Gippsland's Latrobe District at risk of 'scorched together'

John Cameron[1], 19th September 2023

1. Background

Following the 2009 bushfires the Victorian Bushfire Royal Commission (VBRC) recommended 5% of the forest be fuel reduced each year, even though fire behaviour experts called for 8% in line with WA practise.

In 2015 Victoria ignored the VBRC recommendation and the advice of Australia's most experienced fire behaviour experts and introduced a new approach, '*Safer Together*'[2], The Minister Hon Lisa Neville said:

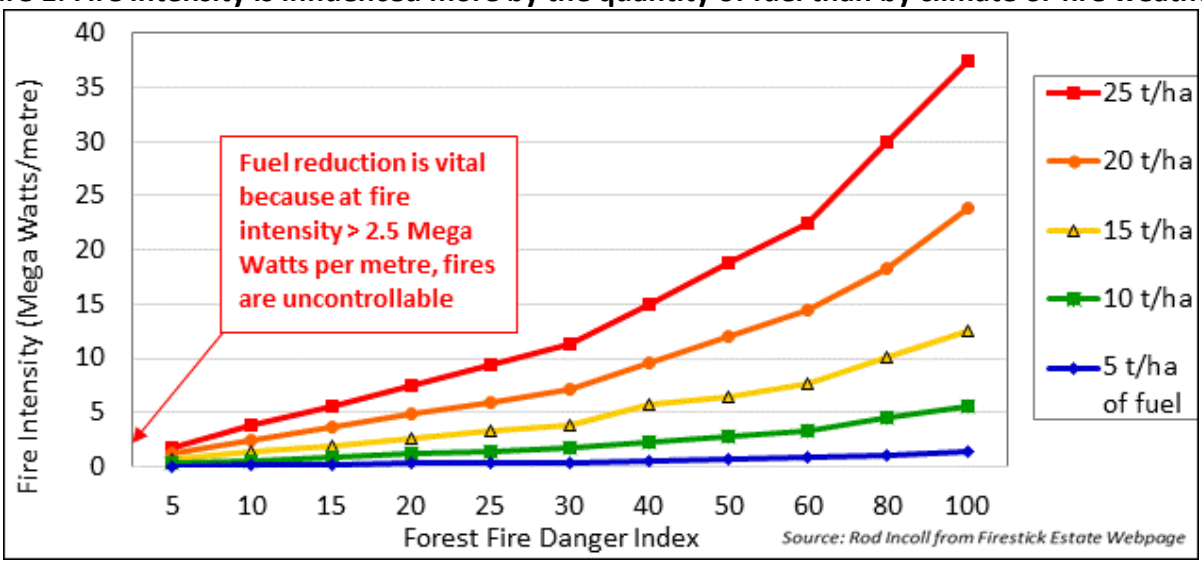
> *"Our new approach is about doing more to reduce the risk of bushfire, and knowing what we do is more effective. We will involve local communities in decision making, taking into account what people value in their local area."*

'*Safer Together*' was not safer, or more effective, nor what local rural communities wanted. The resulting fuel reduction since has averaged about 1.4% of the forest each year, well below the VBRC 5% target and expert recommendation of 8%. In the summer of 2019-20 1.6 million ha was burnt, 396 house destroyed, businesses irreparably damaged and five lives lost despite mild weather in the fortnight after ignition.

Inquiries since have generally blamed climate change and ignored or downplayed the fundamental impact of heavy forest fuels on fire intensity, rate of spread, fire spotting and difficulty of suppressing bushfires.

Are burnt, lives lost and difficulty of suppressing wildfires is determined by fire intensity. And fire intensity is influence more by the quantity of available fuel (dry fine surface and near surface leaves and twigs) than it is by the forest fire danger index (climate, weather and drought factor) (Figure *1*).

Figure 1: Fire intensity is influenced more by the quantity of fuel than by climate or fire weather



In the 2019-20 Victorian bushfire, rate of spread of 4.2 km/hr and fire spotting of 24 km[3] were consistent with a bushfire burning in heavy fuels. Fires in heavy fuels are difficult to control even under mild weather conditions with a low Forest Fire Danger Index. Victorian has vast areas with heavy fuel loads (10-25 t/ha).

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[2] Victorian State Government (2015). Safer together, A new approach to reducing the risk of bushfire in Victoria.

[3] Derived from Salkin, O (2023). Victorian bushfire case studies. Preliminary reconstruction of the eastern Victorian Black Summer Fires, November 2019 – February 2020. Bushfire & Natural Hazards CRC.

2. Victoria's Bushfire Residual Risk of 70% is too risky

Victoria's objective is to maintain the statewide average bushfire risk at or below a residual risk of 70% in the long-term. This 'residual risk' is a proxy for the average statewide risk that bushfires pose to life and property. It is expressed as the percentage of risk that remains after both unplanned bushfire history and planned and implemented fuel reduction activities are taken into account. It is reported on an annual basis.

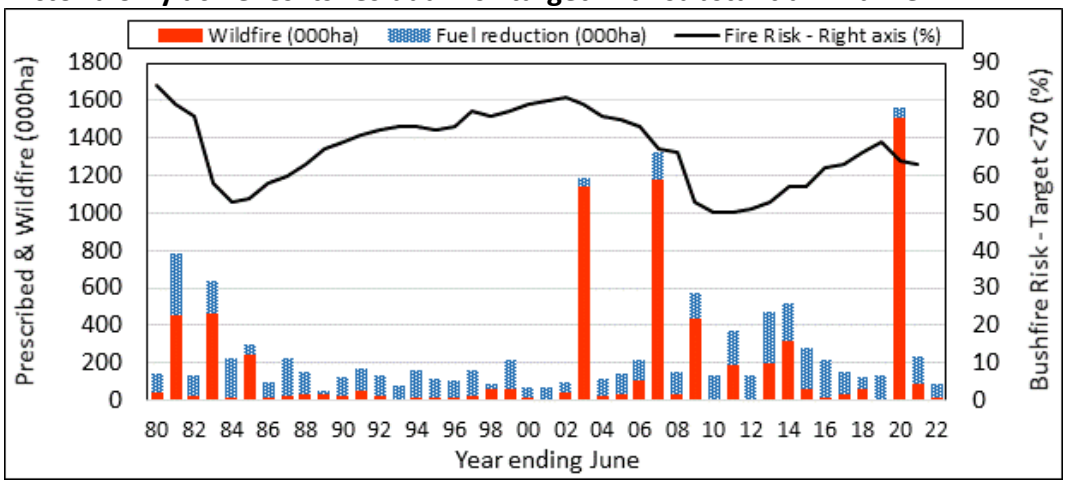
The target of 70% 'residual risk' means that the Victorian Government delivers on average only a 30% reduction in bushfire risk, relative to a 'time bomb' forest with absolutely no bushfire mitigation whatsoever. Forests with no bushfire mitigation carry catastrophic wildfires even under non-catastrophic climatic conditions.

Experts in bushfire behaviour believe that the target residual risk of 70% is far too high and leaves Victoria vulnerable to megafires and significant loss of life, homes, property and native flora and fauna. A lower residual risk target of about 20% is roughly equivalent to the VBRC target of 5% fuel reduction each year, and is required if we are to avoid catastrophic bushfire loss in the future.

3. Achieving the residual risk target by counting wildfire is nonsense

The Victorian Government only ever achieves its bushfire residual risk target of 70% with substantial wildfire, the fires they claim their 'Safer Together' policy is supposed to reduce. In ***Figure 2*** below the residual bushfire risk only drops below 70% after substantial area burnt by high intensity wildfire – the type of fire the policy was supposedly designed to avoid. **This 'Safer Together' Policy and its reliance on very high Residual Risk of 70% is reckless and extremely dangerous.** The IGEM reported dissatisfaction by emergency and community sectors with fuel reduction and the IGEM recommended a review of the residual risk target[4].

Figure 2: Victoria only achieves its residual risk target with substantial wildfire

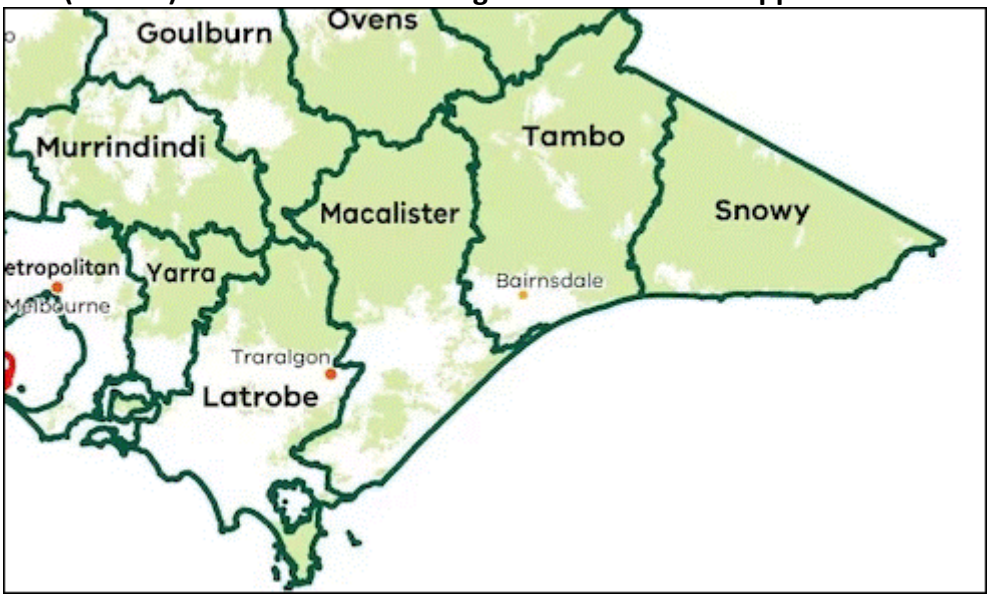


The Victorian Government mistakenly assumes high intensity wildfire over summer delivers the same result as a low intensity wildfire during milder weather in autumn or spring. It does not. Unlike low intensity prescribed fire, high intensity wildfire results in impenetrable tall dense understory often dominated by flammable species such as 'petrol bush'.

Volunteer scrub from wildfire such as in 2019-20, becomes ladder fuel making the forest more fire prone and future fuel reduction and bushfire suppression much more difficult. Department of Energy, Environment and Climate Action (DEECA) statewide residual risk is an 'average' residual risk across districts, with the four districts for Gippsland shown below (***Figure 3***).

[4] IGEM (2020). Inquiry into the Victorian 2019-20 fire season. Phase 1.

Figure 3: DEECA (DELWP) four Forest Fire Management Districts in Gippsland



4. A state average residual risk results in unacceptable regional risk

Implemented fuel reduction and 'unplanned' bushfires are averaged across districts to arrive at a statewide residual risk, which is then compared to the statewide target of 70% residual risk. This has resulted in FFMVic Latrobe District with a residual risk well in excess of 70%[5] (***Figure 4***). **A raging bushfire in Latrobe District is not going to be pulled up by the fact that the residual risk in the Snowy District 250 km away is below the target of 70%.**

Figure 4: Residual risk of four Gippsland Forest Fire Management districts at June 2022[5]

FFMVic District	Wildfire 2019-20 (ha)	Residual risk June 2022 (%)
Latrobe District	0	83
Macalaster District	36,203	56
Tambo District	942,389	28
Snowy District	817,029	5

DEECA residual risk in June 2022 for Forest Fire Management Victoria (FFMVic) Snowy District was 5% primarily based on 717,000 ha of wildfire in 2019-20 and Tambo District was 28% also primarily based on 942,000 ha of wildfire in 2019-20 **(*Figure 4*). Given the changed forest composition with ladder fuel, these estimates of residual risk grossly underestimates the bushfire risk in the Tambo and Snowy Districts.**

Fuel reduction within the 2019-20 East Gippsland fireground (embracing Tambo and Snowy Districts) averaged only 0.6% in four years prior to the fire (only 26,500 ha pa).[3] Of this 81% of the prescribed burnt coupes were too small to be effective such that 'effective' prescribed burning only accounted for 0.34% of the forest each year (***Figure 5***)**. 'Effective' prescribed burning was only <u>one fifteen</u> of that recommended by the Victorian Bushfire Royal Commission.** In addition the coupes were not strategically located across the landscape, were a long way from ignition points, and thus were useless for assisting initial suppression.

[5] Forest Fire Management Vic. Joint Fuel Management Program 2022-23 – 2024-25, Gippsland FFMVic Region and South East CFA Region. 2022.

Figure 5: Fuel reduction over four years prior to the 2019-20 East Gippsland bushfire[3]

Prescribed burn size (ha)	Probable effectiveness of prescribed burning w.r.t. 2019-20 bushfire	Prescribed burns (No)	Proportion of burns (%)	Total area 2016-19 (ha)	Average area (ha)	Proportion of forest (% pa)
<100	Minimal effectiveness	26	25%	1,010	39	
100-500	Occasionally effective	42	40%	10,394	247	
500-1000	Effective sometimes	18	17%	12,700	706	
1000-2000	Moderately effective	15	14%	21,709	1,447	
2000-3000	Effective	1	1%	2,169	2,169	
>3000	Very effective	4	4%	11,052	2,763	
Total <1000	**Inneffective coupe size**	**86**	**81%**	**24,104**	**280**	**0.23%**
Total >1000	**Effective coupe size**	**20**	**19%**	**34,930**	**1,747**	**0.34%**
Total/Mean over **four years** 2016-2019		**106**	**100%**	**59,034**	**557**	**0.57%**

Ineffective fuel reduction was accompanied by compromised suppression. Tambo fires 38 and 39 were not reported until midday on 21/11/19 and '*were only able to be resourced on 22nd with 3 crew members who were tasked to monitor fire spread and help develop control strategies*.[3] This fire grew to 90ha after one day and 745 ha after the third day, where it was fought with only *7 firefighters, two dozes and no night crew*.[3]

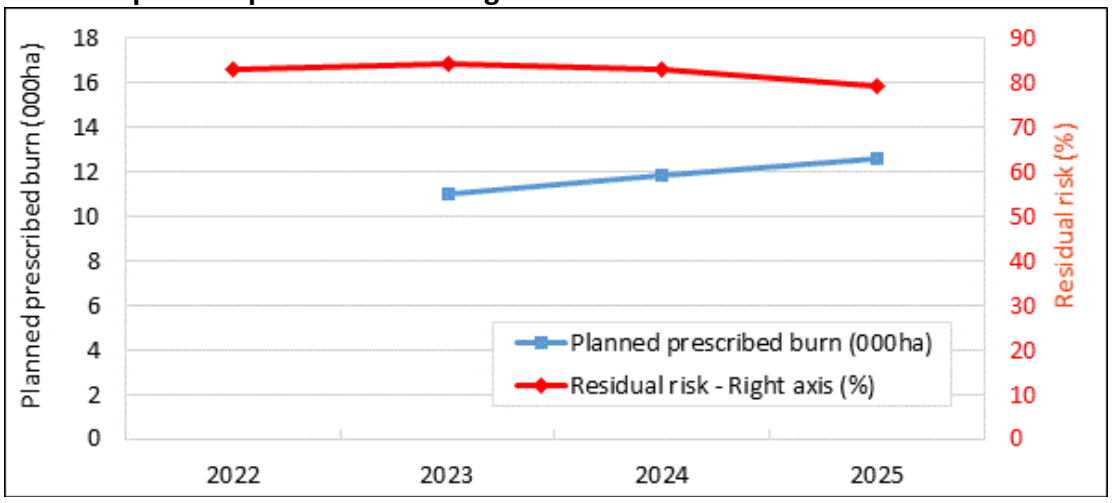
5. Residual risk and planned fuel reduction in Latrobe are negligent

The Victorian Governments Joint Forest Management Plan (JFMP) states that: *"it aims to meet or exceed district and regional residual risk targets that contribute to the statewide target and to enable the delivery of bushfire management objectives, as documented in the Bushfire Management Strategy (BMS). It provides flexibility to account for different seasonal conditions"*[5]. This statement does not appear to have been implemented for FFMVic Latrobe District which embraces Drouin, Traralgon, Noojee and Inverloch.

The problem in FFMVic's Latrobe District is that the Victorian Government has negligently allowed the residual risk to climb to 83% in 2022, well above a safe level, and has no effective plan to reduce it according to their Joint Forest Management Plan (JFMP).[5]

Despite the dire situation, the planned fuel reduction for Latrobe District is a paltry 12,000 ha pa over the next three years. This will allow the residual risk in Latrobe District to climb to 84% before dropping ever so slightly to 79% leading into the summer of 2025-26 (***Figure 6***).[5] With typical 43% implementation we can expect only 5,000 ha pa of actual fuel reduction and residual risk to climb towards 100%.

Figure 6: FFMVic planned prescribed burning and forecast residual risk for Latrobe District[5]



Planned fuel reduction for Latrobe of only 2.1% of the forest is well below 5% recommended by the Victorian Bushfire Royal Commission, as are the planned fuel reduction for Tambo and Snowy (**Figure *7***).

Figure 7: Wildfire area in 2019-20, residual risk and planned fuel reduction by district[5]

FFMVic District	Wildfire 2019-20 (ha)	Residual risk June 2022 (%)	Planned fuel reduction 2023 (ha/yr)	Planned fuel reduction 2023 (% of forest)
Latrobe District	0	83	10,957	2.1%
Macalaster District	36,203	56	35,091	5.4%
Tambo District	942,389	28	26,119	2.7%
Snowy District	817,029	5	3,652	0.2%
Total	1,795,621		75,819	2.0%

6. Only 43% of planned burns are achieved under 'Safer Together'

The Andrews Government only implements 43% of its planned fuel reduction. Assuming this 43% applies to Latrobe District, then the planned fuel reduction of 2.1% (***Figure 7***) will probably only deliver actual fuel reduction in of about 1%, or one fifth of the VBRC recommended 5% of the forest each year (***Figure 8***).

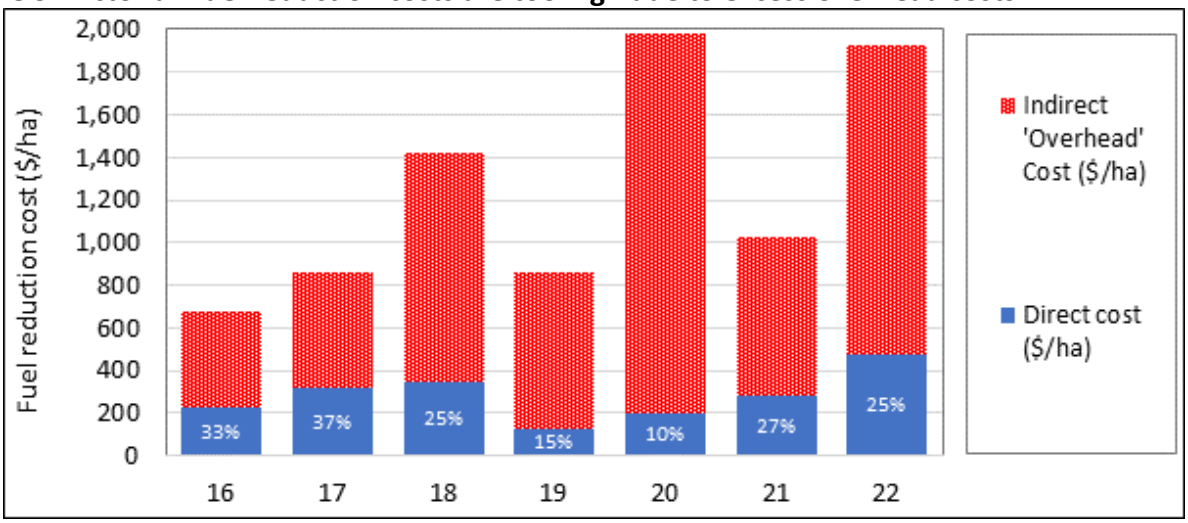
Figure 8: Across Victorian actual fuel reduced area is only 43% of planned fuel reduction[6]

Year ending June	Planned fuel reduction area (000ha)	Actual fuel reduction area (000ha)	Achievement of plan (%)	Proportion of public forest (%)
17	348	125	36%	1.7%
18	248	76	31%	1.0%
19	246	142	58%	1.9%
20	230	55	24%	0.7%
21	200	152	76%	2.0%
22	200	78	39%	1.0%
Mean to 2022	246	105	43%	1.4%

7. Excessive overheads and high fuel reduction costs

Victorian fuel reduction costs are averaging $1,500/ha over the last three years and are about five times as expensive as implemented by DEECA's counterpart DBCA in the South West Forests of WA. DBCA prescribed burn costs for the South West Forests of WA average $300/ha over the last few years. DEECA's overhead costs for Victorian prescribed burning are excessive (**Figure *9***).

Figure 9: Victorian fuel reduction costs are too high due to excess overhead costs[6]



[6] Derived from DELWP/DEECA webpage data.