

How to inflate public anxiety and maximise house loss - the Fire Authority way.

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The fire authorities can easily reduce public fear and panic if they ever decide to educate themselves and the public about bushfire behaviour and bushfire threat management fundamentals. The Peregian fire was never such a high threat to life that required evacuation. On the contrary, if people were educated about ember attack and its management, the authorities would encourage them to stay and self-defend in safety. The running flame is never going to cross David Low Way. A flame height of 5m cannot stretch across a 20m road. It is physically impossible, but embers will cross it. They will do so on mass because the heathland is long unburnt. People pay taxes for a quality bushfire protection service. You cannot get better service than new skills and knowledge that deliver independence and self-reliance from a preventable threat.

Instead, the authorities seem to feed the media with rubbish about fire storms, worst ever bushfires, earliest ever bushfires, blah blah blah, as if their role in life is to be a scare mongering publicity machine.



Channel 9 on YouTube Embers fly through the air and blow along the road surface of David Low Way.

Now that this fire is past history, it is as if their job of scaring the public about bushfires is done until the next outbreak. Factual information from QFES officials is scarce. In particular, five days later, there is still no map or house loss toll. The media is the main source of information about this fire.

This note seeks to present evidence from an independent bushfire professional about this fire so the reader might learn something worthwhile from it and take greater control of protection of their house rather than rely on government policy. Why? The QFES response is typical of today's fire authorities – policy-promoting, self-promoting, backside-covering, fact-deficient, danger-inflating complete with centralist generalised advice that is either conducive to or indifferent to house loss. They must be honest about and accountable for house loss and genuinely work for the people who pay their wages for protection services.

Monday 9th September 2019

Bushfire behaviour

It appears some teenagers lit the fire somewhere near Emu Mountain Rd roundabout in early afternoon, when the wind was dry and strong from the WSW - SW. [Authorities would have been faced with the same unexpected bushfire scenario if a car accident or an accident had ignited the fire during the Queensland dry season. Therefore, a fire in this patch of heath should have been anticipated. The response to a fire here should not have been panicked, but should have been pre-prepared using bushfire behaviour and threat management criteria.]

We can reconstruct the fire's development using weather data from nearby Nambour.

Nambour Weather Monday 9th

1 – 3.30 pm 22 deg, 12 - 14% RH, WSW 10 – 20 kph average wind, 25 – 35 kph gusts

4 – 6.30 pm 19 - 22 deg, 14 - 20% RH, WSW 7 - 13 kph average wind, 17 – 28 kph gusts

After 7pm, wind from WSW around 15 kph average, 30 – 40 kph gusts

After 11.30pm, wind drops below 10 kph.

[A technical note for the following analysis - the fire spreads in proportion to the average wind, not the gusts.]

The inset for nearby Nambour shows that apart from dry air, it was moderate fire weather.

The fire was driven by a consistent WSW wind averaging up to 20 kph through National Park, and would have thrown embers a short distance (up to 50-100m) ahead of the flames.

The heathland is flammable. Maximum flame height of the narrow head fire in severe weather is a few metres. This weather is not severe, but flame height will be similar because it is dependent on fuel bed combustion rate and height. About an hour after ignition, the leading edge of the narrow fire front (now approx 100m wide) reaches David Low Way (yellow arrow on Fig 1), probably near Lorikeet Drive area. [DLW is an effective fuel free “firebreak” for the elongated coastal residential properties of Peregrin Beach.] As each arc of the head fire hits the “firebreak”, it stops dead by itself throwing embers across it into the residences and the coastal scrub. If embers land in flammable fuel, they may ignite as small spot fires that a forewarned alert resident can easily extinguish. Meanwhile the northern flank fire expands northwards, at say 200m per hour (indicated by fine yellow lines on Figure 1). At this rate, it will take 10 hours to reach Woodland Drive in the north, but the wind halved at 4pm, so it will not get there on Monday at all. The expected fire area by midnight Monday is the yellow-lined area on Figure 1. The expected fire behaviour by midnight Monday is very low flame, expanding very slowly through the litter bed.

Threat management considerations

Bushfire suppression

Total fire perimeter by midnight is approx 4km, area approx 100 ha.

The fire's entire perimeter is virtually stationary after midnight. The fire is surrounded on three sides by ready-made control lines. The northern perimeter is uncontrolled – approx 1km. A fuel free break can be cut around the northern perimeter and blacked out overnight to prevent spread next day. The other perimeters, particularly the western edge where more houses are, can be burnt out to each road and blacked out overnight. The environmental benefit of this strategy is to maximise biodiversity, ie, maintain a mosaic of age classes within the heathland and prevent the entire area becoming a single age class.

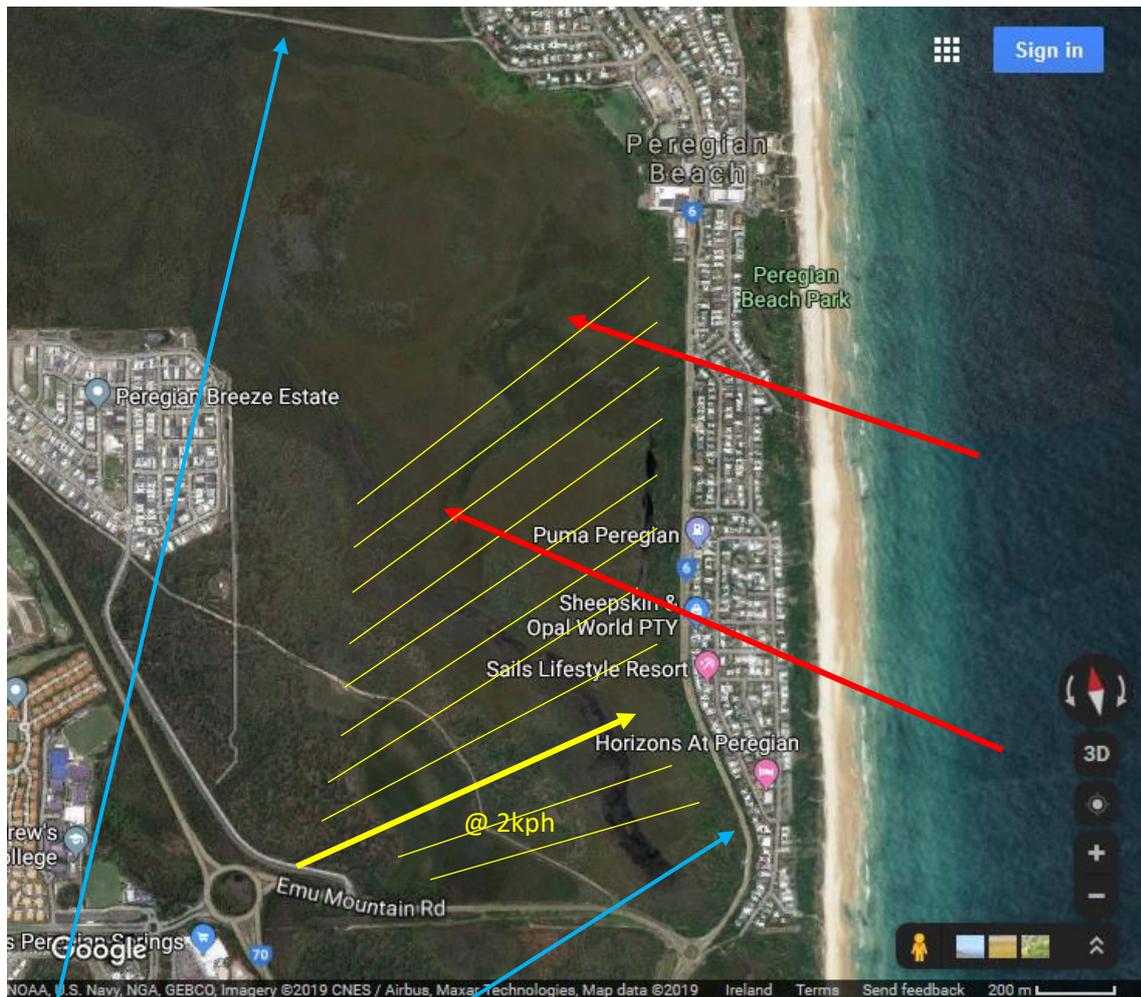
This was not done.

Instead, the Courier Mail reports that Assistant Fire Commissioner Gary McCormack stated: “QFES have been using an “aerial assault strategy” which has worked in parts but there remains an uncontrolled fire front”. He, like many other fire authority staff, does not realise the flaw in aerial assault strategy. If a wet line is laid ahead of or onto a fire edge and troops do not secure the edge with an earth break, the edge will revive and run again. In other words, the expensive aircraft operation could be a waste of resources.

House protection

The two most destructive bushfire threats expire at the David Low Way “firebreak”, ie, flame contact and radiation by the running flame. The only bushfire threat to cross the “firebreak” is embers. Most will fall within one or two rows of houses, but stronger gusts may carry them higher and further into the residential strip and into the coastal strip.

The most logical way to deal with ember attack is to minimise flammable surfaces and to have defenders armed and ready to extinguish spot fires while small. Defenders are safe from running-flame danger because properties are managed to have discontinuous fuel beds with low fuel loads, meaning spot fire flames will be stationary and short, and therefore not dangerous to defenders.



Woodland Drive David Low Way

The least logical way to deal with ember attack is to evacuate potential defenders and replace them with the equivalent number of fire fighters who would be more usefully deployed preventing spread of the perimeter. Media reports said there were 100 fire fighters. If there were 300 vacant houses, we have one fire fighter to defend three houses. This is not adequate. If these 100 were spread over 4 km of control line, average density is 1 per 40m or if 5 per tanker, one tanker per 200m, which is adequate to black out a quiet fire edge.

Tuesday 10th September 2019

Bushfire behaviour

The morning begins with light SW winds, fanning a quiet fire edge of low flame height in the litter bed. Around 11am, the SE wind change begins (red arrows on Figure 1). Suddenly, Peregian Breeze Estate is evacuated in late morning. It seems the wind change is not within the authorities' considerations.

Nambour Weather Tuesday 10th

Until around 11am, wind is light from SW - WSW, and after 11am, blows moderately from E - ESE

1 - 3.30 pm 20 - 21 deg, 31 - 38% RH, E -ESE, 10-15 kph average wind, 20-25 kph gusts

4 - 6.30 pm 19 - 22 deg, 14 - 20% RH, WSW 7-13 kph average wind, 17-28 kph gusts

At 5.30, almost calm, after 7pm wind almost calm, from WSW

The inset for nearby Nambour shows the humidity is higher than yesterday and average wind speed and gusts are lower.

The wind changed direction from SW to Easterly - ESE just before midday, remaining so until around 4pm. There is no indication in the weather observations that a bushfire should be threatening.

The wind is not as strong as yesterday and the humidity is higher, meaning spread rate is proportionately lower, perhaps only up to 1 kph. This time, the wind change enlivens the entire NE edge, generating a 1 km fire front travelling in a WNW direction.

Threat management considerations

Bushfire suppression

A 1km wide fire front in trackless heath is beyond the capability of suppression resources. No doubt they continue their aerial strategy, which is futile if there are no troops on the ground to secure the edge. The fire continues North Westerly unchecked until around 4pm, whereupon wind changes direction back to WSW, and becalms by 7pm.

House protection

Most of the Peregian Breeze Estate is passively well protected from running flame by a wide well-constructed firebreak that will stop the approaching fire front dead, without need for active suppression. Embers will be thrown into the residential area, perhaps in lower density and less distance than yesterday, but nevertheless, potentially dangerous if embers ignite into spot fires that are allowed to grow unchecked. As for yesterday, defenders are able to remain in safety. As for yesterday, the least logical way to deal with ember attack is to evacuate potential defenders and replace them with fire fighters. However, this was the authorities' chosen strategy.

Note: A dozen houses back onto the National Park with no fire break protection. For authorities to allow this is irresponsible. Hopefully, Parks Service have protected them by recent burn offs.

Outcome

My estimate of area burnt = 500ha approx, is based on Figure 2 taken from www.news.com.au.



Figure 2 David Low Way Woodland Drive Peregian Breeze Estate Date
probably 12 Sept

Courier Mail 10 September

“Police have confirmed the fire destroyed at least two homes in Peregian. One house, in Plover St which does not back on to bushland, is believed to have fallen victim to flying embers from the fast moving blaze.

Residents are trying to return to Peregian to assess damage as firefighters battle the blaze which has turned northeast and found new bushland, and potentially homes, to burn.

Last night, Member for Ninderry Dan Purdue said he believed at least a dozen homes were lost.

An eerie red glow filled the sky above the northern beaches as firefighters tried to contain the devastating blaze that jumped David Low Way and tore through Peregian and Marcus Beach.

The homes were believed to be on Lorikeet Dr and Jacana St, Peregian Beach, but nothing has been confirmed at this stage.

There were also reports that a service station and a sewage treatment plant were on fire”.

Courier Mail 11 September



“Firefighters have confirmed as many as 10 homes have been destroyed in Peregian Springs bushfires”.

Conclusions

Good, consistent research shows that the higher the percentage of vacant undefended houses, the greater the house loss rate, and the higher the percentage of occupied houses defended by skilled defenders, the lower the house loss rate. Fire authorities are aware of this research, but they evacuate anyway.

They are aware people do not want to lose their houses, but they evacuate them anyway.

They are aware that residents are committed potential defenders for mass ember attack, but they evacuate them anyway.

They are aware that primary role of bushfire fighters is to prevent spread of perimeter, but they allocate some to house protection anyway.

They are aware there will never be enough fire fighters to deal with mass ember attack in a community under attack, but they allocate some anyway

They are aware of their responsibility to provide safe work place for fire fighters, but they allocate them to unsafe work places anyway.

If they don't know that proper preparation of a community will prevent house loss against the running flame and ember attack, including mass ember attack, they need to talk to professionals like Red Eagle urgently and become educated.

ADDENDUM **Media Coverage about the people and the Authorities**

Source Queensland, NSW fires: Satellite images show devastation
Charlie Peel Sascha O'Sullivan The Australian Wed September 11, 2019

Reporters said: The fire at Peregian Beach flared up late last Monday afternoon, tore through bushland and jumped a road, setting several properties alight. It is currently still out of control and residents have been told to evacuate immediately as it threatens the nearby Peregian Springs housing development as well as Coolum State High School.

The fire is travelling in a north, north eastern direction from Emu Mountain Road towards Peregian Breeze estate. It is impacting both Peregian Beach and Peregian Breeze estate. Police declared an emergency at Peregian Beach, with residents urged to evacuate north to Noosa.

Comment This report is inconsistent with the moderate fire weather for Monday 9th, recorded above.

Quotes from the people regarding Monday's attack:

Peregian Beach couple Hugh and Bernadette Bauer were on Tuesday eagerly awaiting to hear whether they would be allowed back in to the community to check on their home. The couple, who live in Oriole Avenue, evacuated just after 6pm Monday. At that time the flames were already lapping at David Low Way and threatening to jump the road to the homes and shops on the other side.

"It was burning trees in the median strip near the service station," Ms Bauer told The Australian. "It was just raining embers and that's what was catching the trees alight. It didn't take long to spread." Mr Bauer said the strong wind was pushing the flames from the nearby national park towards the beachside community.

A neighbour, who did not evacuate, told the couple that their home, and the home of their son who lives nearby, had not been damaged. "He told us they were very much under threat because we back onto David Low Way and it's so bushy there," Ms Bauer said. "Apparently they were wetting down the bushland behind us on our back fence because the embers were in there."

Real estate Johnathan Tomasini was in Peregrine checking on his clients' properties as the carnage unfolded about 9pm Monday. He watched as about eight fire trucks in the middle of the township, around the shopping village, sprayed buildings and the burning scrub with water. The cascade of embers windswept from the National Park and across David Low Way hit gardens and bushland closer to the beach, sparking new blazes. Firefighters raced from one spot fire to another.

"The fire actually went over the top of David Low Way and the first streets and lit up the nature reserve on the beachfront," Mr Tomasini said. "That's what took out the old timber home on Plover Street. People's retaining walls were on fires at the back of their yards on the beachfront. It was scary stuff, doomsday like, with sparks flying across the road."

Mr Tomasini noticed a clients' fence, at the back of a new home, was on fire.

Firefighters concentrated on stopping the wall of flames from catching alight on the beach side of David Low Way. Others ran lines of hoses from a fire hydrant in the middle of Plover Street, focusing on the spot fires burning at the back of homes.

"They were doing a terrific job, I don't know how they do it," Mr Tomasini said.

"If the fireys weren't there, a stack of stuff would have gone up, 100 per cent.

"The firefighters were doing the best they could.

Comments from the people reveal that:

Some people evacuated, some stayed.

Because government did not stop the fire's run within the National Park, the adjacent town was exposed to ember attack.

Apparently, it was safe for fire fighters to chase spot fires within some areas.

What did the government say about the fire on Monday evening?

"Firefighters delivered a "miracle" on the Sunshine Coast overnight, according to acting Queensland Premier Jackie Trad. With an unpredictable fire front and "ember storm" threatening houses around Peregrine Beach, there were fears of up to a dozen properties being destroyed. Ms Trad told reporters on Tuesday that 400 residents were evacuated but none were injured and, on last inspection, only one property was totally damaged and another significantly damaged. "Last night's herculean efforts resulted in nothing short of a miracle," Ms Trad said, after meeting with emergency services officials."

Interpretation

These are all symptoms of zero preparation for an emergency by the "emergency services". Fears of a dozen destroyed properties suggests they have neglected to prepare a large area of vulnerable houses.

If evacuation is done because authorities fear for people safety, it means they have not prepared that area for the emergency. Yet we saw above that the area was well enough prepared with passive protection measures, specifically wide fuel free firebreaks, but the authorities did not recognise their value.

Comments People do not want miracles from their bushfire services, they want professional, safety-first house protection.

People want the truth from Authorities, People should be told that if evacuations are ordered, house loss is a by-product, unless fire fighters allocate 5X fire tankers to replace the residents, where X = no of houses exposed to ember attack.

Quotes from the people regarding Tuesday's attack:

Andrew and Rachel Sellman, who live on an acreage block in West Peregrine spent a sleepless Monday night monitoring the bright orange glow across the national park.

After spending the morning loading pets and some supplies into their car, they were forced to evacuate about 11am Tuesday. "Police did some door knocking and they said they weren't asking us to leave, they were telling us to leave," Ms Sellman said. "We didn't expect the wind to change."
Mr Sellman said the scenes in Peregian were reminiscent of a Hollywood blockbuster. "I never thought you'd see embers and fires running down the street like that," he said. "It was scary."

Comments from the people reveal that:

Today's evacuations coincided with the wind change, which we hope had been forecast. Evacuations were ordered by Authorities in apparent panic, suggesting Authorities were caught by surprise, and feared life loss in a town they believed was unprepared.

Overview statements by government

1 State Disaster Co-ordinator Steve Gollschewski said scores of homes had been impacted by the fires in Queensland, ranging from "totally destroyed to minor damage". On Sunday, Queensland Fire and Emergency Services forecaster Andrew Sturgess said in "roughly in 130 years", only about 40 homes had been lost because of bushfires in Queensland, where high humidity usually acts as a buffer to more extreme blazes. But the humidity has plunged in the past week while dry winds, gusting at 80km/h, have fanned the flames. Forecasters predict humidity to rise on Wednesday, bringing a reprieve to exhausted emergency services crews.

Comment: This historical data is wildly inaccurate. I have documentary evidence of at least 54 Queensland houses lost since 1990/91.

2 Queensland Fire Emergency Service Assistant Commissioner John Cawcutt warned the southeast corner and Sunshine Coast are the two major areas of concern today as huge winds of up to 60km/h continue to stoke the flames. "We had a considerable number of fires in the Peregian Spring area where we have had a number of properties damaged or lost so those fires are still active," Assistant Commissioner Cawcutt said. "We have a lot of crews but we do not expect to be able to extinguish those flames today. It is a tinderbox and we can get breakouts everywhere, the winds are very strong so people need to keep monitoring conditions," he said.

Comment

Not so #1 This is a fire in heathland, which extinguishes rapidly when wind subsides.
Not so #2 We don't get breakouts because "it is a tinderbox". We get breakouts "everywhere" when the control line is not properly constructed with a fuel free barrier "everywhere", or there are insufficient troops monitoring the control line "everywhere".