

INQUIRY INTO WAMBELONG FIRE

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Partially Confidential

Submission to the Standing Committee #5 (NSW Legislative Council) on the Wambelong bushfire

Dear Committee Members:

I was caught in the 12-13 Jan 2013 wildfire west of Coonabarabran. See account to follow.

Please consider the following items:

1. Insufficient fuel reduction in the Upper Timor Valley, National Park and elsewhere.

In the mid-1990s I wrote a letter titled "Fire Threat to Timor Valley" which the Coonabarabran Times published (alas my copy is now ash). It outlined the dangerous fuel levels in the valley and the difficulties in getting people to burn off.

I doubt if 5% of landowners with bushland do ANY fuel reduction.

Huge areas of Timor Valley hadn't seen fire for over 30 years. It was a disaster waiting to happen.

The RFS under the Rural Fires Act could have compelled landowners to burn off by issuing notices but, for the most part, didn't. Why not?

Perhaps you could ask how many hazard reduction notices were issued in the Wambelong fire zone outside the national Park in the 10 years prior to 2013. I'll bet it wasn't many, perhaps even zero.

The NPWS did a little better (see their Fire History Map 2003-2013). Burnoffs around Siding Springs Observatory probably helped save it.

But, overall, it was still insufficient and sporadic in nature. Burning small patches higgledy-piggledy every 10 years or so doesn't have much effect on wildfires.

Observations post-fire of the few woodland areas with unburnt tree trunks and crowns (as well as unburnt moss/lichen on rocky sites) suggest burnoffs older than 2 years have little impact on wildfire intensity (and thus probably fire speed, spotting activity and wildlife survival). If under 2 years old, attached leaves and pine needles, bark, moss, lichens can avoid combustion.

For the 22,000 hectare national park, burning strips totaling 20 kilometres long by 100 metres wide or so EVERY YEAR is needed once fuel levels return. This is less than 1% of the park so shouldn't adversely affect the environment. Indeed, it should improve it by lessening the extent of any fire, increasing biodiversity (provided areas not burnt more than once every 30 years or so), providing more unburnt or less burnt habitat (wildlife refugia).

With similar-sized and configured burnoffs in Timor Valley and parts surrounding Coonabarabran, the speed of any similar-sized wildfire might be reduced by possibly 10% or so. That would reduce the area burnt by 19%. Thus a 55,000 ha fire would instead be around 45,000 ha everything else equal – a saving of 100 SQUARE KILOMETRES. That’s quite a few homes, bushland, livestock, wildlife and infrastructure not incinerated. More firecrews jumping in front of wildfires at the last minute can’t achieve that.

From experience, a person with a backpack and hoe/rake can safely burn 100m by 100m (1 hectare) of non-grassy bushland in the off-season. Thus 5 NPWS workers (or contracted equivalent by tender) burning for 40 days per year could easily burn 20 kilometres by 100 metres in the national park and/or surrounding country in a year. At (say) \$150 per person per day (under contract) with 20% for admin/support, that’s \$36,000 per year. Not an excessive sum – less than the cost of a single bureaucrat.

On a “no burn/no pay/ no excuses” basis, plenty of people hereabouts would offer their services (I would). Per hour remuneration would just promote bludging off.

Likewise for the RFS. The several paid (not volunteer) local RFS staff should be made to burnoff in the off-season (rather than sit behind a desk) as part of their contract regardless of position. Again, on a “no burn/no pay/no excuses” basis, that would provide another 20 kilometres of firebreak per year. Failure to complete should be grounds for dismissal and replacement. If they can’t do it, they shouldn’t be in the RFS.

Landowners plus RFS volunteers could chip in another 20 kilometres giving a total of 60 kilometres of firebreak per year.

| Personnel | Days per year | Length of firebreak | |
|--------------------------------------|-----------------------|---------------------|------------------------------|
| NPWS (5) | 40 days per year each | 20km | |
| Existing RFS paid staff (5) | 40 days per year each | 20km | |
| Landowners plus RFS volunteers (100) | 2 days per year each | 20km | Total: 60 km per year |

This would be more productive than more firecrews in mitigating wildfires. Asking landowners half-heartily to burnoff (and doing SFA when they don’t) doesn’t work.

2. Better Waterbombing Technology needed

On 13 Jan 2013 I watched a small helicopter with a suspended bucket and a “cropduster” aircraft slowly fly from Coonabarabran airport to the national park then back, again and again. Long trips (70 km return) small payloads and need for landing/taxiing/refilling then takeoff meant long times between water drops.

Better technology could have dramatically improved this situation.

For instance, the **FIREMAX (K-Max) Helitanker** can refill from a hovering position in 25 seconds. Thus water at Sidings Springs Observatory, Timor Dam and nearby farm dams could have been used, saving travel times. A rough calculation suggests around 20 times more water could have been dropped.

A fleet of 10 such helitankers stationed on standby during high fire danger days around NSW/VIC/SA and used ASAP could have been most useful. Even if they cost \$30 million/year (out of a RFS budget of \$300 million/year) they would still be worth it. A site on Sidings Springs Observatory with a 200,000 litre tank fed from Timor dam could easily serve the region. Helitankers could be shifted around as conditions warranted.

Compare what we got on 13 Jan 2013 with what the residents of West Pymble got in October 2013. Under much less hazardous conditions, a much smaller fire got 2 (!) SKYCRANES (payload: 9000 litres). Why did we get “2nd best “ for a much worse fire under worse conditions on 13 Jan? Why the inequity?

3. Lack of warning by ABC local radio

Why didn't ABC Local Radio (Western Plains) sound the alarm on the night of 12 Jan 2013 (Saturday)? Residents could have had 24 hours notice, allowing more preparation, the saving of more (or any) personal items and the avoidance of late (dangerous) evacuation.

Instead I got a 10 second soundbite on ABC radio about a fire threatening the observatory late Saturday (13 Jan) before the program turned back to more important matters -...sport!. Another resident didn't know about the fire until a helicopter flew over his soon-to-be-destroyed home. Thus 24 hours was lost. Many other residents only knew about the fire on the afternoon of the 13th. Why?

In promotions, ABC local radio claims it is our “local emergency broadcaster”. Yet on weekends and the critical Dec-Jan holiday period it effectively goes offline and becomes ABC Sydney/Sport. Bushfire information shouldn't be an optional extra, bumped off by commercial sport (which should be on commercial radio instead). It should be the ABC's number 1 priority over everything else, 7 days a week.

Emails with ABC Dubbo have met with polite indifference. They claim they weren't contacted (if so, why not?). The ABC is a Commonwealth matter but I hope the committee could recommend to the federal government to improve its bushfire service over weekends and holidays. Why not amend the ABC Act to make bushfire notification take priority over everything else?

Perhaps a junior could be employed over the fire season to scan the relevant websites (RFS, NPWS, Emergency Services), ring agencies for updates and invite calls from listeners about confirmed and unconfirmed fires, giving reports on ALL fires every ½ hour on a statewide basis. The annual break could also be shifted from Dec-Jan to (say) Jun-Jul, etc.

ABC Central West/Statewide/702 did a good job on the Oct 2013 Blue Mountains fires – why can't we have similar with ABC Western Plains?

4. Right-to-Stay Legislation

Victoria allows landowners to stay and defend their properties regardless of calls to evacuate. We need similar. I believe some defensible homes burnt down on 13 Jan after evacuation.

Conclusion

With more burning off (1% of bushland per year), better warnings on ABC radio and better waterbombing technology (Firemax helitankers) the Wambelong fire may have been much smaller (by 40%?) and less destructive and costly.

The efforts of RFS volunteers, Police and Emergency Services are to be commended. The help by charities and the local community afterwards has been exceptional.

I hope the above are given due consideration.

Yours Truly,

D Williams

Account of my experience of the Wambelong bushfire:

A Narrow Escape

It was only by chance that I heard on radio that Siding Springs Observatory was under threat by bushfire.

It was mid afternoon on Sunday January 13. Grabbing binoculars I headed for a decent viewing spot and saw that the smoke plume was heading diagonally some kilometers to my south. Safe, I thought, but I decided to watch and rake some more firebreaks to the southwest just to be sure.

Every now and then a helicopter or ag-plane would fly over the southern edge of Timor Valley to SSO. But as time passed, the smoke plume seemed to get bigger and bigger and lower and lower. There was no smell of smoke, not a whiff where I was, nor any sight of flame.

But now the whole of my south was a curtain of smoke albeit some way away to the south.

I now started to get edgy. Time to get out.

I raced inside, grabbed a few things, stuffed them into a pannier, ran outside and proceeded just 10 metres before I sensed it was too late – a good decision that probably helped save my life, late evacuation being the most dangerous thing you can do.

Everything to my south was now just a flat wall of smoke. And it was coming my way. Time from first seeing the smoke about 15 kilometres away to now was about 1 hour.

A sense of dread and incomprehension hit. What was happening? Serious bushfires didn't come from the south, did they? Where was the warning smoke? This wasn't how bushfires were meant to behave.

I looked around and decided to bunker behind a mudbrick wall of an almost finished shed. I just had to let the fire pass over, 15 minutes or so and, fingers crossed, I'd be okay. Or so I thought.

I splashed around some water from a one-third full plastic water barrel, watched the approaching wall of smoke (still no flames) and prepared to ride out the storm.

The wall of smoke resembled the photo in the Sydney Morning Herald of the one approaching Robina's house, only it was more dark brown than black and had more orange flashes. And it roared. From the South!

Embers started to rush in, the sound grew and suddenly after about a minute the wall of smoke hit.

I grabbed a bucket of water I'd filled plus a canvas cover, the remains of an old tent, and hid behind the mudbrick wall. Stay calm, you'll be alright I told myself.

How to describe the fire front?

Was it like being bombed? An incendiary strike? Seeing the Sydney Harbour New Year's fireworks ... from the inside?

There are probably no words to describe what happened.

The ferocity was incredible. Trees started bending over then snapping. Canopies of trees became huge blowtorches in the roaring storm. Tree branches flew. Light-levels skyrocketed despite the smoke. It was as if a dozen searchlights were suddenly directed at me. And the heat just rose and rose.

I covered myself with the canvas, periodically splashing water about and flicking off embers. Stay calm, ride it out, you'll be right.

But after a minute or so problems arose. The roof had caught alight. Not good. I couldn't stay inside – certain death. Eventually I'd have to go outside. Into the firestorm. So I had to stay inside for as long as possible.

The rafters were now burning. Great way to die I began to think. Materials in the roof cavity had caught alight dropping little "fireballs" around and on me, producing toxic fumes from the plastic.

Fortunately there was an old 20 litre paint tin nearby which I put over my head to reduce the radiant heat. It also provided a pocket of clearer air to breathe. The tin started getting really hot forcing me to use the canvas cover to protect my hands, which I swapped occasionally to provide relief.

But now the roof was fully alight, so I moved to the doorway, tin drum over my head like some pathetic Ned Kelly, canvas draped around me, preparing to go outside.

Still not good. Much fire, smoke, wind. Lousy way to die I thought. But I had no choice.

I stepped out under the corrugated awning, threw away the tin drum, dropped to my knees and tipped the plastic rainwater barrel towards me, drenching myself in water.

There I stayed for a good while trying to control my breathing and block the holes in the canvas cover. It was hot, smoky but there was no instant death. I began to think I might make it... perhaps.

But the roof was now fully alight and causing me problems. It was about to collapse behind me. The posts holding up the awning were also alight. I had to get away.

I inched my way out onto the exposed stone path, splashing myself and the canvas cover with water from the barrel which I swung around behind me. But I couldn't go far. Everything around me was burning. Trees, stumps, logs, fruit trees, ornamentals, garden borders, the shed behind me – if it could burn it probably was.

But under the canvas cover I had a pocket of cooler, less smoky air as I knelt on my knees on the stone path. I had to swap hands and fold the canvas, repeatedly splashing with water to save my hands from burning. Just 5 more minutes I told myself.

But it was more like an hour. Just when it seemed it was dying down, another wave would strike. In all there were 3 waves which, apparently, 2 fire crews 500 metres to my south experienced as well.

Above, I could hear the copters flying to the east but could see nothing through the smoke. Trees weakened by the fire came crashing down, one large bloodwood just 6 metres away.

Eventually, after what felt like an eternity, the fire intensity decreased and seemed to stay that way. It was still smoky (visibility about 50 metres) and much heavy timber was still burning but the worst had thankfully passed. In over an hour I had moved just 6 metres but was exhausted. I lay on my back,

canvas cover on top trying to get circulation into my now numb legs. My eyes hurt, my breathing wasn't great but I was alive.

But I had to get help. Slowly I crawled to a north-facing rock ledge to make my escape and was struck by a most beautiful sight. It was like Xmas – as far as the eye could see, every tree was burning. It was as if the night sky had fallen to the ground.

I sat there for some minutes taking in this sight before stumbling downhill to a dirt track then onto Timor Road which had become the set of an "End of the World" Hollywood movie. Although it was now night and my eyes were puffed up, I didn't need a flashlight as every tree seemed to be burning.

Nothing moved on the road. It was utter desolation. The front of Miniland was a wreck. Power poles were alight.

I walked to the motel, its grounds destroyed by fire, searching for water for my throat, but I couldn't find a tap thanks to the state of my eyes. Thankfully some water was gushing up from a melted water main under which I drenched myself.

But how far did the devastation go?

Stumbling down Timor road, I finally saw the flashing light of a fire truck. At last humans! I walked up the driveway and, on dimly seeing a figure, tried to call out. But only a harsh croak emerged. I tried again. This time the figure looked up apparently in disbelief. At last I was safe.

Soon I was in the fire truck to town, crying like a baby the whole way.

Two days in hospital, a week of not being able to read a clock face from 5 metres and not being able to look at undimmed houselights (bushfire eye-burn?), 2 weeks of coughing up gunk, 3 weeks of spontaneous breakdowns (sorry to those who had to witness) plus the indignity of having to continuously bare my bum at Community Nursing (why couldn't I have been burnt on the arm?) and lots of help from people too numerous to name, I'm doing okay.

And that makes me the luckiest person in the world. It shows that even in the most dire situation, simple objects can protect you if you keep your head. Save the breakdowns for later. You'll need them.



Photo: Canvas cover and (partly melted) barrel on stone pathway next to shed



Photo: Once was garden –devastation at my place. I was at the right-hand side of the photo. The bloodwood on right missed me by 6 metres.

Letters to the Editor Coona Times (printed April 2013)

Future wildfire Responses

Sir,

Could better waterbombing helicopters have greatly reduced the area burnt in the January bushfires?

During those fires I watched a small helicopter with a suspended bucket and a crop-duster fly back and forth between the airport and the national park delivering small payloads over large distances.

And yet they helped save several homes, a few telescopes plus contained a separate fire to Coonabarabran's north. Quite a job.

So what would have happened if better waterbombing resources had been used? Far better technology exists.

For instance, the FIREMAX tank-equipped helicopter has a payload of 2500 kg with a 25 second hovering refill time via a snorkel. If such had been based on standby on a landing pad near Siding Springs Observatory with a 200,000 litre tank filled from the main from Timor dam, it could have dropped 195 tonnes of water during the critical period of the January fires (at 6 refills per hour from 5pm to 8pm Saturday 12 Jan and 6am to 8 pm Sunday 13 Jan minus 1 hour for refueling).



Caption: A Firemax helitanker in operation in Victoria.

Could such have extinguished the initial fire or at least contained it for longer?

If that initial fire had been contained for just an extra hour, 100 square kilometers (10,000 ha) would have been spared (from 5km going east * 20 km going north). Reduced flight times and larger payloads would have made a FIREMAX helitanker about 20 times more effective than a small helicopter with bucket. An Erickson ("Elvis") Skycrane with a 9000 kg payload may have been more effective still albeit more expensive. NPWS's Peter Brookhouse might like to comment.

Water pumped from Timor Dam via the main would save tankers carting water to the airport.

An improved helitanker option would be much safer than expecting on-ground firecrews to jump in front of wildfires (too many close calls were had in January!).

Recently the NSW Minister for the Environment announced an extra \$62.5 million over 5 years for 90 extra bushfire staff. For less than that sum per year you could have 10 Firemax helitankers around the state providing a rapid response (see calculation to follow) .

With the National Park, the Pilliga, Goonoo, various reserves and bushland hereabouts we are a high risk area that deserves the best technology available.

Price for a FIREMAX helitanker is around \$6 million. Landing facilities (suitably positioned) with quarters/storage/tank might add another \$1 million given volunteer input, council waiving fees and offering plant, ANU donating land, etc. Operational costs might be around \$0.5 million per year (crew: \$100K/yr fuel \$100K/yr maintenance \$300K/yr).

Cost of the January bushfire (property losses, infrastructure, loss of business, ecological, time off work, psychological) was probably around \$100 million or so.

Once a rapid response centre was established, other tanks/landing areas/refueling areas could be set up near high risk areas (like Baradine, etc) to further increase effectiveness.

Ideally, every region should have a rapid response helitanker on standby. I hope the above proposal interests readers and that they can lobby for something like it to be implemented.

Rough cost for statewide rapid response helitanker option:

10 medium helitankers (@\$6 million each): \$60 million

20 regional helipads with facilities (\$1 million each): \$20 million

Operational costs for 20 years (20 years* \$0.5 million/yr *10 helitankers): \$100 million

Total cost over 20 years: \$180 million (say \$200 million)

Cost per year: **\$10 million per year** (i.e.: less than the recent NPWS announcement!)

That is, peanuts. Victoria spends \$18 million/year on its aerial firefighting units.

We need to get serious about bushfire suppression and not be satisfied with second best.

Yours, etc

D Williams

Coonabarabran NSW 2357

Two Tank Options
Now Available!



FIREMAX

HELITANKER

FIREMAX: The high performance helitanker

There's never been a helitanker like FIREMAX. Two unique tank systems are available, both with 700 gallon (2660-liter) capacity. FIREMAX delivers a one-two punch of exceptional water-carrying capacity and an unsurpassed ability to lift up to 6,000 pounds (2722 kg) in extreme conditions. Each FAA-certified fixed-tank option is capable of delivering efficient and effective water drops, making FIREMAX the most cost-effective firefighting

system available in a state-of-the-art helicopter. It's ideal for any firefighting fleet devoted to saving lives and property.

FIREMAX is an excellent choice for initial attack on fires in populated or urban areas, but can be quickly reconfigured with a long-line bucket for remote water sources. The unique shape of the tank and door provides excellent hydrostatic head pressure and an extremely dense water column for very effective drop patterns.

Based on the proven K-MAX helicopter, FIREMAX effectively fulfills a role as a "light heavyweight" in firefighting because it is cost effective, maneuverable, and more fuel efficient than the biggest heavy-lift aircraft. What's more, FIREMAX carries a significantly heavier payload than any of the medium helicopters, and is especially effective in high and hot conditions.

It's the high-performance helitanker for the modern firefighting mission. FIREMAX.

About THE TANK

These state-of-the-art 700-gallon fixed-tank systems are an effective new firefighting tool and an ideal addition to the K-MAX.

Kawak Aviation Technologies

- FAA certified
- 700-gallon (2660-liter) capacity
- 25-second hover refill time
- 45-minute install/remove time
- Computer-controlled door system
- Aluminum/carbon fiber construction
- Exceptional capacity-to-weight ratio
- Foam capable
- Hydraulic-powered hover refill pump

Isolair Eliminator II

- FAA certified
- 700-gallon (2660-liter) capacity
- 30-second hover refill time
- 60-minute install/remove time
- Electronically-controlled door system
- Carbon fiber construction
- Exceptional capacity-to-weight ratio
- Foam capable
- Hydraulic-powered hover refill pump

ABOUT THE K-MAX

The Kaman K 1200 K-MAX is a proven helicopter with consistently reliable performance. It is able to lift 6,000 pounds and maintain its performance in high/hot conditions.

Weights and Measurements

| | | |
|----------------------------|-----------|---------|
| Max gross weight | 12,000 lb | 5443 kg |
| Max takeoff/landing weight | 7,000 lb | 3175 kg |
| Cargo hook capacity | 6,000 lb | 2722 kg |

Lift Performance – ISA +15° C

| | | |
|-------------|----------|---------|
| Sea level | 6,000 lb | 2722 kg |
| 5,000 feet | 5,663 lb | 2574 kg |
| 10,000 feet | 5,163 lb | 2347 kg |
| 15,000 feet | 4,313 lb | 1960 kg |

NOTE: Performance estimates assume a typically powered aircraft (min. spec. +40° C, plus 200 lb. pilot, plus 1.5 hr. fuel)



Kawak System

Both U-shaped tank systems are designed for quick installation and are equipped with a hydraulic-powered hover refill pump. The hydraulic system is powered by an existing 50-horsepower accessory pad on the helicopter's transmission, providing an impressive refill time. Flown and tested at max V_{NE}.



Isolair System



Kawak System



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