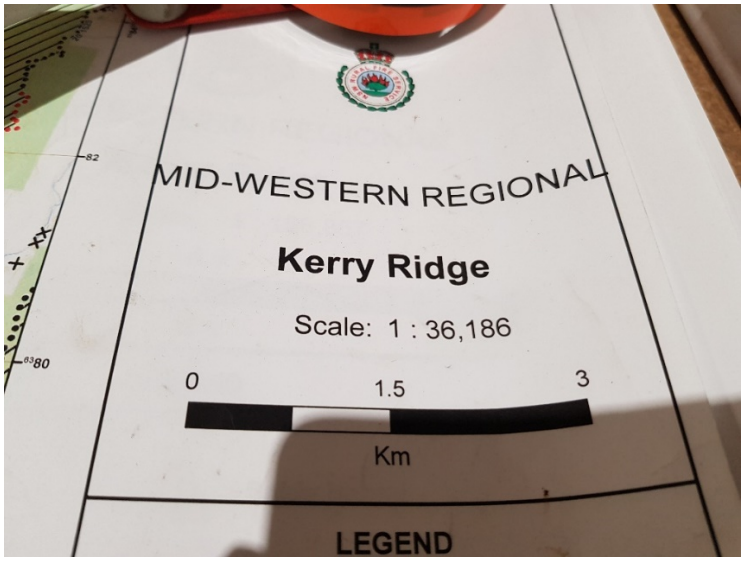
This is the Official RFS plotter map as used at the scene. It used the Degrees minutes seconds version of Lat and Long Grid. Notice some pockets of bushland as per this representation are in fact solid sections, not broken at all. The overprinting of black lines for burnt out areas renders it difficult to extract still useful information. Excess over printing near the fire edge makes planning using this tool difficult.

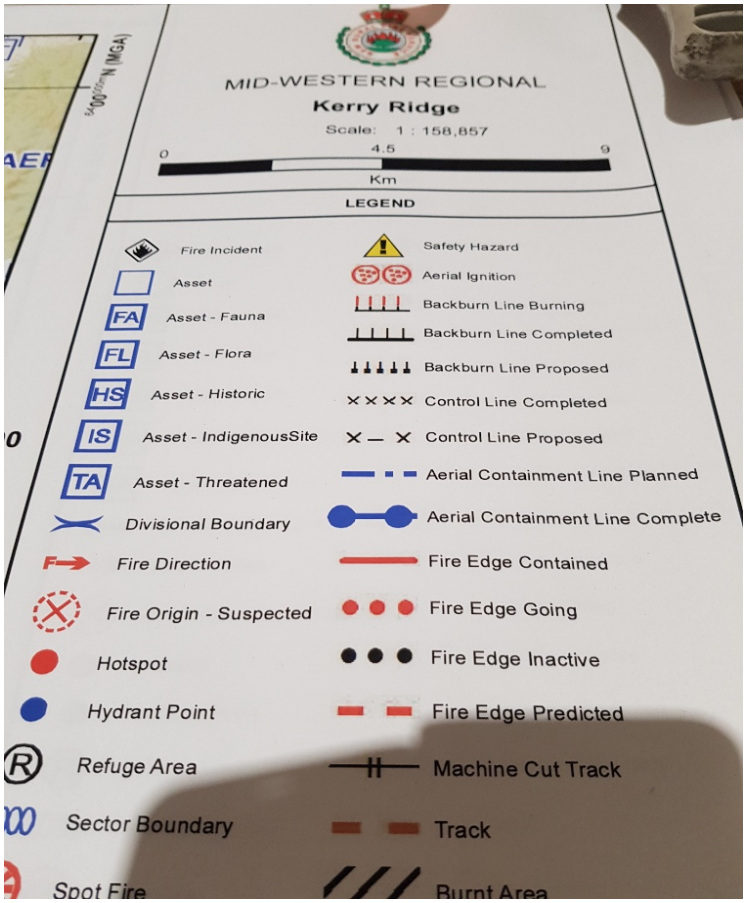


This maps that shows the assets to be protected, presumably. Is so cluttered that cross-referencing this information onto a worthwhile map or spatial concept on the ground is profoundly difficult.

The important point is that in an Emergency situation, if information is not easily and readily relatable, it is of no use and will not be used effectively.

Why, with so many “Assets” indicated, did the RFS decide that they would only mount a defence against this fire at Browns Lane, some 13 Kilometres further West?





Notice the Ridiculous, irrational scales. One map is 1:36186 and the other 1:158857. Clearly these are manipulated to fit the size of the bit of paper, but in reality they slow the spatial recognition and ease of information transfer tot eh map and from the map.