Gippsland Region Fuel Management Program

Annual Report 2021-22

Environment, Land, Water and Planning

FOREST FIRE MANAGEMENT VICTORIA

Acknowledgements
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Photo credit
Cover Photo: Mirboo North – Hoods Hill FRB. Photo: J. Alexander

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Review of the 2021/22 Planned Burn Season

This report outlines the planning, preparation, and delivery of the Forest Fire Management Victoria (FFMVic) Gippsland Region Fuel Management Program for season 2021/22.

The report does not cover activities related to Strategic Fuel Breaks or fire season preparation works.

Unless otherwise stated, all data has been captured from the Fuel Management System (FMS) on 20/07/2022.

Planning

Joint Fuel Management Plan

The Joint Fuel Management Program (JFMP) is planned to achieve an integrated and risk-focused fuel management program across public and private land. It is designed to implement long-term bushfire management strategies that outline how the risk of bushfires are managed for the protection of life and property on public and private land, while maintaining and improving natural ecosystems.

No planned burn hectare targets were set at a state level. The year 1 planned area on the JFMP 2021/22 was the basis of DELWP KPIs for delivery in 2021/22. Table 1 below shows the Gippsland Region year 1 planned area on the JFMP 2021/22. With no set planning targets, all regions were required to develop a Joint Fuel Management Program which implemented strategies to achieve or maintain residual risk at or below set targets and seek to support plans for managing landscape-scale bushfire and the reduction of risk to ecosystems from these large fires through the following:

Planned Burns - fuel reduction, ecological and other planned burns by indicative year for the three-year period.

Non-Burn Fuel Treatments - the program of works that uses methods other than burning to achieve fuel management objectives.

Cultural burning – planned burns led by Traditional Owners on their Country using fire for several purposes.

2021-22 Joint Fuel Management Plan		
District	**JFMP Delivery Target (Ha)**	**No. Burns**
Latrobe	**12,016**	**29**
ECOLOGICAL	3,467	8
FUEL REDUCTION	8,001	20
LANDSCAPE	548	1
Macalister	**35,319**	**18**
ECOLOGICAL	41	2
FUEL REDUCTION	17,647	13
LANDSCAPE	17,568	1
TRADITIONAL OWNER	63	2
Tambo	**18,099**	**28**
ECOLOGICAL	7	2
FUEL REDUCTION	18,092	26
LANDSCAPE	-	-
TRADITIONAL OWNER	-	-
Snowy	**4,637**	**10**
ECOLOGICAL	-	-
FUEL REDUCTION	4,426	9
LANDSCAPE	-	-
TRADITIONAL OWNER	211	1
Total	**70,071**	**85**

Table 1

Non-Burn Fuel Treatments

Non-Burn Fuel Treatments (NBFT) are focussed mechanical fuel treatments that have a clearly defined fuel reduction objective and may include:

- Fuel management activities on fuel breaks and along roadsides - including construction, renewal, or maintenance of fuels along these areas
- Slashing of crown land reserves including public land township blocks for fuel management purposes
- Treatment methods that are generally used in Gippsland include Grading, Dozing, Grazing, Mulching and Slashing.
- Risk reducing NBFT in high-risk areas, where mechanical treatment (particularly mulching) will be an alternative treatment option to burning in whole or part, particularly where treatment provides immediate bushfire risk reduction or assists burn delivery

Table 2 shows the number of NBFT's planned by districts in 2021-22.

2021-22 Non-Burn Fuel Treatments	
District	Ha
Latrobe	**1,137.1**
Fuel break maintenance	1,116.6
Mechanical Fuel Reduction Treatment	15.3
Macalister	**1,599.4**
Fuel break maintenance	1,599.4
Mechanical Fuel Reduction Treatment	-
Tambo	**3,428**
Fuel break maintenance	3,374
Mechanical Fuel Reduction Treatment	54
Snowy	**2,540**
Fuel break maintenance	2,470
Mechanical Fuel Reduction Treatment	70

Table 2

Gippsland Burns Planned and Prepped

For a burn to be Planned and Prepped for delivery it must have a “Ready” status in FMS (Fuel Management System). This means, for a burn to be “Planned” all relevant components of the fuel treatment delivery plan are complete and approved by the District Manager and Deputy Chief Fire Officer via the ePBRAT Phase 1. For a burn to be called “Prepped” all pre-season tasks listed in FMS including on ground burn preparation must be complete.

Burns at a status of Ready or better 2021-22

District	JFMP Delivery Target (ha)	No. of Burns Ready	Ha Ready	% Ready of program (Ha)
Latrobe	12,419	27 (93%)	12,975	104%
Macalister	35,325	15 (83%)	29,672	83%
Tambo	18,100	22 (79%)	11,509	54%
Snowy	4,637	8 (80%)	4,073	87%
Total	**70,481**	**72**	**58,229**	**82%**

Table 3

Weather

Burning was limited by wet conditions across Macalister, Tambo, Snowy and parts of Latrobe district in the Erica footprint throughout 2021/22. Across those districts rainfall for the months of August and September leading into the spring burning period was in the above average or very much above average range (Figure 1).

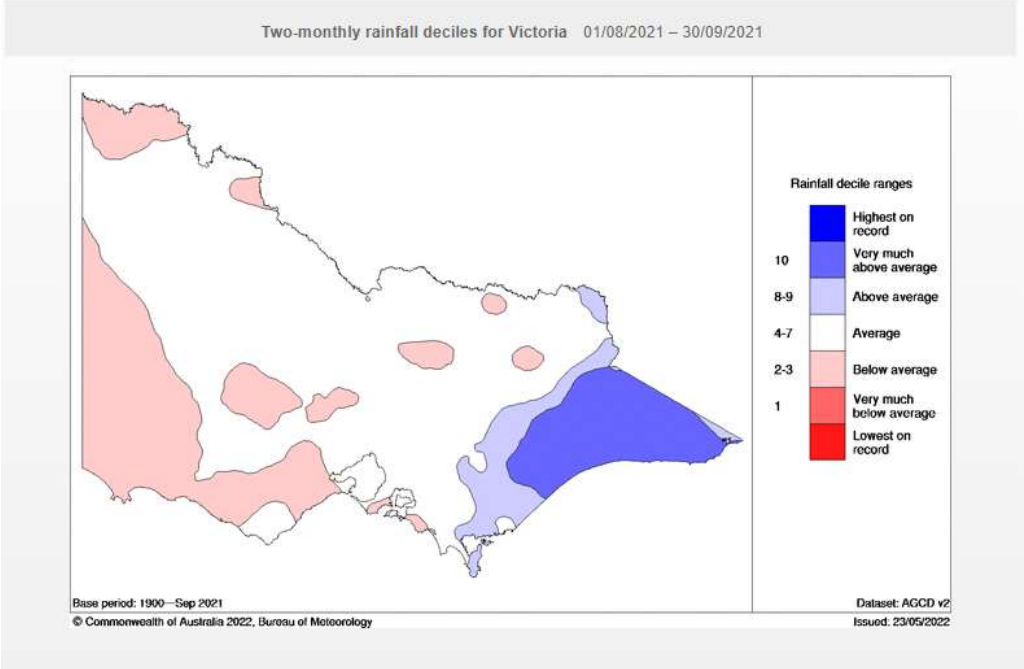

Figure 1 Rainfall decile range for the months of August and September 2021

Above average rainfall continued in Tambo and Snowy districts and most of Macalister district throughout summer and autumn, being driven by a La Nina event and positive Southern Annular Mode (Figure 2). The unusually wet conditions allowed limited burning during late spring and summer, a period when fire behaviour is generally too elevated for planned burning. There were short periods of suitable weather in parts of the landscape where there was sufficient drying to enable burning: in Snowy district during December and March and Tambo district during October to February. The program in those districts featured smaller burns that could be completed during short intervals of suitable weather.

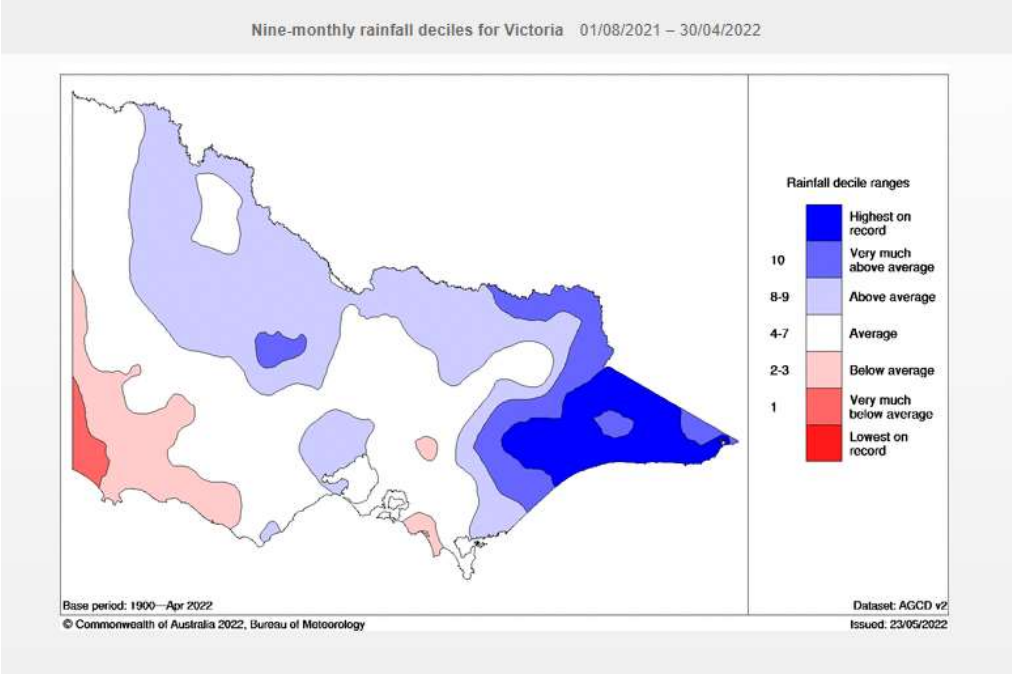

Figure 2 Rainfall decile range for the period 1 August 2021 to 30th April 2022

A significant weather event occurred across Latrobe district in early June 2021, with damaging winds bringing down trees and major flooding occurring across multiple catchments. Local resources were fully deployed for extended periods during late winter and spring to assist in the storm recovery. After the heavy rainfall in June Latrobe district experienced a period of extended drought. In early autumn burning operations were delayed due to the combination of elevated fire weather conditions and fuel dryness, with the drought index at dry to very dry levels across the district (Figure 3).

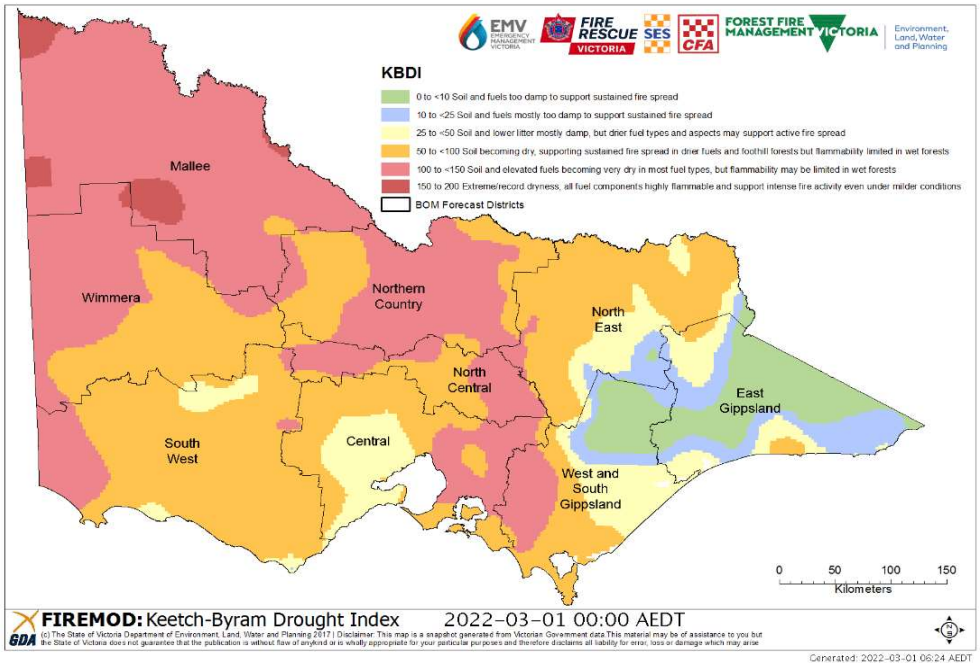

Figure 3 Drought index in early autumn 2022

As weather conditions became more suitable for planned burning, the Latrobe district burn program commenced in late March. Continuing dry conditions prevented burning in some locations but provided good opportunities in other locations. Numerous burns were conducted over the district from late March to mid-April under very suitable conditions. A series of frontal systems and cooler conditions brought the burning season to a close in late April across most of the district. Limited opportunities for burning occurred in South Gippsland in late autumn enabling a few burns to be conducted across the southern part of Latrobe and Macalister districts.

Yallourn North – Leslie Track FRB Photo: M. Green

Delivery

Burns

This table captures all burn types (Fuel Reduction, Ecological and Traditional Owner) from the JFMP that contribute to regional risk reduction. The total 2021/22 JFMP delivered until June 2022 was 30 planned burns totalling 8,890ha. The total number of Year 1 burns on the Gippsland JFMP was 85. Five ecological, 1 partnership burn with GLaWAC, and 24 fuel reduction burns were delivered. Five of these burns were delivered in spring 2021.

District	JFMP Delivery Target (Burns)	Number of burns delivered	% Burns delivered	JFMP Delivery Target (ha)	Total ha's treated	% ha's delivered
Latrobe	29	17	59%	12,419	6,007	48%
Macalister	18	1	6%	35,325	69	0.2%
Tambo	28	8	29%	18,100	776	4%
Snowy	10	4	40%	4,637	2,038	44%
Total	**85**	**30**	**35%**	**70,481**	**8,890**	**13%**

Table 4

Fumina South – Wild Bull FRB Photo: M. Green

Non-Burn Fuel Treatment

This table the number and hectares of NBFT's delivered by district in 2021-22.

District	Individual NBFT's	NBFT treated Area (Ha)
Latrobe	74	849
Macalister	119	514
Tambo	76	1254
Snowy	31	361
Gippsland	**300**	**2,978**

Table 5

Bemm River North Slashing NBFT Photo: R. Cutlack

Delivery Costs

The following graph has been created from figures extracted from the QuickBase application Gippsland Project Tracker 2021-22

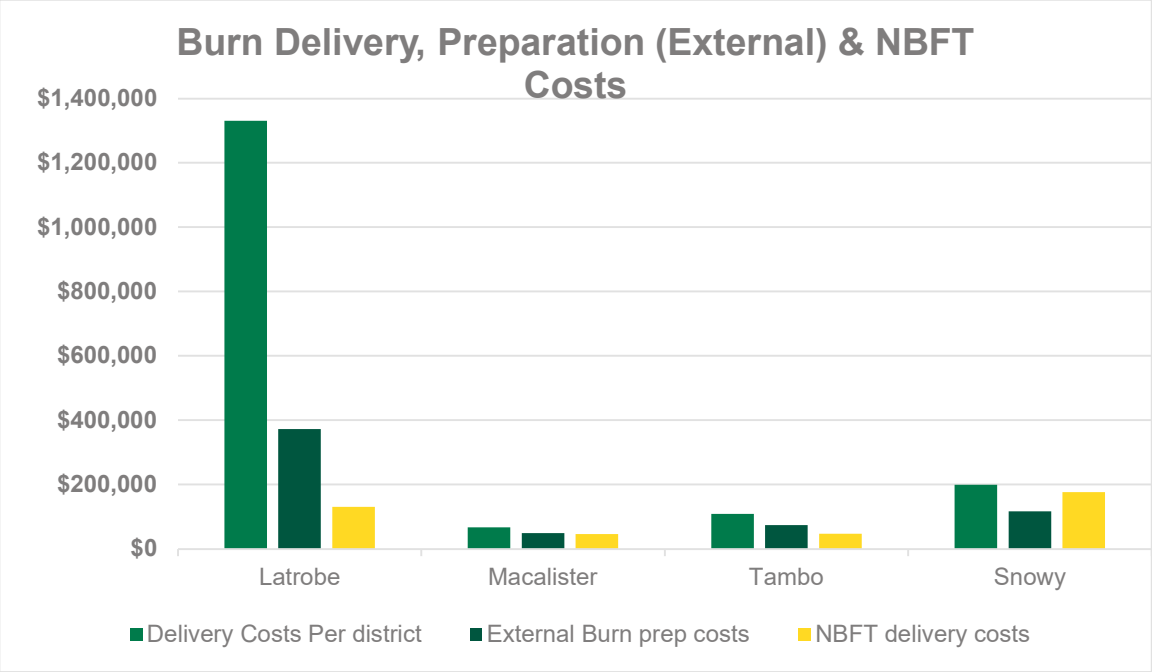

Figure 3

District	Estimated Delivery Costs Per district	Actual Delivery Costs Per district	Estimated External Burn prep costs	Actual External Burn prep costs	Estimated NBFT delivery costs	Actual NBFT delivery costs
Latrobe	$ 1,507,773.00	$ 1,330,538.00	$ 609,180.00	$ 371,873.00	$ 164,000.00	$ 130,831.00
Macalister	$ 1,154,121.00	$ 67,251.00	$ 205,000.00	$ 48,504.00	$ 50,000.00	$ 45,720.00
Tambo	$ 1,481,764.00	$ 108,309.00	$ 1,265,000.00	$ 73,972.00	$ 164,560.00	$ 46,453.00
Snowy	$ 504,057.00	$ 198,996.00	$ 92,000.00	$ 116,685.00	$ 250,000.00	$ 176,780.00
Total	**$ 4,647,715.00**	**$ 1,705,094.00**	**$ 2,171,180.00**	**$ 611,034.00**	**$ 628,560.00**	**$ 399,784.00**

Table 6

Figure 3 & Table 6 figures extracted from QuickBase applications Gippsland Project Tracker 2021-22 & Burn Costing 2021-222/8/22.

Percentage of burns delivered by Fuel Management Zone (FMZ)

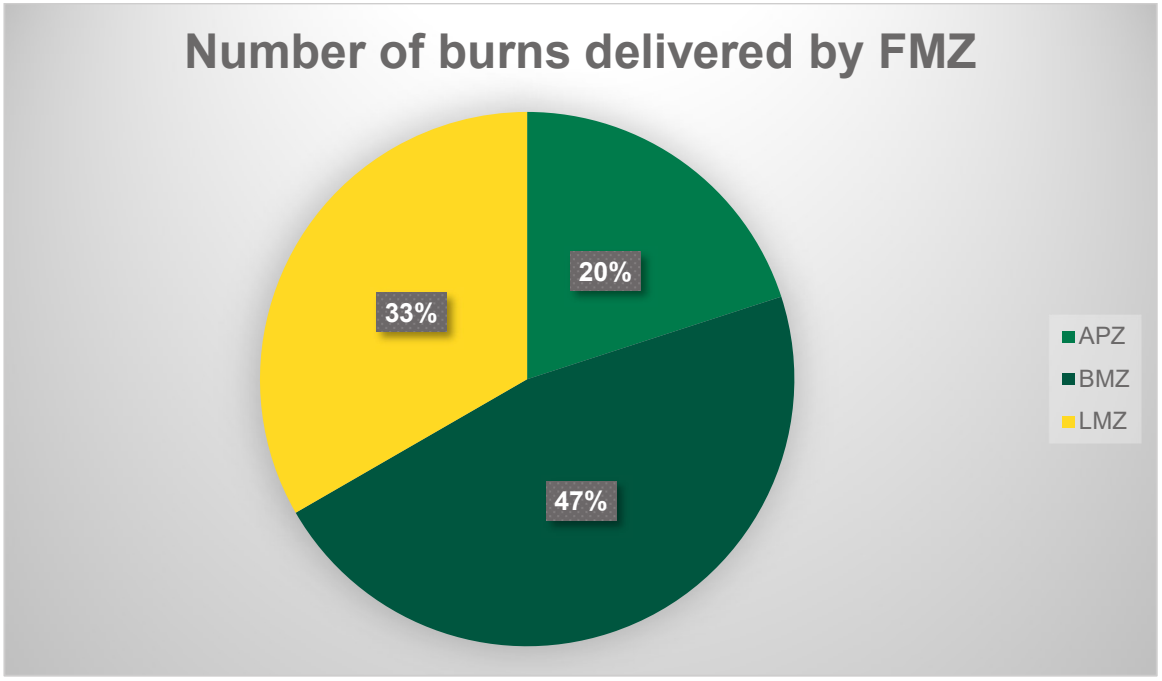

Figure 4

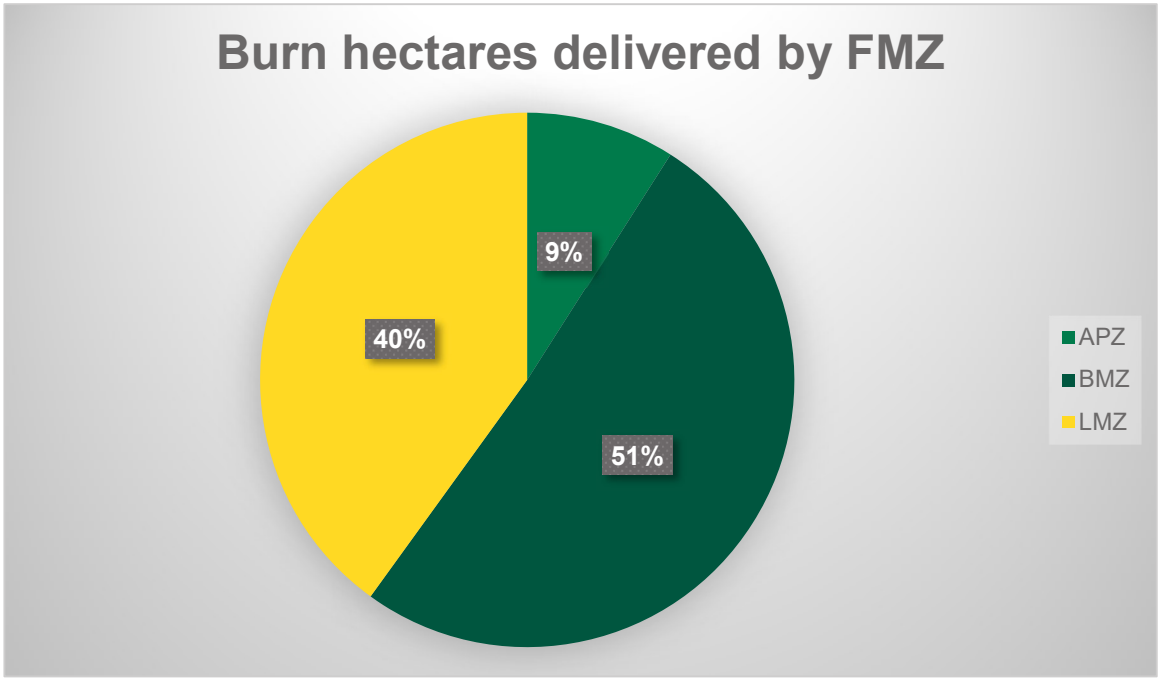

Figure 5

Season Highlights

Favourable seasonal conditions allowed Latrobe District to deliver 17 planned burns and treat 6,007 ha and reduce their residual risk figure from 87% to 82%(Source FFRAU 2nd of May 2022). They delivered several key forested burns on the public-private interface and were able to complete some long-standing complex burns close to the Mirboo North township and Tidal River campground. DELWP staff partnered closely with Parks Victoria colleagues to plan and deliver 5 ecological burns that supported their land management strategies.

In Tambo district the Fuel Management Team worked together with GLaWAC to develop a state-wide first of its kind partnership burn. The Nowa Nowa - Trident Arm burn with two successful operations to date, 1 in spring, 1 in autumn, incorporated a collaborative planning and delivery approach which has allowed smaller areas of the larger fuel reduction burn to be delivered in a staged approach for GLaWAC to lead on ground delivery of Gunaikurnai burn components. This concept has now been applied to the whole JFMP and additional Partnership Burns identified.

Further east, Snowy district were able to complete the Cabbage Tree - Palm Track burn. This burn involved the highest localised level of planning for a fuel treatment that has been undertaken by the district to date. Many individual/team hours were dedicated specifically to tailor the planning requirements and meet demands of the planning process and state approval requirements. Conditions required to deliver this fuel treatment were narrow. To deliver this fuel treatment successfully with sufficient underlying moisture on southern aspects and gullies, but with enough surface profile dry on other aspects meant that this planned burn required more monitoring than standard. This monitoring program was extensive and the staff that undertook this work did a fantastic job in identifying a suitable delivery window. The execution provided the perfect result for the highly valued Glossy Black Cockatoo, Grey Headed Flying-Fox as well as the warm temperate rainforest and the Palms recreation area remaining unburnt through diligent on-ground work and the favourable conditions identified to deliver this planned burn.

Macalister district were able to deliver the Loch Sport - Progress Road burn at the end of April. The delivery of this burn is important for the monitoring program of the Pookila (New Holland Mouse). The burn operation was conducted in ideal conditions and resulted in a mosaic patchwork considered favourable for the Pookila. In 2022, remote sensed wildlife cameras were deployed across the burn unit with data currently being reviewed. Early analysis is showing excellent results with pre and post burn Pookila detection remaining unchanged. Vegetation/habitat surveys will be commencing in spring 2022, with further target areas to cycled through in the next 3-5 years.

Out of Region Deployments

Due to limited opportunities for burning in the east of the region, Gippsland were able to deploy a total of 16 Task Force's outside of the region to significantly contribute to the state-wide burn program. Gippsland also provided a number of other single resource personnel such as logistic support, advanced fallers, ADT mixers and assessors, and other aviation roles to elsewhere in the state.

Planned Burn Delivery Comparison Since 2011/12

The graph and table below show an overview of planned burn delivery in the last 10 years in Gippsland (All figures in Hectares).

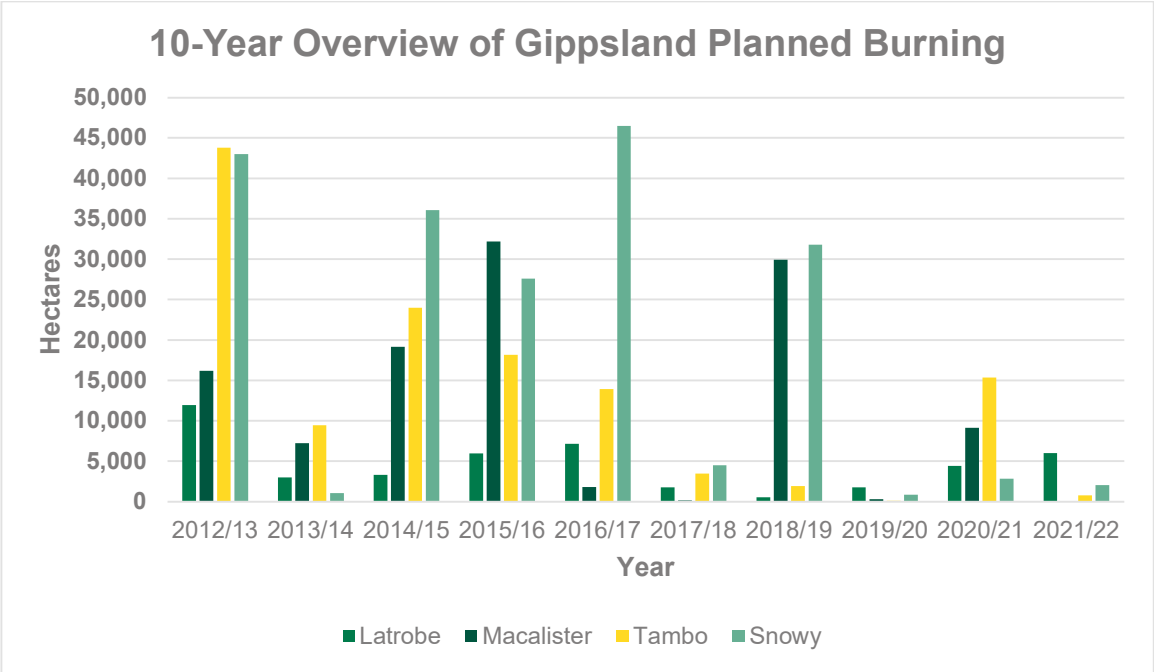

Figure 6 (All data pre 18/19 extracted from power BI 1/9/20)

	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Latrobe	11,957	3,004	3,304	5,948	7,159	1,758	555	1,770	4,409	6,007
Macalister	16,197	7,242	19,150	32,195	1,787	141	29,923	289	9,125	69
Tambo	43,797	9,453	24,001	18,167	13,921	3,460	1,940	90	15,340	776
Snowy	42,991	1,061	36,079	27,575	46,471	4,506	31,793	859	2,843	2,038
Gippsland	**114,942**	**20,760**	**82,534**	**83,885**	**69,338**	**9,865**	**64,211**	**3,008**	**31,717**	**8,890**

Table 7 (All data pre 18/19 extracted from power BI 1/9/20)

Gippsland Residual Risk

Residual risk is the risk, on average, that bushfires will impact on life and property across the landscape. It is expressed as the percentage of the risk that remains after bushfire history and fuel management (mainly planned burning) activities are considered. It is reported on an annual basis.

Each District works towards managing the local bushfire risk through identifying planned burns and other fuel management works, which collectively will meet the State-wide risk reduction target.

A Residual Risk update was undertaken by the Forest and Fire Risk Assessment Unit (FFRAU) using fire history data from 2nd of May 2022, examining the impact of this season's bushfires, and planned burning to date. Residual risk updates are undertaken periodically through the year to understand the impacts of bushfires and planned burns on residual risk.

	Long term Residual Risk Target (%)	Residual Risk at 30 June 2021 (%)	Estimated Residual Risk at 30 June 2022 using fire history at 2/5/22 (%)
Latrobe	80	86	82
Macalister	65	46	57
Snowy	65	3	5
Tambo	65	24	27
Gippsland	**71**	**42**	**43**

Table 8 Overview of estimated Residual Risk by district in the absence of further bushfires or planned burning. (Residual risk data provided by The Forest and Fire Risk Assessment Unit (FFRAU) 2nd of May 2022.)

delwp.vic.gov.au/ffmvic